



Research Paper

Conceptualizing cannabis grey markets: A typology based on the Uruguayan case

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ABSTRACT

Background and aims: The legalization of prohibited activities involves the creation of new (legal) markets that, in general, coexist with illegal markets. Legalization of cannabis in Uruguay was not the exception: it has generated a legal market but also promoted the emergence of new "grey" markets that operate in the intersection of legal and illegal markets. The purpose of this article is to conceptualize the grey markets accounting for its different subtypes, moving beyond a monolithic understanding.

Methods: This paper introduces a radial conceptualization for understanding cannabis grey markets, drawing on interviews with key informants including policymakers, academics, and stakeholders ($n = 20$), and interviews with people who frequently use cannabis ($n = 50$).

Results: Our findings suggest that in Uruguay there are at least three types of grey markets, which we categorize as light, standard, and dark grey. This classification stems from the illegal distribution of legally produced cannabis, which allows us to develop a typology based on two attributes: profitability and destination of the transaction. According to this typology, the light grey market involves non-profit sharing of legally grown cannabis within personal networks, primarily to cover production costs. The standard grey market includes small-scale, profit-oriented sales to a broader network of people who use cannabis. The dark grey market, on the other hand, refers to legally produced cannabis entering traditional illegal distribution channels to maximize profits.

Conclusions: Understanding the grey market's characteristics is essential for policymakers and regulators aiming to effectively legalize cannabis. Dark grey activities involve contact with the illegal market and contradict regulatory goals, prompting potential law enforcement actions. Conversely, the light grey resembles an informal market where cannabis is exchanged for goods or shared, likely acceptable to the government. Forbearance could apply to the standard grey market, although it may compete with legal markets. Assessing subtypes of grey markets contributes to a better understanding of the diverse interactions that occur within them and might enable policymakers to address each with tailored policy tools.

Introduction: dealing with legality

One of the main objectives of cannabis regulation in Uruguay, among others related to public health and consumers' rights, was to undermine the economic foundation of drug trafficking by promoting a legal market for cannabis acquisition (Queirolo et al., 2019). To achieve this, the 2013 Uruguayan reform established three access mechanisms for people

who use cannabis: home growing, cannabis social clubs, and sales at pharmacies. Any other type of retail activity is prohibited. Home growing and cannabis social clubs were introduced in 2014, while the third mechanism began in 2017 after some controversies among pharmacy owners. These three methods of accessing cannabis are mutually exclusive, meaning that once a consumer chooses one, they cannot access the other two simultaneously. Consumers must complete a

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registration process to obtain cannabis through the legal supply mechanisms. To do this, they must be over 18 years old, register as a user, and provide their ID and proof of residence (Queirolo, 2020). The legal framework also imposes additional restrictions, particularly regarding the quantities that people who use cannabis can legally produce or acquire (Queirolo et al., 2024). The mandatory registration may be the most significant challenge of the regulatory framework for expanding the legal market, as it has limited coverage in departments and neighborhoods far from the capital city and in low to middle-income areas (Queirolo et al., 2024). Legality not only introduced a legal market to compete with the traditional illegal market but also created a new grey market.

Grey markets are difficult to define because they encompass a variety of situations.¹ For some, grey markets are parallel markets; for others, grey markets are shadow markets or informal markets, commonly emerging alongside activities linked to crime or those that are morally contested (Romi et al., 2017). Grey markets are shaped by government's regulations (Stoa, 2017, 2024; Kinney 2022, 2025). The common factor in different definitions is that there is an "in between" two poles area (legal and illegal) in which it is difficult to judge because the law, ethics or social norms do not provide precise criteria to do so (Beckert & Dewey, 2017; Mackenzie & Yates, 2017; Mucha, 2022).

Regardless of the multiple definitions of what constitutes a grey cannabis market (Heidt, 2021), the cannabis grey market is a complex phenomenon that encompasses a wide range of actors and activities related to the production and distribution of cannabis (Hammersvirk et al., 2012). We argue that a grey cannabis market can only emerge where legalization or some form of regulation exists, as it operates precisely at the intersection of legality and illegality. In these contexts, legally produced cannabis is distributed or commercialized illegally, often as a consequence of regulatory frameworks that impose barriers to access for certain segments of the population (Queirolo et al., 2024; Miller & Miller, 2021; Galain, 2017).

As a consequence, describing the grey market as a monolithic phenomenon is insufficient. Rather, it should be understood as a continuum between the illegal and legal markets, ranging from activities that closely resemble traditional illicit trade to those involving actors who operate largely within the legal framework but engage in practices that are not fully lawful or ethical. Evidence from Uruguay highlights the complexity and fluidity of cannabis market activities. Many people who use cannabis alternate between legal, illegal, and grey channels of access, while others may consistently choose a single channel over time. Grey market interactions occur specifically when cannabis legally produced is diverted into commercialization channels that are not allowed by the law. In this paper, we identify and define this type of behavior within the broader cannabis market and show that there are different tones of grey markets. Understanding these dynamics is essential for policymakers aiming to design targeted strategies that curb illegal practices, promote public health and safety, and enhance the benefits of having a regulated cannabis market.

