

ONLINE COPYRIGHT INFRINGEMENT IN THE EUROPEAN UNION

FILMS, MUSIC, PUBLICATIONS, SOFTWARE AND TV (2017-2023)



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Foreword

Online copyright infringement remains a pressing concern for rightsholders and society at large. The creative industry's very existence relies on the ability of artists and creators to receive fair compensation for their work. Without it, the diversity of content available to consumers may dwindle, ultimately affecting the fabric of our cultural landscape.

Building on the foundation laid by our previous studies, published in 2019, 2021 and 2023, this report presents an updated analysis of online copyright infringement in the European Union. The research undertaken by the EUIPO has consistently shown that the dynamics of piracy are complex and multifaceted, with trends shifting over time.

This latest study extends the dataset to the end of 2023, providing an even more comprehensive understanding of the current state of online copyright infringement. It also introduces new features, including an in-depth examination of the piracy of sports and other live events, as well as the inclusion of data on software piracy for 2021-2023. These additions enhance the EUIPO's ability to inform evidence-based policy decisions and guide the development of effective strategies to combat online piracy and to support the European Commission in the implementation of its *Recommendation on combatting online piracy of sports and other live events*, published in May 2023.

As we move forward, it is essential that we continue to refine our understanding of the intricate relationships between piracy, consumer behaviour and the creative industry. By doing so, we contribute to the objective of ensuring that artists and creators receive the compensation they deserve, and that consumers have access to a diverse range of high-quality content.

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Executive Summary

Copyright infringement remains a significant challenge for rightsholders in the European Union. The complexity of this issue has increased with technological advancements, necessitating a deeper understanding of piracy mechanisms to develop efficient countermeasures.

The first analysis by the EUIPO of the evolution of online copyright infringement was published in 2019, specifically focusing on films, music, and TV content. The scope has since been expanded to include data on access to pirated films, TV, and music from January 2017 to December 2023 across all 27 EU Member States, as well as data on pirated accesses to publications and software from 2021 to 2023.

An important novelty in this report is that it addresses IPTV piracy, reflecting its growing impact on the market. Because of its different nature, IPTV piracy is not measured in the same way as website piracy. The figures presented reflect the number of visits to websites that provide pirate IPTV registration services.

IPTV piracy involves illegal streaming of TV, films, and live sports over Internet Protocol networks, sometimes mimicking legitimate IPTV services but bypassing official subscription channels. These pirate services often require specific hardware (boxes) or software (dedicated apps). They operate through subscription fees, advertising, or as a business-to-business model for resellers. IPTV piracy inflicts significant economic damage, including revenue losses for content creators and service providers, reducing the value of broadcast rights, and necessitating costly anti-piracy measures. Enforcement is challenging due to technological sophistication, jurisdictional issues and consumer demand for cheap content. Recent European police operations have taken down large-scale IPTV piracy networks, but a multifaceted approach involving technology, legal efforts, and education is essential to combat this issue effectively.

Key findings

- **Overall piracy is stabilising at about 10.2 accesses per internet user per month:** overall piracy grew until the end of 2021, since when the trend has been flat. Although piracy for the most important type of content (TV) shows a slight increase, this effect is counterbalanced by the decrease in piracy of other types of content, such as films.
- **TV piracy** in the EU stabilised in 2023 at 5.1 accesses per internet user per month, but with increasing variations across Member States. Streaming remains the most common method, with significant differences across EU Member States. Desktop devices are used more than mobile devices for pirated TV content, accounting for around 60 % of total accesses. However, the split between mobile and desktop devices varies across countries.
- **Film piracy** in the EU decreased by about 25 % in 2023, with an average of 0.9 accesses per internet user per month. Streaming remains the dominant method, accounting for 74 % of accesses, followed by torrenting. Desktops are the preferred devices, but mobile devices are close. The decline in film piracy is seen across both types of devices, with desktops leading the decrease.
- **Music piracy** closed 2023 at 0.6 accesses per internet users per month in the EU, which is slightly above 2022 levels. The preferred method for accessing pirated music content remains ripping, which accounts for nearly half of all the accesses to pirated music in 2023. There are substantial differences regarding the preferred methods for pirated music consumption across the 27 EU Member States. Mobile devices remain the preferred way of consuming pirated music.
- **Publications piracy** in the EU remained flat in 2023, with an average of 2.7 accesses per internet user per month. Downloading is the preferred method (88 %) followed by torrenting. Manga is the most pirated publication type, with mobile devices being the primary access method (50 % higher than desktop devices). The differences across EU Member States remain significant with some countries below 50 % of the EU-27 average and others at more than double that average.

- **Software piracy** in the EU increased by 6 % in 2023, with an average of 0.9 accesses per internet user per month. Mobile software, including games, is the most pirated genre. Mobile devices now account for half of all software piracy, driving the growth in this category, while accesses through desktop devices have decreased.
- **Sports / live event piracy** (a subset of TV) in the EU increased from 2021 to 2023, peaking at 0.75 accesses per user/month in October 2022. It closed 2023 at 0.53 accesses per internet user per month. The trend appears flat or slightly decreasing. Desktop devices are preferred.

Concerning **IPTV piracy**, although there is no data available on the actual consumption through IPTV, the report presents data for 2022 and 2023, based on visits to pirate IPTV registration websites. The data shows a **10 % increase in 2023**, with an average of 2.14 % of internet users visiting these websites per month. While the actual number of users consuming IPTV piracy is unknown, a simulation suggests that even under conservative assumptions, 1 % of EU-27 internet users could have been subscribed to illegal IPTV services during the period 2022-2023. This does not account for existing users before 2022, indicating a significant total number of users of these services in the EU-27.

Econometric Analysis

The report presents the results of econometric models for TV, film, music, publications, software, and live sports events piracy. The models examine the relationship between various economic and demographic variables and piracy rates.

For **TV piracy**, the model shows that the youth **unemployment rate has a negative (it reduces piracy) effect on piracy**. One possible reason for this is that unemployed young people might live with their parents who pay for TV subscriptions. The **share of internet users and the number of mobile subscriptions per 100 people also have a negative impact on TV piracy**, while the COVID-19 crisis had a significant positive (it increases piracy) impact. The **presence of a legal offer**, as measured by the number of available TV channels, has a strong negative impact on TV piracy.

The model indicates that **film piracy decreases when the GDP per capita grows**. However, the proportion of **young people** in the population and **youth unemployment** are both associated with higher levels of **piracy**. The awareness of **legal film offers** tends to **decrease film piracy**.

The **music piracy** model shows that the **Gini index** goes in the **same direction as piracy** (if it grows, piracy also grows), indicating that greater income equality is associated with lower music piracy. The **youth unemployment** rate has a negative impact as it happened for TV too. A high **proportion of young people** in the population, and a permissive **attitude towards piracy**, tend to increase piracy.

The model indicates that a higher **Gini index** (more inequality) tends to increase **publications piracy**. The increase of the **share of internet users** and higher **inclination to piracy in the population** increases piracy.

The **software piracy** model shows that a higher **Gini index** (greater inequality) increases piracy, as does the **inclination to piracy**. Higher mobile penetration, as measured by the **number of mobile subscriptions per 100 people**, also increases software piracy.

For **live sports events** piracy, the model indicates that it has a positive association with **GDP per capita**. This is counterintuitive because populations with higher incomes should be able to pay for legitimate service. Some possible hypotheses that could explain this are: i) relative lower offer in countries with a smaller GDP per capita that would lead to little interest, ii) high demand in richer countries that push prices up which could be dissuasive for a significant proportion of the population, especially if income is unequally distributed, and iii) users in rich countries may have already moved to subscription based products for music, films and TV and may be reluctant to add more subscriptions. A high **youth unemployment rate** is also associated with higher piracy. Finally, an increase in the **share of internet users**, as well as a higher **number of TV channels** are associated with a reduction in piracy.