In this vein, this paper proposes a conceptualization of cannabis grey markets, addressing the existing gaps and inconsistencies in the literature. While Uruguay has a legal framework for regulation with distinct features, we propose a typology of cannabis grey markets that can be applied to various instances of cannabis legalization globally. In other words, aside from the specifics of the Uruguayan case, this typology can adapt to other contexts. Regardless of whether regulatory frameworks lean more heavily on state control or on market mechanisms, it allows for the measurement of what is brought "inside" any regulatory system. As cannabis legalization expands globally, achieving conceptual clarity on what constitutes a grey market is essential for understanding its dynamics and potential impacts.

¹ We are not referring to markets of elderly consumers as in another term usage.

Our results show that it is insufficient to speak of a single grey market; instead, multiple grey markets exist, varying in their degree of illegality. We distinguish among them based on two attributes: whether transactions are conducted for profit or not, and the destination of the transaction: whether the distribution of the cannabis goes towards the illegal market or to users. Combining these attributes, we propose a radial typology of three forms: dark grey, standard grey, and light grey markets.

The main contribution of our work is to move beyond the idea of a single, homogeneous grey market and to identify distinct types of "greys." This approach captures different kinds of interactions within the cannabis market, each with specific implications for public policy and potentially requiring tailored responses from policymakers. Beyond recognizing these nuances, our framework can be especially valuable for jurisdictions considering regulation in the future, as it helps identify factors that encourage the persistence of grey markets as well as barriers that hinder the expansion of the legal market.

The article is structured as follows: the next section reviews existing literature on cannabis grey markets and the theoretical framework; section three presents the methodology and data; the radial typology is introduced in section four; and section five provides empirical evidence for each category. The article concludes with a discussion of the broader implications.

Legal turn and grey markets

With an increasing number of jurisdictions developing models of cannabis legalization, studies on grey markets have become particularly relevant. Grey markets combine legal and illegal activities, emerging due to regulatory loopholes, ambiguities, or barriers (Mackenzie & Yates, 2017; Miller & Miller, 2021; Kinney, 2023; Queirolo et al., 2024). Understanding the characteristics and drivers of grey markets is crucial for comprehending the implications of having different access mechanisms outside the regulatory framework on different user profiles.

One key aspect of grey markets is the deviation or diversion of goods from legal channels to unregulated or illegal ones. Factors contributing to market deviation include supply-demand imbalances, pricing differentials, and regulatory barriers (Miller & Miller, 2021; Aguiar & Musto, 2022). Exploring the reasons behind market deviation can provide insights into the motivations and behaviors of actors involved in grey market activities.

The literature offers some evidence on grey markets in the cannabis industry. Findings from studies conducted in the United States and Europe give us some insights into the trends, drivers, and implications of grey markets in the Uruguayan cannabis landscape. Studies of grey market models in the United States highlight the diversion of legally produced cannabis to illegal markets, especially through interstate or intrastate trade (Darnell et al., 2019; Hao & Cowan, 2020; Hansen et al., 2018; Davie et al. 2019; Dragone et al. 2017; Ellison & Spohn, 2017). Notably, the Washington–Oregon border case, following Washington's legalization (the first of the two to legalize), underscores the challenges of regulating grey markets in the cannabis industry. Although companies are not prohibited from distributing cannabis across state lines, the rise of internet-based delivery services complicates efforts to effectively control these markets (Miller & Miller, 2021). The persistence of cannabis grey markets in the United States can be attributed in part to the discrepancy between state-level legalization and the federal prohibition of cannabis, and the regulations established by state authorities (Kinney, 2022, 2023 and 2025).

Heidt (2021) recognizes that there is no universally accepted definition of the grey market but describes it as a matter of scale within the illegal market, specifically referring to those who grow and sell cannabis on a smaller scale. Additionally, drawing from the California experience, he includes in this category unlicensed dispensaries that imitate licensed ones and uniquely sell cannabis and cannabis-related products.

The literature on grey markets in European countries highlights the

existence of grey areas where cannabis consumption and commercialization are sometimes tolerated due to the lack of legislation or inconsistent enforcement (Kilmer & Pacula, 2017). These markets arise from cultural and idiosyncratic factors, posing unique challenges for regulators aiming to strike a balance between regulation and social acceptance. Similar to the interstate flow in the U.S., the Schengen Agreement abolished fixed border checks among many European countries, including the Netherlands and its neighbors. The low risk of apprehension at the border made it attractive for cannabis consumers living in Germany and France to travel to the Netherlands and purchase a week's or a month's supply, often from multiple stores. Consequently, small dealers from these countries began acquiring cannabis directly from Dutch suppliers (Spapens et al., 2015). This situation may have changed in Germany following the cannabis legalization enacted in 2024.

There is also evidence of grey markets in Uruguay, foremost about deviation of cannabis production by home-growers and cannabis social clubs to people who use cannabis outside the regulatory framework (Garat, 2017; Zipitriá 2017; Baudean, 2021; Olivera & Zelko, 2021). This phenomenon is often attributed to flaws in the pharmacy system, contributing to the rise of a grey market that offers higher-quality cannabis flowers (Galain, 2017; Aguiar & Musto, 2022; Queirolo et al., 2024). The evidence collected so far indicates that the mandatory registration, which requires address information and fingerprints for each pharmacy transaction, has been identified as a factor that motivates consumers to remain in the illegal market or switch to the grey market (Queirolo et al., 2024; Olivera & Zelko, 2021). Among other things, this is due to a lack of trust in the government's ability to protect personal data (Queirolo et al., 2024).

While existing research provides valuable insights into the drivers and implications of grey markets, we know little about the possible variations these markets may acquire. As we have already seen, the literature on grey markets is inconclusive regarding their boundaries and operations. We operate under the premise that to have a grey market, there must be some level of legalization or regulation since the grey market functions precisely at the intersection of legality and illegality.

Theoretically, grey markets emerge as a response to regulatory constraints, allowing for the redistribution of goods through unofficial channels (Kinney, 2023; Miller & Miller, 2021; Romi et al., 2017). Empirically, these markets are shaped by the behaviors and decisions of individuals aiming to maximize utility and profit, often circumventing traditional market mechanisms. Grey markets can influence the dynamics of the legal market, supply chains, and consumer access, revealing a complex interplay between formal economic structures and informal trading practices. This relationship highlights the need for a nuanced understanding of how regulatory environments, economic incentives, and individual behaviors collectively influence market dynamics.

Developing a conceptualization or typology of grey markets presents a significant challenge. Grey markets function in a disorganized, unstructured, and dynamic manner. The grey market results from a combination of state forbearance or legal ambiguity, the incentives and constraints introduced by legalization, and the creativity of market participants. The "grey" represents what exists between legality and illegality: at one end, we have the illicit market and, at the other, the regulated market. The grey market may include various actors, such as, in the Uruguayan case, small-scale growers, Cannabis Social Clubs (CSC), CSC members, informal networks, and illegal operators. These participants operate in the space between the legal framework and the traditional illegal market. Our conceptualization assumes that grey markets are defined by the illegal commercialization of legal cannabis (Galain, 2017; Baudean, 2021). In this sense, those cases where there is no regulation allowing some type of legalization, either partial or total, are left out (see Fig. 1.)

Our evidence shows that the grey market is not a single, uniform space but encompasses different dynamics and behaviors. These

variations merit not only attention but also a conceptual framework that can clearly delineate their differences. This is the contribution of our work: to move beyond treating the grey market as a homogeneous category and to propose a typology that captures its internal diversity, enabling a more precise understanding of its implications for public policy.

Methodological strategy

The main objective of this paper is to develop a conceptualization of cannabis grey markets. Our approach is qualitative, focusing on descriptively understanding what cannabis grey markets are in the context of legalization and how they function. The evidence related to grey markets shares similar characteristics with illicit activity: it is often difficult to access, fragmented, and frequently concealed. For this reason, our methodological design primarily relies on in-depth interviews. We implement a descriptive research design based on interviews with key informants, including policymakers, academics, and stakeholders ($n = 20$), as well as interviews with people who frequently use cannabis ($n = 50$). By doing that, we are building the conceptualization based on information that comes from the demand side. Despite interviewing some sellers, we mainly focus the analysis on users' consumption practices.

We interviewed both key informants and people who frequently use cannabis to capture a broader range of perspectives and to incorporate voices that have different levels of involvement or connection to the Uruguayan cannabis markets. The recruitment of regular cannabis consumers relied on contacts and networks established during prior studies (Queirolo et al., 2016) and the third round of a frequent user's panel survey (Queirolo et al., 2022). The interviews were conducted after obtaining informed consent from each participant.

Key stakeholders related to cannabis regulation included current and former government officials responsible for implementing cannabis policy, officials from the Ministry of Interior, prosecutors, legal counsels, activists, academics, entrepreneurs, and journalists.² The semi-structured interview schedule covered topics such as overall impressions of the legal market and its evolution, perspectives on the current state of supply and demand for illegal cannabis, opinions regarding the grey market, and general reflections on the Uruguayan regulatory model and its implementation. All interviews were conducted in person and lasted an average of 57 min.

In addition, we conducted 50 interviews with frequent cannabis consumers. We define a frequent cannabis consumer as someone who reports using cannabis at least once a week. To capture variation among interviewees, and ensure the representation of diverse viewpoints and experiences with cannabis markets in our analysis, we considered four variables for sampling: gender, socioeconomic status, adherence to the registration system for cannabis access, and whether consumption began before or after legalization was enacted. The core topics of the interviews with frequent consumers included the evolution of cannabis use over their lifetimes, consumption patterns, acquisition mechanisms before and after regulation, as well as experiences with the illegal, legal, and grey markets. In this case, the average duration of the interviews was 31 min.