Finally, it is worth noting that the presence of a strong legal offer and the public's awareness of that offer was consistently associated with lower levels of piracy, especially for film and TV.

1 Introduction

In the rapidly evolving digital landscape, copyright infringement continues to pose significant challenges to right holders worldwide. The pervasive nature of digital piracy not only affects the creative industries but also undermines the integrity of the legal distribution of intellectual property. The complexity of this phenomenon necessitates a thorough understanding of the mechanisms of piracy to inform effective strategies for its mitigation.

Building upon the foundation laid by the previous reports published in 2019, 2021 and 2023, this updated report delves deeper into the intricacies of copyright infringement, extending its analytical reach to include the latest trends and data up to the year 2023.

This study, commissioned to provide a comprehensive analysis of web-based illegal consumption of protected TV, music, film, software and publications content within the EU Member States, offers a critical evaluation of the period spanning from 2017 to 2023. This edition of the report not only includes an additional year of data for all content types, resulting in a 7-year longitudinal examination of film, music, and TV piracy, but also introduces a 3-year focus (2021-2023) on software and publications piracy.

Moreover, this report incorporates IPTV piracy data for the years 2022 and 2023. It is crucial to note that the methodology employed for IPTV piracy data collection differs from that of website piracy. This will be expanded in the corresponding section.

To enhance the analytical framework of the study, three new econometric models have been proposed. These models are specifically designed to gain knowledge on software, publications and live sports events piracy, offering a more granular view of the economic implications and drivers behind these forms of infringement.

The report is structured into two principal segments:

1. A **descriptive analysis** that aims to synthesise aggregated data into a visually accessible format, enabling readers to quickly comprehend the overarching patterns of digital piracy. This section explores various dimensions of copyright infringement, including:
 - a. the volume of unlicensed access to protected content, categorised by content type and EU Member State;
 - b. the trajectory of digital piracy over time within the EU-27 and the individual EU Member States;
 - c. user behaviours and their variations across different countries.
2. An **econometric analysis** that builds on the descriptive segment, presenting a statistical examination of the socio-economic variables influencing piracy within the EU Member States.

Following this introduction, Section 2 will revisit the concepts of copyright and copyright infringement, setting the stage for the rest of the study. Section 3 focuses on IPTV piracy providing an overview on the main ideas behind this way of providing audiovisual content. Section 4 describes the data sources that lay the foundations of this study. The core findings of the study, encompassing descriptive statistics and emerging trends in piracy, will be showcased in Section 5. Section 6 will delve into the econometric analysis, highlighting the influence of socio-economic factors on piracy. The concluding section will encapsulate the insights garnered from the report and propose avenues for future research, with the overarching aim of contributing to the ongoing dialogue on copyright enforcement and policy development. The annexes provide clarifications on the methodologies used to prepare this report, data on the legal offer of content and an overview of the main piracy indicators by EU Member States.

2 Copyright in the EU

Copyright law provides authors with exclusive rights that enable them to control the use of their works and generate income. Authors and/or right holders may authorise or prohibit certain uses of their works, such as reproduction and distribution of copies, as well as communication and making the works available to the public⁽¹⁾.

In addition to author's rights, copyright law creates 'related' (or 'neighbouring') rights, which are designed to reward and/or incentivise creative endeavour and the investments of those who make creative works accessible to the public: music and audiovisual performers, record producers, radio and TV broadcasters, etc. In the EU, the producers of the first fixation of a film are also protected by related rights⁽²⁾.

Independently of the economic rights, authors also have moral rights that, at least, include the right of authorship and the right of integrity of the work. Other moral rights that national laws may provide for are the right of divulgation and the right of withdrawal. These rights can usually be asserted by the author even if the copyright has been transferred to a third party⁽³⁾.

Copyright protection is applicable only to the expression of ideas, not to the ideas themselves. Copyright registration (at both the EU and national levels) is not required for copyright protection⁽⁴⁾.

⁽¹⁾ At the EU level, the main 'economic rights' have been harmonised by the so-called Information Society Directive, [D 2001/29/EC](#) of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, OJ L 167, 22/06/2001, pp. 10-19, Articles 2-4.

⁽²⁾ See Articles 2-3 Information Society Directive; see also the 'Rental Rights Directive', [D 2006/115/EC](#) of the European Parliament and of the Council of 12 December 2006 on rental right and lending right and on certain rights related to copyright in the field of intellectual property (codified version), OJ L 376, 27/12/2006, pp. 28-35, Article 7 et seq.

⁽³⁾ On national approaches to waivers of moral rights see, e.g., the [Frequently Asked Questions on Copyright](#), published by the EUIPO.

⁽⁴⁾ Voluntary registration is, however, possible in many countries.

Protection arises automatically from the moment a work is created. In this respect, copyright differs significantly from other IP rights.

Copyright law is governed by the principle of territoriality, which means that each country has a separate system of rules, although international agreements from the end of the 19th century and the 1990s, and European legislation since the early 1990s, have significantly harmonised these rules. Twelve directives have been adopted to harmonise important aspects of the copyright laws in the EU Member States. In addition, two regulations and provisions of several other legal instruments are relevant to the exercise and enforcement of copyright⁽⁵⁾.

In the EU, the general rule is that the rights of authors are protected for their lifetime and 70 years after their death⁽⁶⁾. The protection conferred by related rights lasts for 50 years after the performance, film or broadcast was published or communicated to the public, and 70 years for phonograms or performances fixed in phonograms⁽⁷⁾.

The economic aspects of copyright are complex, reflecting trade-offs between the interests of creators, distributors, performers and consumers, and short-term versus long-term effects. Copyright contributes to ensuring adequate compensation for creators and other rights holders (so that a socially optimal level of creative activity takes place), while at the same time providing broad public access to the creative works and making it possible for other creators to build upon prior works.

Copyright infringement arises whenever a protected work is used without the authorisation of the copyright holder and this activity cannot be regarded as permitted use under one of the applicable exceptions or limitations to copyright.

⁽⁵⁾ For an overview of EU legislation on copyright law, see the Commission's websites:

<https://ec.europa.eu/digital-single-market/en/eu-copyright-legislation>

<https://ec.europa.eu/digital-single-market/en/copyright>

⁽⁶⁾ On the term of protection in EU law, see also [Derivative Use of Public Domain Content — Film Industry Focus](#), EUIPO, May 2017, p. 35 et seq.

⁽⁷⁾ See [Directive 2011/77/EU](#) of the European Parliament and of the Council of 27 September 2011 amending Directive 2006/116/EC on the term of protection of copyright and certain related rights, OJ L 265, 11/10/2011, pp. 1-5.

The law creates exceptions and limitations in order to balance copyright protection with competing interests, such as freedom of expression and communication or privacy⁽⁸⁾. One of the exceptions to copyright that the EU Member States may introduce into their national law is the so-called private copying exception⁽⁹⁾, which refers to making copies of copyright-protected works for strictly personal and non-commercial use. According to case-law from the Court of Justice of the European Union (CJEU), the private copying exception is reserved for the user who has accessed or acquired a copy of the work in a legitimate manner (i.e. with the authorisation or licence of the copyright owners⁽¹⁰⁾).

In the internet era, copyright infringement has become easier, even when committed on a vast scale — one need only think of unauthorised large-scale file-sharing on BitTorrent-based peer-to-peer networks. The technology used to download copyright-protected content is irrelevant, as is the question of whether the work was downloaded in its entirety or in part.