The mean age of frequent cannabis consumers interviewed was 34 years (ranging from 18 to 62 years). In total, 32 participants were men, and 18 were women. By socioeconomic status³: 12 had a "High," 17 had

² See Appendix for a more detailed description of the stakeholders interviewed.

³ To calculate the SES of the interviewees, we used the reduced version of the Socioeconomic Status Index, an indicator created by CINVE (2018) to measure the socioeconomic level of Uruguayan households based on variables such as neighborhood, household composition, income earners, educational level, health care and housing.

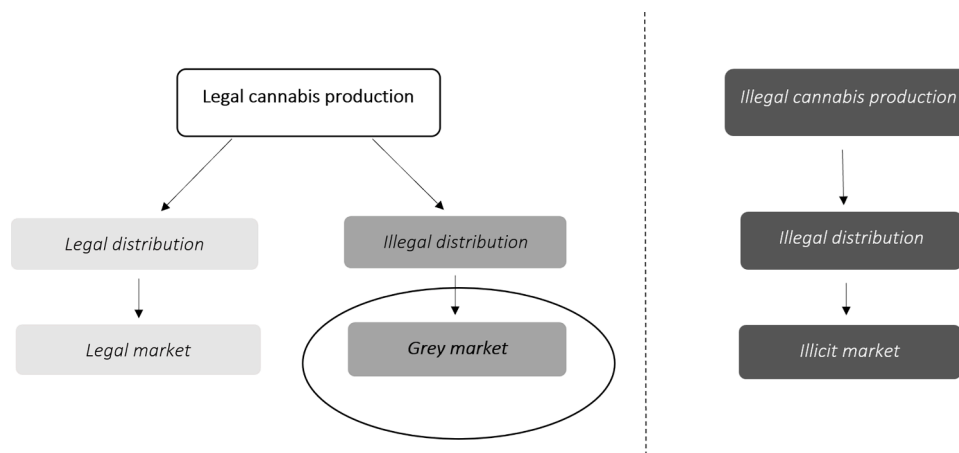


Fig. 1. Cannabis markets after legalization.
Source: Author's own elaboration.

a “Medium,” and 21 had a “Low” socioeconomic level. Out of the 50 participants, 15 were registered to access cannabis legally, while 35 were not. Finally, 37 began using cannabis before regulation, and 13 did so after.

Analysis

All interviews were conducted in Spanish, recorded, and transcribed using *Pinpoint*.⁴ Data from people who frequently use cannabis were analyzed using R statistical software (RQDA package for the codification and RQDAPlus for the analysis). The procedure was carried out with a mixed approach, inductive in the sense that a grid of codes was established prior to analysis, and deductive because new codes and categories emerged while doing the analysis. The main topic areas of codes are summarized in [Table 1](#):

We use a radial conceptualization which helps to understand complex concepts by identifying a central core and defining degrees of membership based on their proximity to this core. The core, or “central subcategory” (Collier & Mahon, 1993, p. 848), is where the overall meaning is anchored, functions as a gestalt of the concept and corresponds to a prototype of it (Collier & Mahon, 1998). From there, “non-central subcategories” (Collier & Mahon, 1998, p. 848) or “diminished subtypes” (Goertz, 2006, p. 80) are ramified. In this context, a grey market is understood as the central subcategory from which various subtypes, or “noncentral subcategories” of grey, emerge. This structure facilitates the creation of a spectrum that ranges from the most extreme form of grey (adjacent to the illicit market) to types with a lesser degree of grey or “diminished subtypes,” as referred to by Goertz (2006).

The central subcategory in this conceptualization of the grey market is legally produced cannabis that is distributed through unregulated or illegal channels. In other words, this combination (legally produced and illegally distributed) is the grey market prototype and the central core of our theoretical framework.

By seeking a parsimonious conceptualization with essential attributes, and through our inductive analysis, we identified two key attributes that adequately describe the variation between the different types of grey in the Uruguayan cannabis market., among others that emerged during the interviewing process.

- **Profitability.** People who access cannabis through legal channels for the purpose of illegal redistribution might do so to generate profit or not. For example, they could be legal cannabis growers with a production surplus and incentives to share or commercialize it. If they

distribute the cannabis without profit in mind, this could be considered a case of social sharing. In this scenario, the regulated market is not disrupted since those sharing cannabis are not interacting with the illegal market. Conversely, profit-driven distribution disrupts the regulatory framework because it creates a transaction in the informal economy.

- **Destination:** The second attribute we consider key to defining grey markets is whether the destination of this “illegal” distribution of legally produced cannabis is directed at people who use cannabis who, for some reason, do not use legal channels (or need to supplement them), or whether this cannabis goes to the illegal circuit (dealers, traffickers, drugs selling points, intermediaries, or any actor in the illicit market). The illegal circuit can be sometimes associated with violence and negative externalities that arise from it. It could encompass organized crime, but not all illegal groups involved in the commercialization of cannabis through illegal channels fit the definition of organized crime by the UN Convention Against Transnational Organized Crime of “three or more persons, operating over time to commit serious crimes for material benefit.” (Palermo, 2020). In fact, as Hammersvik et al. (2012) suggest, illicit cannabis markets can be fragmented and small-scale, lacking the characteristics of organized crime such as organizational continuity, coordination, and profit (Hagan, 2006). Therefore, in the context of Uruguay, the second attribute used to define grey markets does not necessarily involve connections with organized crime groups; rather, it refers to the distribution of cannabis to illegal actors.

These two attributes emerged directly from the fieldwork. Through an inductive process during the interviews, we identified recurring patterns that revealed significant distinctions among users’ practices. Specifically, the dimensions of profitability and the destination of the transaction proved particularly useful in capturing the variation within what is often broadly labeled as the grey market. Profitability emerged as a key attribute because the potential to make money could lead actors to exploit market gaps, resulting in unintended deviations from the policy’s original goals. Additionally, this attribute helps distinguish typical cannabis user behaviors, such as social sharing, from other profit-driven actions that disrupt the dynamics of the legal market. The destination of the transaction is defined as a binary attribute. On one side, the illegal transaction could be to a user, on the other side to different actors involved in the illegal market.

The two attributes have a specific order and form a radial typology. The market where legal cannabis is sold outside regulated channels but not for profit is referred to as the “light grey market.” For those selling legal cannabis for profit, this conceptualization focuses on the destination of that cannabis. If the cannabis is sold directly to people who use it

⁴ More information at <https://journaliststudio.google.com/pinpoint/about>

Table 1
Description of the codes included in the analysis.

Topic areas of codes	Details	Code examples
Accessibility	Current access	These days, I smoke the weed I grow myself. When I have some, I smoke my own, but that's not often because my harvests have gone really badly. [laughs] Otherwise, I smoke what my boyfriend buys from a pharmacy-he's registered as a consumer there, and I'm registered as a home grower.' (25, female, High SES)
	Pre-regulation access	I went with someone from there [the slum]. It wasn't like going to a CSC to buy weed [...] it meant going to a drug-selling point. I mean, if you can avoid that, great-but yeah, there was a time when I used to go there.' (28, male, High SES)
	Post-regulation access	I also grew, but it wasn't registered. Nobody would say anything if it was on your rooftop, you know? From 2014 to 2016, I had one plant-three at most.' (28, male, High SES)
Registration	Reasons for registering or not registering to access cannabis legally	Registering is about avoiding situations where unsafe things could happen.' (29, female, Middle SES) 'For me to register, a few things would have to change-mainly, pharmacies should always have cannabis in stock. People I know often go and get told, 'Look, we're out of weed,' and then you have to run to a drug-selling spot. Besides, there are very few pharmacies that sell, and none near my house. There should be more.' (31, male, Low SES)
	Changes due to regulation	Another big change was that self-growers with a surplus often sell-or even grow specifically to sell. You're bound to have a friend who'll give you some, or a friend of a friend who'll sell to you, or friends who can sell you directly. So, one way or another, you always have access. Before, you had to move farther, it took longer, and the quality... well, the pressed stuff sometimes had fungus.' [laughs] (30, male, High SES)
	Information regarding first purchase of cannabis	I remember my first purchase. It was in the summer of 2020. I was going on vacation with a friend, and we wanted to buy, but we didn't know how or from whom. Then I saw that a high school classmate was selling on Instagram, so I bought from them.' (18, female, Middle SES)
Changes in consumption behavior	Information regarding last purchase of cannabis	The last time was last weekend. We went to a friend's place in the countryside, and another friend brought a jar of weed from his own harvest and sold me some. It was in that setting of a barbecue, a weekend with friends-I mean, you don't have

Table 1 (continued)

Topic areas of codes	Details	Code examples
	Surplus sales	to go out, make a deal, or talk to a dealer.' (28, male, High SES) Sometimes I make a little money from my plant-I give some to whoever I want as a gift, and I sell some to whoever I want to sell it to.' (49, male, High SES)

themselves, we categorize those transactions as part of the “standard grey market.” Conversely, when cannabis is sold to dealers, traffickers, or any other illegal actor, we classify the transaction as part of the “dark grey market.” In summary, by utilizing these two attributes, we identify three subtypes of grey: light grey, standard grey, and dark grey. In the next section, we will describe each subtype using data gathered from the interviews. The radial typology of the grey market is shown in Fig. 2.

A gradient of greys

The three types of grey markets represent a gradient between closer/farther from the illegal market and the legal market (see Fig. 3). We exemplify transactions included in each type using people who frequently use cannabis' testimonies collected during interviews.

Light grey market: social share

The closest to legality is the “light grey market,” where cannabis produced legally is distributed illegally, not for profit, but to supply small groups of consumers. The final consumers of this cannabis are generally people from their personal networks. In most territories, these behaviors are not penalized but are rather tolerated. The light grey market includes behaviors referred to as “social dealing.”

[About social dealing] “(...) a person who has a developed a bond with plants, who likes plants in general and then also dedicates himself to the cultivation of cannabis, provides it to a network of personal contacts (...) it is not the typical dealer that you don't know” (Key informant - Researcher).