Downloading a work from the internet constitutes an act of reproduction. During the process of streaming, no fixed copy or file is created on the end user's computer. However, in a case that concerned the sale of a multimedia player with pre-installed add-ons that helped users find infringing content online, the CJEU held that the acts of streaming by end users of this kind of media player are not covered by copyright exceptions⁽¹¹⁾ ⁽¹²⁾.

⁽⁸⁾ Article 5 of the Information Society Directive provides for a long, exhaustive list of exceptions that Member States may implement. The recently adopted 'Copyright in the Digital Single Market Directive' provides for three additional mandatory exceptions. [Directive \(EU\) 2019/790](#) of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC (Text with EEA relevance.), OJ L 130, 17/05/2019, pp. 92-125, Articles 3-5.

⁽⁹⁾ Article 5(2)(b) of the Information Society Directive.

⁽¹⁰⁾ 10/04/2014, C-435/12, ACI Adam BV and Others v Stichting de ThuisKopie, Stichting Onderhandeligen ThuisKopie vergoeding, EU:C:2014:254.

⁽¹¹⁾ 26/04/2017, C-527/15 Stichting Brein v Jack Frederik Wullems, EU:C:2017:300. Considering, notably, the way in which the features of the multimedia player are advertised, end-users would buy the player deliberately and in full knowledge that they would access a free and unauthorised offer of protected works. In addition, 'as a rule', the temporary acts of reproduction created in this situation by streaming would adversely affect the normal exploitation of the works and cause unreasonable prejudice to the legitimate interests of the right holder; this practice 'would usually result in a diminution of lawful transactions relating to the protected works ...' (§ 69-70).

⁽¹²⁾ See also the EUIPO's FAQ on copyright for consumers: <https://euipo.europa.eu/ohimportal/en/web/observatory/faqs-on-copyright>.

Type of infringement	Description
Infringement involving physical communication media	Illegal copies of optical discs including laserdiscs (LD), video compact discs (VCD) and digital versatile discs (DVD). Inexpensive to copy using optical media and decryption software.
Online infringement	Unlicensed use on the internet. Piracy with media formats to distribute films, music, TV, software and publications to other internet users.
Signal theft	Receiving cable TV or radio system or satellite signals without authorisation. Piracy through the supply to consumers of illegal cable decoders or satellite descramblers.
Broadcast piracy	On-air broadcasting of a programme, from a legitimate or pirate copy, without permission from the copyright holder.
Unauthorised public performance	An institution or commercial entity showing a programme to its members or customers without permission from the copyright owner.

Table 1: Types of infringements.

Under EU law, right holders may also apply for an injunction against an intermediary whose services are being used by a third party to infringe IPR, including copyright. The CJEU has given guidance on the criteria for liability in cases of alleged online infringements of copyright and related rights ⁽¹³⁾. It has also clarified, to a certain extent, if and under what circumstances different types of online platforms can be considered to have made a ‘communication to the public’ ⁽¹⁴⁾. According to the most

⁽¹³⁾ It mainly clarified relevant provisions of the Information Society Directive, the e-commerce Directive ([D 2000/31/EC](#) of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market, OJ L 178, 17/07/2000, pp. 1-16, and the Enforcement Directive ([D 2004/48/EC](#) of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights (Text with EEA relevance), OJ L 157, 30/04/2004, pp. 45-86).

⁽¹⁴⁾ For an overview of recent case-law from the CJEU and national courts in 14 EU Member States on the role of online intermediaries in the enforcement of IPR infringement, see the [IPR Enforcement Case-law Collection: the Liability and Obligations of Intermediary Service Providers in the European Union](#), EUIPO, 2019.

recent Copyright in the Digital Single Market Directive, certain platforms can perform a communication to the public⁽¹⁵⁾.

The music, TV and film entertainment industry is changing very rapidly. The companies that operate in these domains have adapted their business models to gain new customers and better compete in an evolving market⁽¹⁶⁾. At the same time, some players have made it their business to provide copyright-infringing services and products. Providing access to copyright-protected content often includes resource-intensive activities that require the use of various intermediary services and specialised piracy support services. Pirates may also use sophisticated methods to avoid identification and withstand or immediately recover from enforcement measures targeting their services⁽¹⁷⁾.

⁽¹⁵⁾ Directive 2019/790/EU of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC (Text with EEA relevance.), OJ L 130, 17/05/2019, pp. 92-125, Article 17 et seq., which set out a specific liability regime for certain 'online content-sharing service providers'.

⁽¹⁶⁾ See the 2021 [Online copyright infringement report](#) for a description of the various business models (pp. 15-16).

⁽¹⁷⁾ See the 2023 EUIPO Live Event Piracy discussion paper on challenges and good practices from online intermediaries to prevent the use of their services for live event piracy.

3 IPTV piracy

The development of IPTV piracy services to provide illegal access to TV, films and live sports events, has become increasingly prevalent, causing significant financial losses to legitimate service providers. This section describes this new form of piracy and the specific challenges it raises.

3.1 Introduction to IPTV and IPTV piracy

Internet Protocol Television (IPTV) refers to the delivery of television content over Internet Protocol (IP) networks, differing from traditional terrestrial, satellite, and cable television formats. IPTV streams media continuously for immediate playback and operates on managed private networks provided by internet service providers. This dedicated infrastructure ensures higher reliability and quality of service compared to the public internet, supporting both live broadcasts and on-demand content.

IPTV uses a technical IP pairing between the source, a content distribution network, and the destination device or app. This structured approach, often involving subscription packages, allows for a controlled and efficient distribution network, making IPTV a robust alternative to traditional broadcasting methods. IPTV piracy, on the other hand, involves the illegal distribution of TV, films and live sport events content over the internet using similar technical means⁽¹⁸⁾.

The main difference between IPTV piracy and web-based piracy lies in how the content is delivered and the user experience. IPTV piracy involves the illegal streaming of TV channels and on-demand content over managed networks, often mirroring the service quality of legitimate IPTV providers. This typically requires users to have specific hardware, such as set-top boxes, or software, such as apps. These services can bring content to multiple displays, including TV screens.

¹⁸ See [Illicit IPTV Report, 2022](#)

As these illegal activities are not taking place on the web, capturing data to accurately measure their scope and impact is a significant challenge (See section 5.8).

3.2 The business model of illegal IPTV services

Illegal IPTV services operate through several sophisticated business models.

The primary model is the ‘Illegal IPTV Subscription’ model, where consumers are provided direct access to pirated IPTV services for a monthly fee, generating revenue from subscription payments. This approach often involves high-quality streaming and additional features such as Video on Demand (VoD) libraries, with a user-friendly interface that mimics legitimate services.

The ‘Illegal IPTV Free Streaming Portal’ model provides links to streaming websites for free, generating revenue through advertising and potentially malicious activities like spreading malware⁽¹⁹⁾. Some illegal actors also support the setting up of such pirated IPTV services, with the ‘Illegal IPTV for Resellers’ model, consisting of resellers acquiring IPTV packages to set up their own illegal businesses.

This business-to-business model includes explicit tutorials on establishing IPTV services and managing customer payments.

3.3 Economic impact of IPTV piracy

IPTV piracy has a profound economic impact on various stakeholders in the broadcasting industry.

- Revenue losses for broadcasters and content creators: the widespread availability of pirated streams could potentially reduce the audience for legal broadcasts, directly impacting subscription and advertising revenues. The [Illicit IPTV Report \(2022\)](#) highlighted that the unlawful IPTV market in Europe generated approximately EUR 1.06 billion in revenue in 2021.

¹⁹ [Illegal IPTV in the European Union, 2019. p.26](#)

- Diminished value of broadcast rights: the proliferation of unauthorised streams undermines the exclusivity of broadcast rights, leading to decreased bidding interest and lower prices for these rights. This devaluation affects sports leagues, entertainment companies, and other entities that rely on the sale of broadcast rights as a major revenue stream ⁽²⁰⁾.
- Increased costs for anti-piracy measures: legitimate service providers must invest heavily in anti-piracy technologies and enforcement actions. These measures include digital fingerprinting, watermarking, and working with regulatory bodies to shut down illegal streams. Despite these efforts, the sophisticated methods employed by infringers, such as VPNs to hide IP addresses and the use of advanced hosting services, pose ongoing challenges ⁽²¹⁾.

3.4 Combating IPTV piracy – Enforcement efforts

IPTV piracy presents significant challenges due to the complexity and sophistication of its operational networks. The primary issues include advanced technological infrastructures that are continuously evolving, making it difficult for authorities to keep track. The resilience and dynamism of these networks allow illicit IPTV services to re-establish themselves quickly even after enforcement actions. Legal and jurisdictional challenges further complicate the fight against IPTV piracy, as the decentralised nature of the internet enables operators to exploit different legal systems to their advantage.

Despite these challenges, the results of recent police operations against illegal IPTV services, such as the following, provide indications on the scale of such services across Europe.

- In the Netherlands, in 2023, one of Europe's largest pirate IPTV services was taken down in a coordinated operation led by Europol. The service had over a million users, with packages

²⁰ [Arcom report. Protecting sports-related content and creation: the effects of reinforced action, 2024](#)

²¹ [App&App Store Discussion Paper, 2024](#)

giving them access to over 10 000 TV channels, alongside a library of 15 000 films and TV shows. ([Europol](#)).

- In Spain, in 2024, the National Police dismantled a major IPTV piracy network, arresting multiple individuals and seizing infrastructure used to broadcast illegal content ([Policia Nacional](#)).
- In Italy, during the 2024 UEFA European Football Championship, the Guardia di Finanza conducted a significant anti-piracy operation, targeting 13 individuals suspected of managing illegal IPTV networks. This operation resulted in over 1.3 million users losing access to pirated content. ([Guardia di Finanza](#)).

Addressing the challenges raised by illegal IPTV services requires a coordinated and multifaceted approach, integrating technological solutions, legal actions, and educational campaigns to reduce both the supply and demand for pirated IPTV content. Legal actions often require cross-border cooperation, with varying legal frameworks that can further complicate swift enforcement.

4 Data sources

4.1 Online piracy tracking data

As in the previous editions of this report, piracy data is provided by MUSO, a data company that specialises in monitoring global piracy and unlicensed media consumption. The dataset includes web-based piracy as well as IPTV piracy.

Web-based piracy data

MUSO provided the EUIPO with data on access to pirated films, TV and music from January 2017 to December 2023 in all 27 EU Member States. The dataset also includes pirated accesses to publications and software from 2021 to 2023.

The MUSO figures represent the number of visits (or accesses) to piracy websites. To be better able to compare piracy in different countries, piracy will be measured in number of accesses per internet user. For convenience, the terms 'piracy' or 'consumption of pirated content' are regularly used throughout the report. These terms are employed as convenient shorthand and should be interpreted in the context of the aforementioned definition.

The data is broken down into the following categories:

- geographical location: the country of residence of the consumer of copyright-infringing content, within the 27 EU Member States;
- access method: streaming, torrenting ⁽²²⁾, downloading and stream ripping;

⁽²²⁾ MUSO distinguishes between public and private torrenting. Notwithstanding, the data has been aggregated in this study.

- type of content: music, films, TV, software and publications;
- genre: films & tv shows, anime, live broadcast, live sports, music, web fiction, sheet music, publishing, educational, audiobooks, manga, books, magazines & newspapers, software, games, application add-on, mobile software, application software; see Annex A for additional information on these subcategories;
- physical platform: mobile device or computer/desktop;
- traffic source that indicates how users reach pirated content: direct, search, referral, social, mail, display ads⁽²³⁾ (see Annex A for additional information on these sub-categories).

In this study, piracy is measured in number of accesses to pirate websites per capita per year or month for each country or at EU-27 level. Specifically, this value has been calculated by dividing the activity figure by the total number of internet users per country for a given year, obtained from Eurostat (see below).

IPTV piracy data

IPTV piracy data is available for 2022 and 2023 only. The methodology adopted by MUSO to collect this data differs from that adopted for web-based piracy. The underlying assumption⁽²⁴⁾ for collecting IPTV piracy data is that users sign up on dedicated websites that handle registrations and payments. When registration is complete, subscribers then consume the IPTV content via a dedicated IPTV device, and not via the websites.

The data presented in this report is the number of visits to such registration websites. However, this does not provide a measurement of the number of IPTV users or subscriptions, because not all of these visits will result in a new subscription. There are cases where people will visit these sites to

²³ The accesses originated by 'Mail' and 'Display Ads' have been aggregated in this study, since the figures are very small.

²⁴ IPTV piracy occurring through other means is not captured in this study.

examine the offering but choose not to sign up. Therefore, more than the actual piracy level, the reader should look at the trend over time and the differences between countries.

4.2 Eurostat: internet usage, income, population

The economic and demographic data used in the analysis are sourced from Eurostat, the statistical office of the EU. This study incorporates the following independent variables.

- Population between 16 and 74 years old (*demo_pjan*): the study considers the population aged 16-74 years because the ICT survey (data below) of households covers households with at least one member in the 16-74 age group.
- Individuals (%) regularly using the internet (*tin00091*): in this context, regular use is defined by Eurostat as ‘at least once a week (i.e. every day or almost every day or at least once a week but not every day) on average within the last 3 months before the survey. Use includes all locations and methods of access and any purpose (private or work/business related)’. At the EU level, the share of internet users significantly increased between 2017 and 2023, from 79 % to 90 % of the population aged 16-74 regularly using the internet. The number of internet users is used for the calculation of pirated accesses to content per capita per country per month.

Year	EU27	
2017	261.84	79 %
2018	270.02	82 %
2019	277.64	84 %
2020	284.40	86 %
2021	288.94	87 %
2022	293.09	89 %
2023	299.76	90 %

Table 2. Internet users aged 16-74 (source: estimations based on Eurostat data)

- Youth unemployment (*une_rt_a*): this variable contains the share⁽²⁵⁾ of young people between 15 and 24 years old that are unemployed. The share of unemployed people in this age category decreased from 18.5 % to 14.5 % between 2017 and 2023 in the EU27.
- Young population between 15 and 24 years old (*demo_pjangroup*): this age range is chosen to make it consistent with the youth unemployment variable.
- Real gross domestic product (GDP) per capita (*sdg_08_10*).
- Gini index⁽²⁶⁾ (*ilc_di12*).

4.3 European Audiovisual Observatory and Pro-music

The European Audiovisual Observatory provides statistical and analytical information on film, television, video/DVD, new audiovisual media services and public policy related to film and television. In the framework of its collaboration with the European Commission, it created the MAVISE database⁽²⁷⁾ of TV and on-demand audiovisual services and companies across Europe. The number of video platforms and TV channels in each EU Member State that has been used in this study was obtained from this database.

The European Audiovisual Observatory maintains information on the various audiovisual services and licences in Europe. Annex B tables the availability of the various types of offers across EU countries between 2017 and 2023.

⁽²⁵⁾ The share of people aged 15-24 years in the total labour force in that age range.

⁽²⁶⁾ The Gini coefficient is a measure of income inequality in a country. It ranges between 0 and 1, with 0 denoting complete equality and 1 complete inequality.