Home-growers who sell surplus or share their harvests exemplify this type of grey market. In the Uruguayan context, this primarily concerns home growers who sell their production, usually to friends and acquaintances, to cover their production costs, rather than for profit. Legalization allows registered home growers to cultivate a maximum of 480 g per year (the equivalent of 40 g per month), and many of them generate a significant production surplus.

“What do I smoke? I smoke straight from the plant. Why? Because I have two friends who grow at home. They're registered, they have permission, and they can grow up to five or six plants. And since they don't smoke it all, they share with me—I get some as gifts, sometimes they bring it to me, or I trade vegetables for it” (Frequent user, approximately 60 years old, man, middle SES).

“The grey market is disorganized and sporadic; people don't engage in it all the time, but only when they have leftovers.” (Key informant, activist)

Social dealing is also observed among CSC members. Club members can obtain a maximum of 40 g per month, and these clubs can have between 15 and 45 members. Members pay a monthly fee for the cannabis they receive. Evidence shows that CSC members frequently share their cannabis, either sporadically or by splitting the membership payment, which is illegal but common. The reasons behind these behaviors are mainly related to the large amount of cannabis they receive

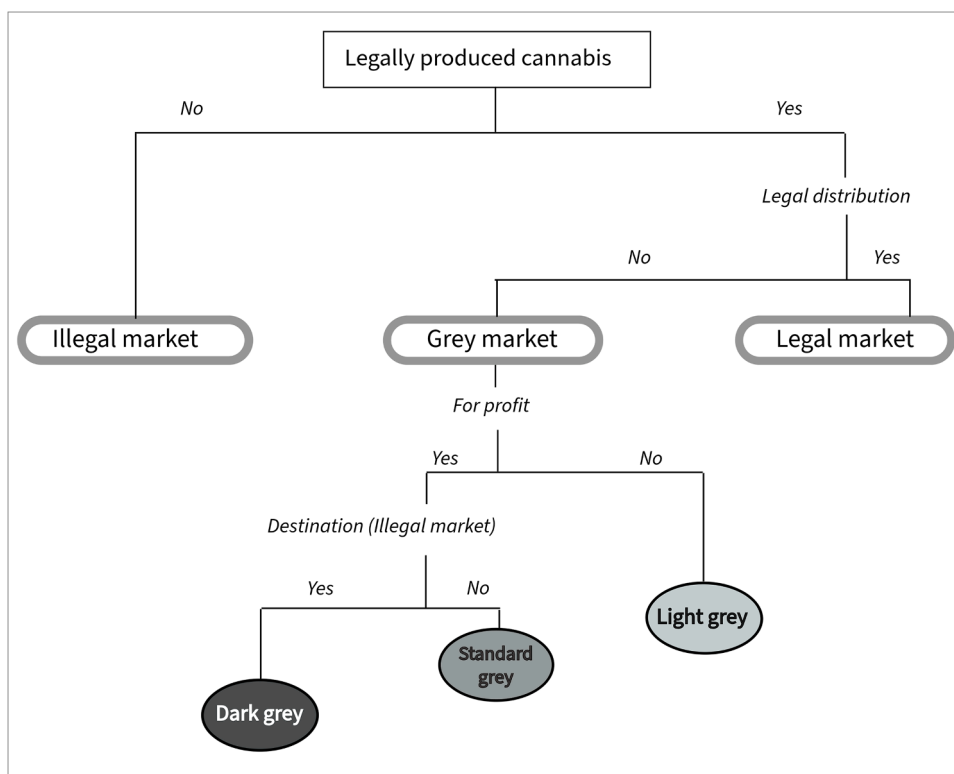


Fig. 2. A radial typology of grey markets.
Source: Author’s own elaboration.



Fig. 3. Gradient of Grey Markets.
Source: Author’s own elaboration.

or the high cost of CSC membership fees (Pardal et al., 2019).

“When you register for a CSC, you commit to buying 40 g per month. I know many people who are registered on behalf of others, because they don’t even consume 40 g themselves. So one person is registered, but in reality four people are using that membership. I didn’t do it much myself, but I know plenty of people who do” (Frequent user, approximately 30 years old, female, middle SES).

Even when money is involved, it is usually used to cover costs or to pay for CSCs’ memberships.

“I usually buy from a friend who’s part of a CSC or something like that. Not to split costs, but just because they don’t smoke it all and they know I do, so that’s how I get access” (Frequent user, approximately 35 years old, female, middle SES).

“I smoke about one joint a day. Where do I get it? A friend of mine has a club membership and she sells me a few grams. As a backup, I buy from growers” (Frequent user, approximately 30 years old, female, middle SES).

While less common, individuals who obtain legal cannabis through pharmacies can also participate in social dealing activities. Those purchasing cannabis from pharmacies may buy up to 10 g per week, with a maximum limit of 40 g per month. A fingerprint system is implemented at pharmacies to monitor the purchases of people who use cannabis.

Similar to previous cases, the 40-gram monthly limit may seem excessive for many of them, leading some to resell part of their cannabis to avoid financial loss.