⁽²⁷⁾ MAVISE is a free-access database on television channels and on-demand services and licences in 41 European countries and Morocco. It provides information about the audiovisual services available in Europe, including the licensing country and the owners and registries of licences issued by European audiovisual regulatory authorities. The MAVISE database, managed by the European Audiovisual Observatory, is supported by the CREATIVE EUROPE programme of the European Union. See <http://mavise.obs.coe.int/> and <http://mavise.obs.coe.int/pages/about> for a description of the database.

The total number of video platforms in the EU, which includes platforms that provide services to customers at the pan-European level, almost quadrupled between 2018 and 2020, and doubled from 2020 to 2023.

The availability of TV channels, and therefore the offer to citizens, in the EU grew by about 2.5 %. The evolution across countries differs significantly. Although the number has decreased in Italy, the number of TV channels there remains the highest in the EU.

Concerning music products, the number of platforms operating in each EU Member State was obtained from the Pro-music website⁽²⁸⁾.

Although the number of music platforms in the EU decreased slightly between 2018 and 2020, it grew by about 32 % between 2020 and 2023. This increase in the legal offer of music platforms occurred in a large majority of the EU Member States and the UK, with the exception of Germany and the Netherlands, where the legal offer decreased. It remained stable in Poland and Romania.

Overall, the legal offer of TV channels, films and music has significantly increased in most EU Member States since 2018. Additional information on the legal offer is available on the EUIPO's [Agorateka](#)⁽²⁹⁾ portal.

⁽²⁸⁾ From the Pro-music.org website: 'Pro-music is a coalition of people and organisations working across the music sector. The international alliance of musicians, managers, artists, publishers and major and independent record companies across the music industry work together to promote the myriad of different ways in which people can enjoy music safely and legitimately online'.

⁽²⁹⁾ Agorateka is a pan-European portal of the European Intellectual Property Office (EUIPO), created through the European Observatory on Infringements of Intellectual Property Rights. It provides links to sites for music, film & television, ebooks, video games and sports events.

4.4 IP Perception study

Besides the socioeconomic and market variables mentioned above, this study addresses the influence of the IP Perception variables on piracy. The related dataset is a subset of the EUIPO's IP Perception surveys⁽³⁰⁾. The most recent IP Perception study was published in 2023⁽³¹⁾.

The study aims to understand the extent of Europeans' respect for IP rights and their overall perception of IP. The report draws its conclusions from 25 824 interviews conducted with individuals aged 15 and over residing in each of the EU Member States.

Several variables from the IP Perception survey are used in the econometric analysis. These variables can be divided into two groups: attitudes towards IPR infringement, and awareness of legal offers (see Table 3).

Attitudes towards piracy	Q3.6	To what extent do you agree or disagree with the following statements?
		- It is acceptable to obtain digital content illegally from the internet or from apps when it is for my personal use.
Awareness of legal offer	Q4b.2	During the past 12 months, which of the following have you done?
		- Paid to access, download or stream copyright protected content from a legal service on the internet or from Pay TV operators (for instance music, video, film or TV series, ebooks or audio books)
	Q6.1	Among the types of content listed below, for which one(s) are you aware of legal offers accessible in your country to access or download/stream them on the internet?
	Q6.2	- Music
	Q6.3	- Films
		- TV series

Table 3. Variables from the IP perception survey

⁽³⁰⁾ Four surveys so far: 2013, 2017, 2020 and 2023.

⁽³¹⁾ EUIPO IP Perception study 2023.

5 Descriptive analysis

This part of the report provides a summary of data related to the use of pirated content spanning from January 2017 to December 2023. The charts depict the trends in piracy within all EU Member States and the average for the EU-27 Member States, detailing the data by type of content, source, genre, and device used. First, the overall trend in piracy is presented, followed by detailed sections that present the findings by content categories, such as TV, Film, Music, Software, and Publications and Live Sports events. As outlined in Section 3, the primary metric for piracy is the frequency of accesses to pirated content per internet user each month.

5.1 Evolution of pirated consumption of all types of content

This section examines the combined incidence of piracy across various content forms.

Figure 1 includes two totals: i) the total for film, music and TV piracy from 2017 to 2023, and ii) the former plus publications and software piracy (only available since the beginning of 2021)¹.

In both cases, the data indicates a stabilisation of piracy. The 2023 EU-27 average piracy value for films, music and TV piracy is around 6.5 accesses per internet users and month, which is still half of 2017 levels. This value does not seem to have significantly changed since 2022. When the accesses for publications and software are added, the EU-27 average climbs to about 10 to 10.5 accesses per internet user and month for 2023.

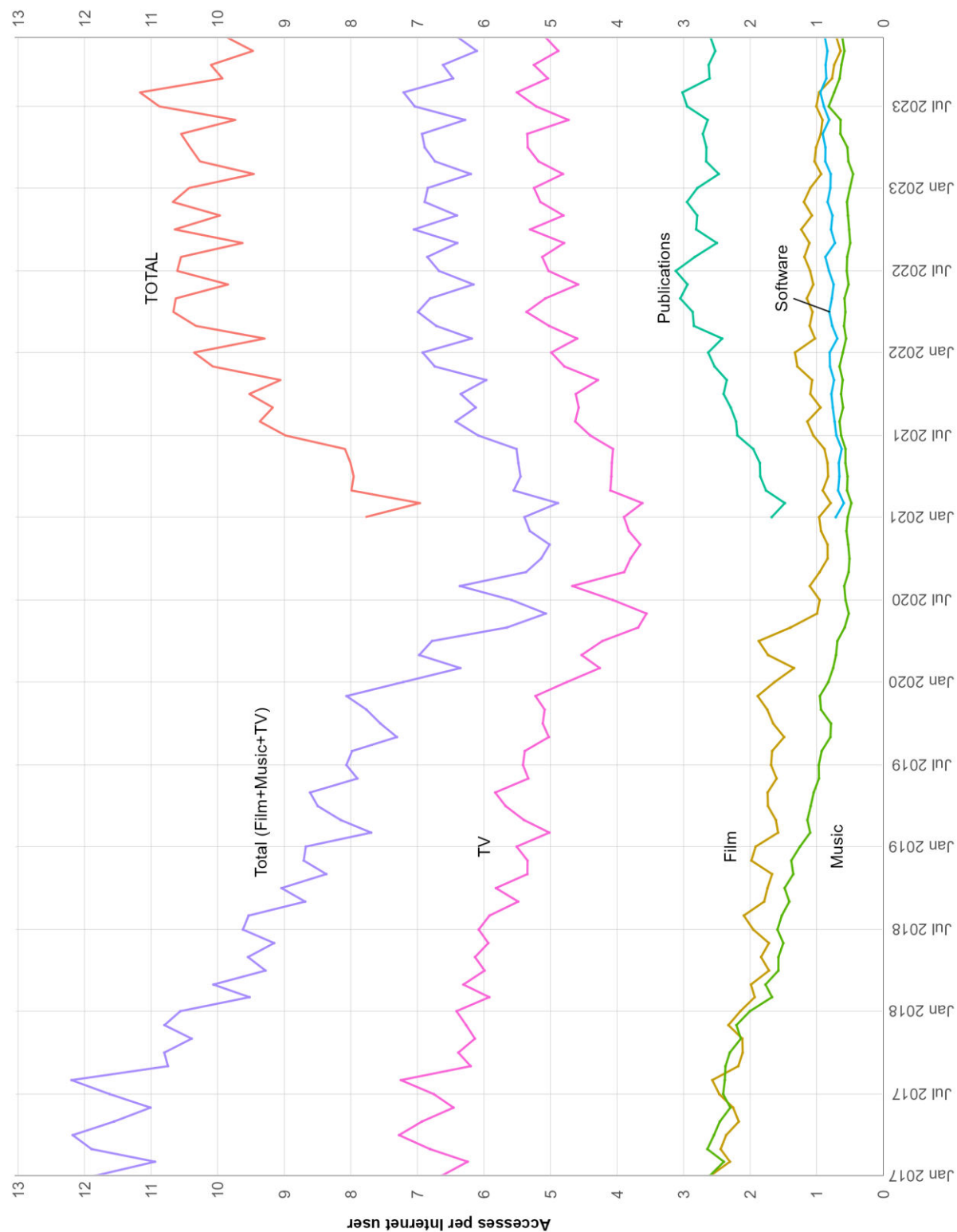


Figure 1: Evolution of accesses to pirated content 2017-2023 in the EU27 (source: EUIPO calculation based on MUSO data)

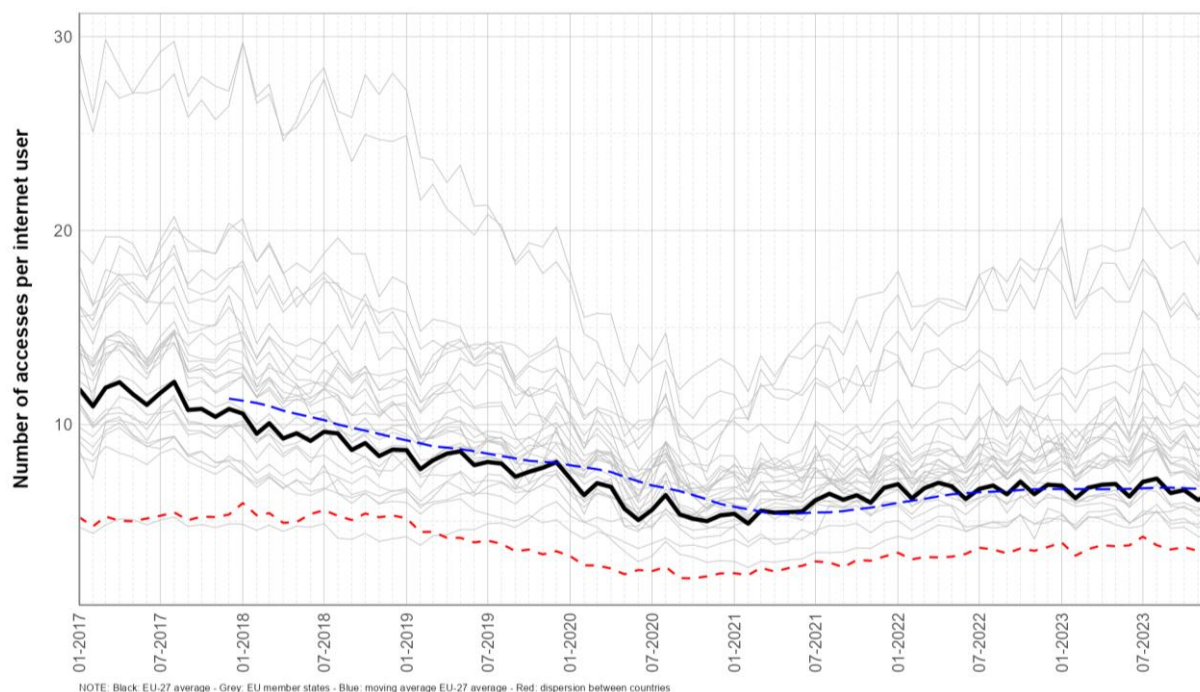


Figure 2. Evolution of accesses to pirated content 2017-2023 in the EU27 (source: EUIPO calculation based on MUSO data). Evolution of total (film + music + TV) accesses per internet users (EU-27 and 12-months moving average; the red line represents the standard deviation as a measure of the variability between countries)

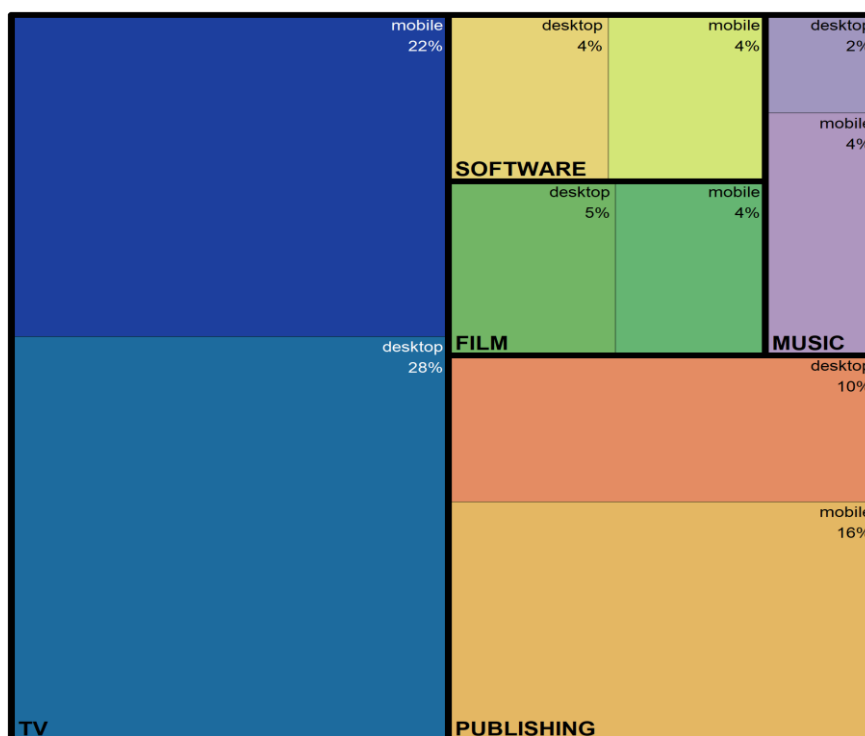


Figure 3: Total 2023 EU-27 piracy breakdown per type of content with split per device.

Figure 3 shows the distribution of piracy per type of content for 2023 as well as the proportion of piracy per type of content that is consumed on either mobile⁽³²⁾ or desktop devices. There is a clear tendency to consume pirated music and publications content on mobile³³ devices, while for TV accesses, piracy from desktop computers is preferred, although accesses from mobile devices are also significant.

The type of content piracy per country, as well as the total pirated content consumption per internet user, shows a large variability among the Member States (see Figure 5). Overall piracy ranges from about 25 accesses per internet user per month to about 7. The red line marks the EU-27 average, providing a reference point for comparison.

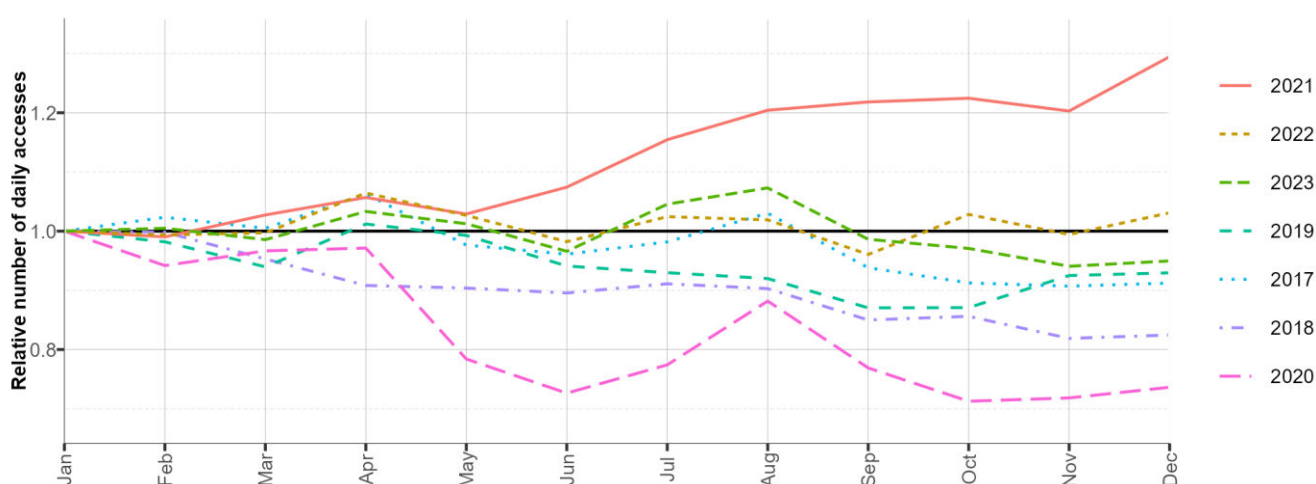


Figure 4: Comparison of the relative average daily piracy for each month in January of each year.