The light grey market operates primarily through trust-based exchanges and cost-sharing practices, rather than through profit-seeking or connections to illicit networks. These interactions blur the boundary between formal and informal supply, but they do not fundamentally threaten the regulatory system. For policymakers, recognizing this subtype suggests that not all grey market behaviors should be addressed in the same way. Light grey dynamics often resemble tolerated informal exchanges and may be better managed through flexible regulation or selective forbearance.

Standard grey market: making [some] profit

The standard grey market is one where cannabis is produced legally and sold illegally to their social networks, not through distribution channels such as drug trafficking networks, dealers or criminal groups. Standard grey transactions occur primarily for profit, with buyers being people who use cannabis. This often happens when, for the most part, home growers or members of Cannabis Social Clubs (CSCs) sell their surplus to a broader consumer network. It can also occur when they intentionally overproduce cannabis for sale.

“What I buy is supposed to be surplus—but in reality, it’s more than that. Clubs often overproduce to have extra cannabis to sell. They only sell to people who are somehow connected. For example, I had a friend who wanted to buy, and when I asked if I could get some through her, she said, ‘Well, if she’s your friend, yes.’ But they won’t sell to just anyone” (Frequent user, approximately 25 years old, woman, SES Top).

“I found that many club members resell part of their product, there are quite a lot of them. When you have good weed, you naturally become a dealer of your social circle” (Key informant, researcher).

Evidence from interviews indicates that this is particularly true for some CSCs, which not only sell more to their own members but also beyond them, and also for home growers.

“There’s cannabis everywhere. With home cultivation being so common, if one person doesn’t offer it to you, someone else will, and if not, someone will through another connection. There’s cannabis everywhere”. (Frequent user, approximately 40 years old, woman, SES low).

The evidence gathered in our interviews, particularly the excerpts presented above, illustrates how certain actors take advantage of the opportunities created by the new market to obtain economic benefits. In these cases, individuals adopt strategic behaviors, identifying consumers who rely on their intermediation and supplying what they demand. Several interviews highlight this pattern, with new market actors who sell cannabis exclusively—without involvement in other drugs—catering specifically to those who, for various reasons, remain outside the legal system.

These dynamics reflect typical forms of market competition and parallel-market behavior, where unmet needs in the legal and illegal markets converge with actors who recognize opportunities to profit from their own or others’ surplus. This shows that the standard grey market is not simply about casual surplus sharing, but rather about the consolidation of semi-structured practices that exploit regulatory gaps. It also encompasses new actors emerging as cannabis suppliers, taking advantage of overproduction and loopholes in legalization. While they do not connect with traditional illegal markets, these practices nonetheless represent diversions from the regulatory framework.

Dark grey market: very close to traditional illicit market

At one end of the grey market spectrum lies the dark grey market. We argue that certain behaviors and activities closely resemble those found in the traditional illegal market. This suggests that cannabis is produced by a legal actor but distributed illegally to an illegal market actor, in pursuit of the highest possible profit. In this type of grey market, legally produced cannabis is being distributed using illegal channels becoming part of drug trafficking networks. It is not a strictly illicit market because production occurs under a legal license granted by an administrative or legal authority.

For the Uruguayan case, the dark grey market mostly implies the selling of cannabis from CSC and home-growers to traditional illegal market bidders:

“What the regulation led to was cannabis flower smuggling” (Key informant - Drugs Prosecutor).

“For many CSCs, this is the business. Because if you run the numbers, the clubs’ market isn’t that big. It’s a very limited market. They cap the number of members, they cap the amount that can be dispensed, and they cap the number of plants that can be grown. And that’s where the temptations begin. People with contacts... A Brazilian shows up, parks the truck, takes three kilos, and that’s it. I’m not going to fight with 45 members...” (Key informant - CSC manager).

Key informants suggest that strict regulations governing cannabis

social clubs—such as limits on membership and caps on cannabis distribution—help explain the existence and persistence of the dark grey market.

“They’re already here. Marijuana is moving everywhere. They don’t grow it themselves. They come here... they show up at a party or walk into a grow shop: ‘I’m looking for two kilos. I’ll pay you \$8000.’ In Brazil, a kilo goes for \$12 to \$15. Here, it’s only \$3 to \$5. So it’s much more profitable to take it to Brazil” (Key informant - Growshop owner).

These narratives illustrate how the dark grey market reproduces dynamics that are structurally very close to the traditional illegal market. Unlike other grey market forms, here legally produced cannabis is deliberately channeled into actors of the illegal market, driven by profit maximization and sustained by intermediaries who link legal producers with trafficking networks. The examples from CSC managers, growshop owners, and users reveal how overproduction and regulatory limits create opportunities for diversion, with cannabis surplus flowing to buyers who operate outside the legal system. In this sense, the dark grey market highlights the permeability of the boundary between legal and illegal supply chains.

From a policy perspective, this subtype is particularly problematic because it undermines the goals of legalization: cannabis re-enters trafficking circuits. The Uruguayan case shows that even in a tightly regulated framework, economic incentives and cross-border price differentials may create incentives for diversion. By conceptualizing these practices as part of a “dark grey” market, we can distinguish them from other, less harmful forms of grey activity, underscoring the need for targeted enforcement strategies.

Discussion

The grey market continues to pose significant challenges to cannabis legalization efforts. This article proposes a typology of the cannabis grey market based on the Uruguayan case, with the purpose of generating comparative benchmarks with other cannabis markets that have experienced or will experience legalization processes. Using a theoretical framework with a radial structure, and focusing on profitability and the destination of the transaction as the two main attributes of the grey cannabis market, we defined three categories of grey markets in Uruguay: dark grey, standard grey, and light grey markets.

Whether grey distribution is profit-driven or not has a different impact on legal market dynamics. Profit-driven grey market actors exploit a perceived vulnerability in the legal framework to pursue or expand economic benefits, while non-profit-driven grey market actors may have a more circumscribed role since they are not competing actors. The second attribute, the destination of the transaction, indicates how the legal cannabis can be deviated to the illegal market.

Understanding the grey market, its features and dynamics is critical for policymakers and regulators aiming to achieve the goals of cannabis legalization. The variations within the greys are relevant to public policy. The light grey resembles an informal market, where people who use cannabis sometimes exchange it for small amounts of money, at other times for other goods, like vegetables, and at times they simply share. These transactions do not appear to undermine cannabis regulation, and the government might tolerate them. Forbearance could also serve as a governmental response to the standard grey market, which may compete with the legal market in economic terms. Regarding the “dark grey” the government may choose to enforce the law due to its connections with illegal actors.

This article highlights that the regulatory framework has an impact on the development of a grey market and its dynamics. In the case of Uruguay, its strict regulations as the mandatory registry, the maximum of 40 g of cannabis per month per users, the few strains of cannabis that are sold in pharmacies, and the prohibition of selling to tourists, among others, become critical factors in shaping the unintended effect of a

vibrant grey market (Queirolo et al. 2024).

Creating a new legal market for cannabis is inherently complex and uncertain. Users may not fully or consistently adhere to regulatory frameworks, and their engagement with the legal market may be partial, intermittent, or shaped by evolving incentives and constraints. Market participants move dynamically between legal, illegal, and grey areas, shifting in and out of the legal market, based on various factors such as risk perception, profitability, and law enforcement. These dynamics can lead to unintended consequences that challenge the coherence and effectiveness of the legal system itself. A primary challenge for public policy is to clearly define which activities or transactions are acceptable while designing or redesigning incentives and constraints that can effectively influence individual behavior within these markets.

This paper makes a valuable contribution by conceptualizing the grey market and highlighting the different subtypes that may exist within it. It offers theoretical implications by identifying the key attributes needed to define the concept and by proposing a framework grounded in the Uruguayan case, yet flexible enough to be extrapolated to other legalization contexts worldwide. It also carries public policy implications by clarifying the boundaries of what authorities can—and cannot—tolerate.

This work also has limitations, particularly its focus on the demand-side perspective. Future research could also approach grey markets from a supply-side perspective, examining sellers behaviors and motivations to understand how their preferences influence the emergence, persistence, or transformation of different grey market segments. Such an approach would complement our typology by incorporating the perspective of cannabis suppliers in shaping market dynamics. In addition, the external validity of the findings is limited to Montevideo and its metropolitan area. Although this region accounts for more than half of the country's population, future research should extend to other regions of Uruguay, emphasizing, for example, the study of border dynamics.

An increasing number of countries and jurisdictions are joining the tide of cannabis legalization worldwide. If this trend continues, there will be a growing need to refine our concepts and measurement strategies to accurately assess each experience and gain knowledge in the field of public policy. This article provides one way to understand and define grey markets, which would be tested and refined through dialogue with the empirical evidence that emerging cases will bring.

Appendix 1. Table of stakeholders interviewed

Key informant	Number of interviews
Activist	4
CSC owner	1
Civil servant, legislative drafter of Law 19 0.172 (cannabis regulation)	1
Director of the Crime Observatory, Ministry of the Interior	1
Director of the Department of Purging, Prioritization and Assignment of Cases, Prosecutor's Office	1
Drugs prosecutor	1
General Secretariat of the National Drug Secretariat (2016–2020) and IRCCA	1
President (2017–2020)	
Growthshop owner	1
Journalist	1
Parliamentary Commissioner for the Prison System	1
Pharmacy owner	1
Public defender	1
Social scientist	4
Technical Director of IRCCA	1

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Ethics

This research has the approval of the Ethics Committee on Research with Human Beings of the Catholic University of Uruguay.

CRedit authorship contribution statement

Lorena Repetto: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Rosario Queirolo:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Joaquín Alonso:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Mafalda Pardal:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Laura Atuesta:** Writing – review & editing, Methodology, Investigation, Formal analysis. **Beau Kilmer:** Writing – review & editing, Supervision, Methodology, Investigation, Formal analysis, Conceptualization. **Eliana Álvarez:** Writing – original draft, Methodology, Investigation, Formal analysis, Data curation. **Belén Sotto:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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