⁽³²⁾ The distinction between mobile and desktop devices is based on the operating system that connects to the pirate website. These devices can be mobile phones, tablets or any other device with a mobile operating system.

³³ This includes any type of devices with a mobile operating system such as mobile phones and tablets. Desktop devices are all the rest.

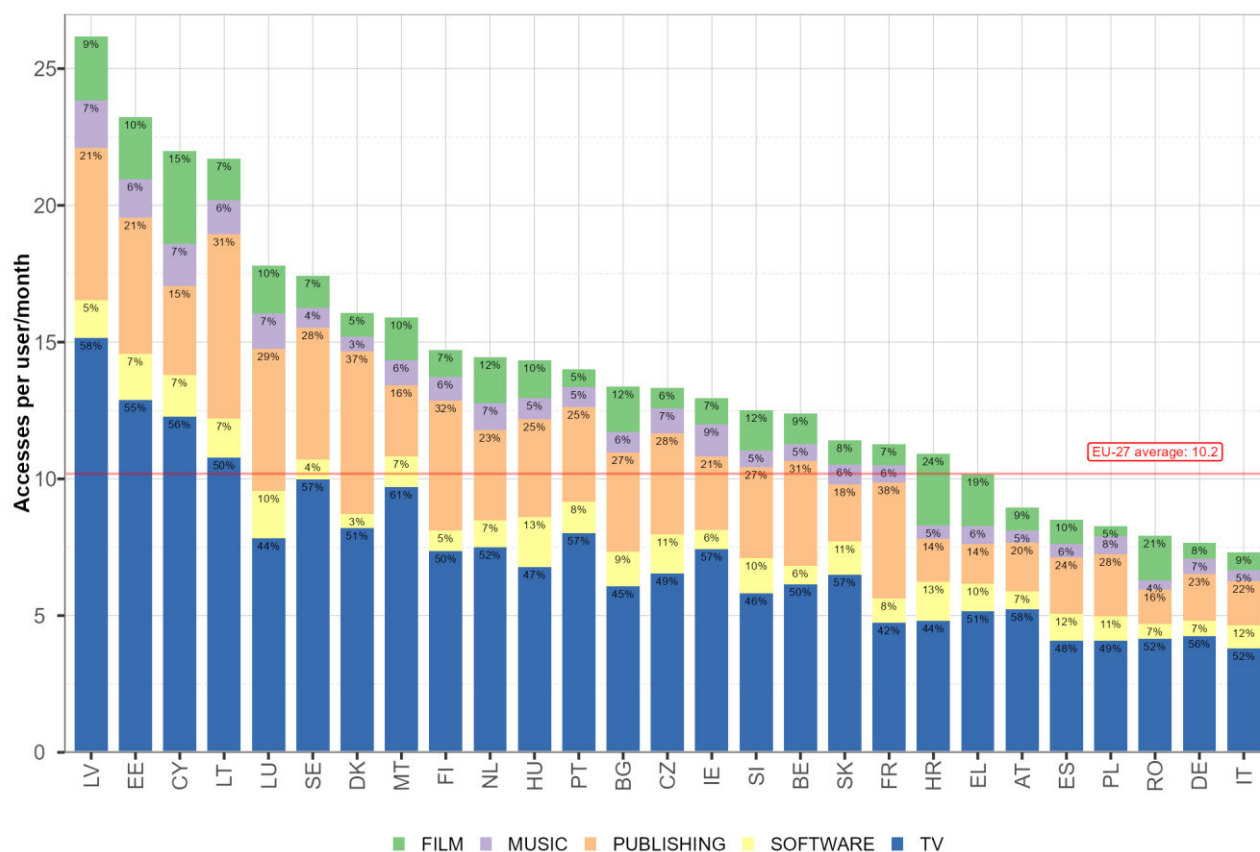


Figure 5. Breakdown per type of content in each country for 2023.

5.2 Evolution of TV piracy

In 2023, TV piracy stabilised around 5.2 accesses per internet user and month (see the upper chart below showing the evolution of TV piracy per MS and EU-27 average). However, the variations across EU Member States are increasing. Of the 27 EU Member States, nine (Bulgaria, Estonia, Spain, France, Croatia, Italy, Malta, Romania and Slovenia) decreased their TV piracy volume, while the remaining 18 presented higher values than 2022. As before, streaming remains by far the most common way to consume pirated TV content (see Figure 6).

The split by EU Member State shows a substantial variation between countries. Latvia, Estonia, and Cyprus have the highest average number of monthly accesses per internet user, with Latvia at nearly 15 accesses per month. In contrast, Italy, Spain, and Poland have the lowest average monthly accesses.

Concerning the split between mobile and desktop devices (Figure 7 bottom), pirated TV content on websites is usually watched on desktop devices, which represents about 60 % of the total. The relation between the two types of devices has not significantly varied since 2021.

The distribution between mobile and desktop piracy differs across countries, although desktop remains the most significant. The split varies, with Hungary having 64 % of piracy on desktop (and therefore 36 % on mobile devices) and Latvia showing consumption from mobile devices (50 %) is more significant.

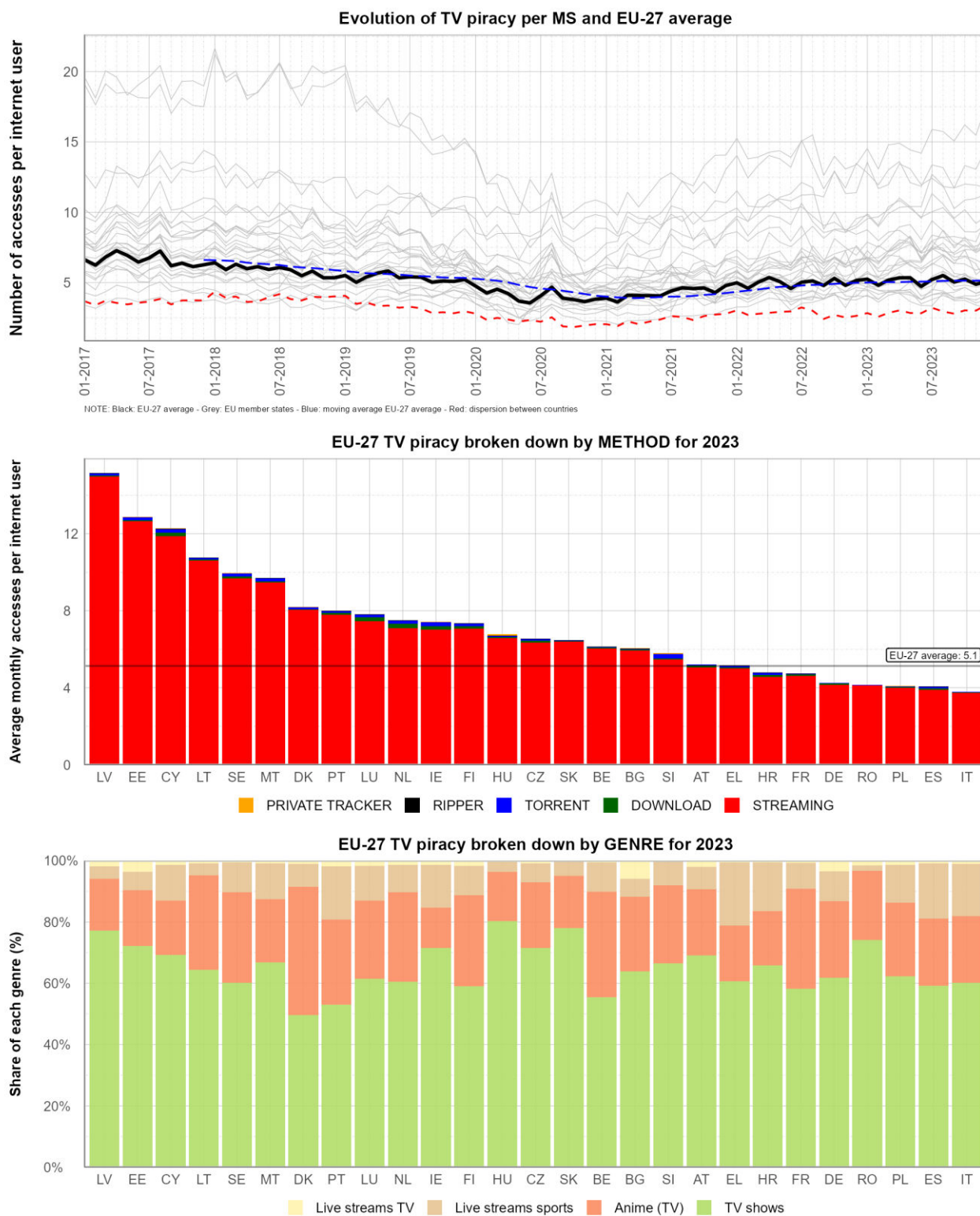


Figure 6: (Top) Evolution of EU TV piracy, (middle) per country and method and (bottom) by genre.

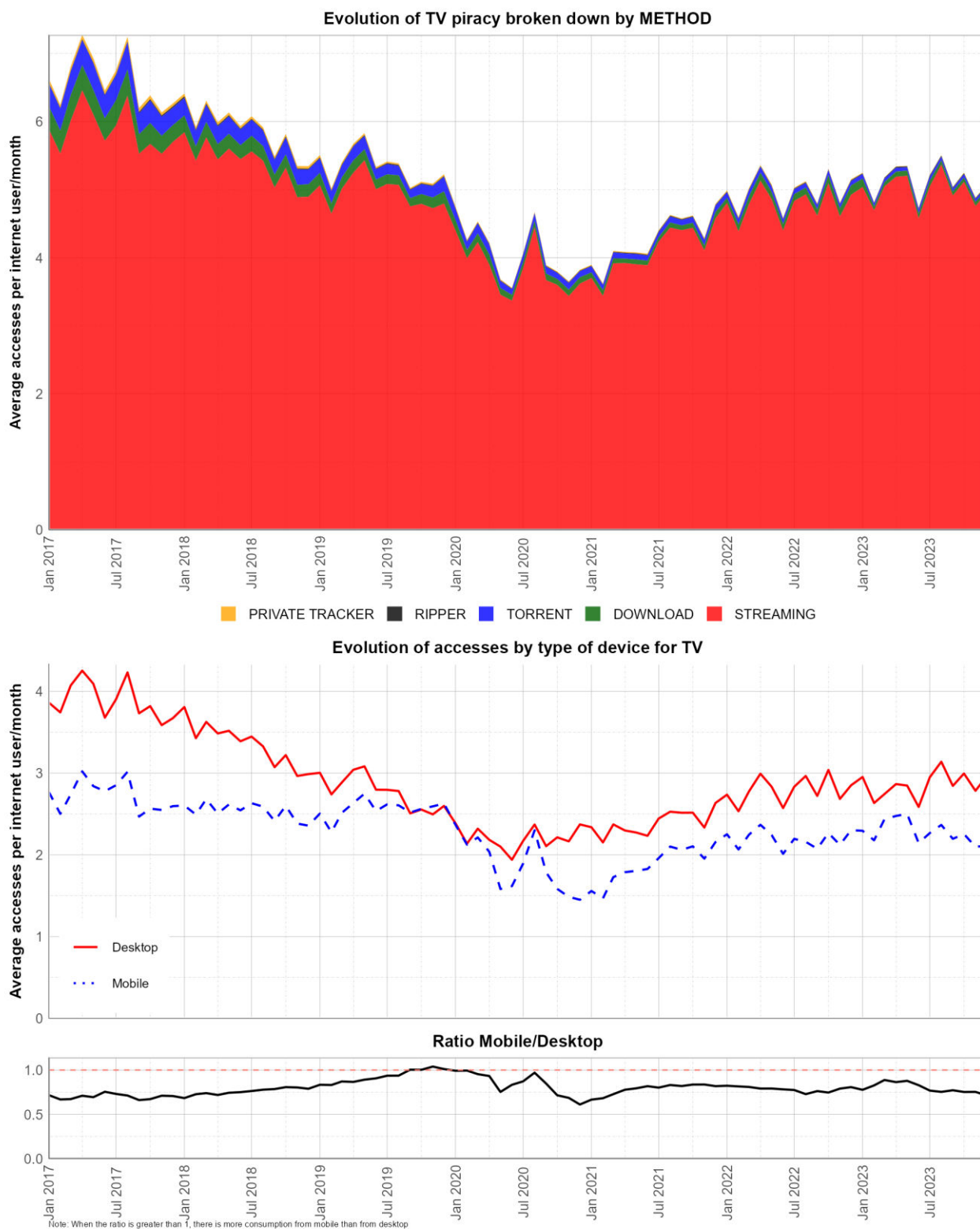


Figure 7: (top) Evolution of TV piracy breakdown per method and (bottom) evolution per type of device.

5.3 Evolution of film piracy

The film piracy line shows a decreasing trend that ended 2023 with an EU-27 average of 0.9 accesses per internet user. This is a reduction of about 25 % compared to December 2022 (1.19 accesses per internet user). In addition, EU-27 average **annual** film piracy went down to 0.9 accesses monthly per internet user.

When it comes to the long-term evolution of film piracy, after the sharp decrease that followed the start of the COVID-19 crisis, and a small rebound from mid-2021 to the second half of 2023, the trend is again pointing downwards.

Streaming remains the predominant method for consuming pirated films, which consistently shows the highest number of accesses throughout the period. Despite some fluctuations, streaming has maintained its dominance. Torrenting is the second most common method maintaining a steady number of accesses over the years with slight declines. Streaming represented more than 94 % of all the accesses in Romania in 2023, while it was 48 % in Portugal during the same period. Downloads accounted for 31 % of all the accesses in Germany and only 2 % in Romania. Overall, streaming grew from about 61 % of all the accesses in 2017 up to 74 % in 2023. Downloads have remained in the range of 12-14 % over the same period while accesses through torrents, have halved from about 20 % to 10 %.

Desktops are still the preferred devices for film piracy, although the accesses from mobile devices remain close. It is to be noted that the decrease of films piracy is reflected in the decrease from both desktop and mobile devices.

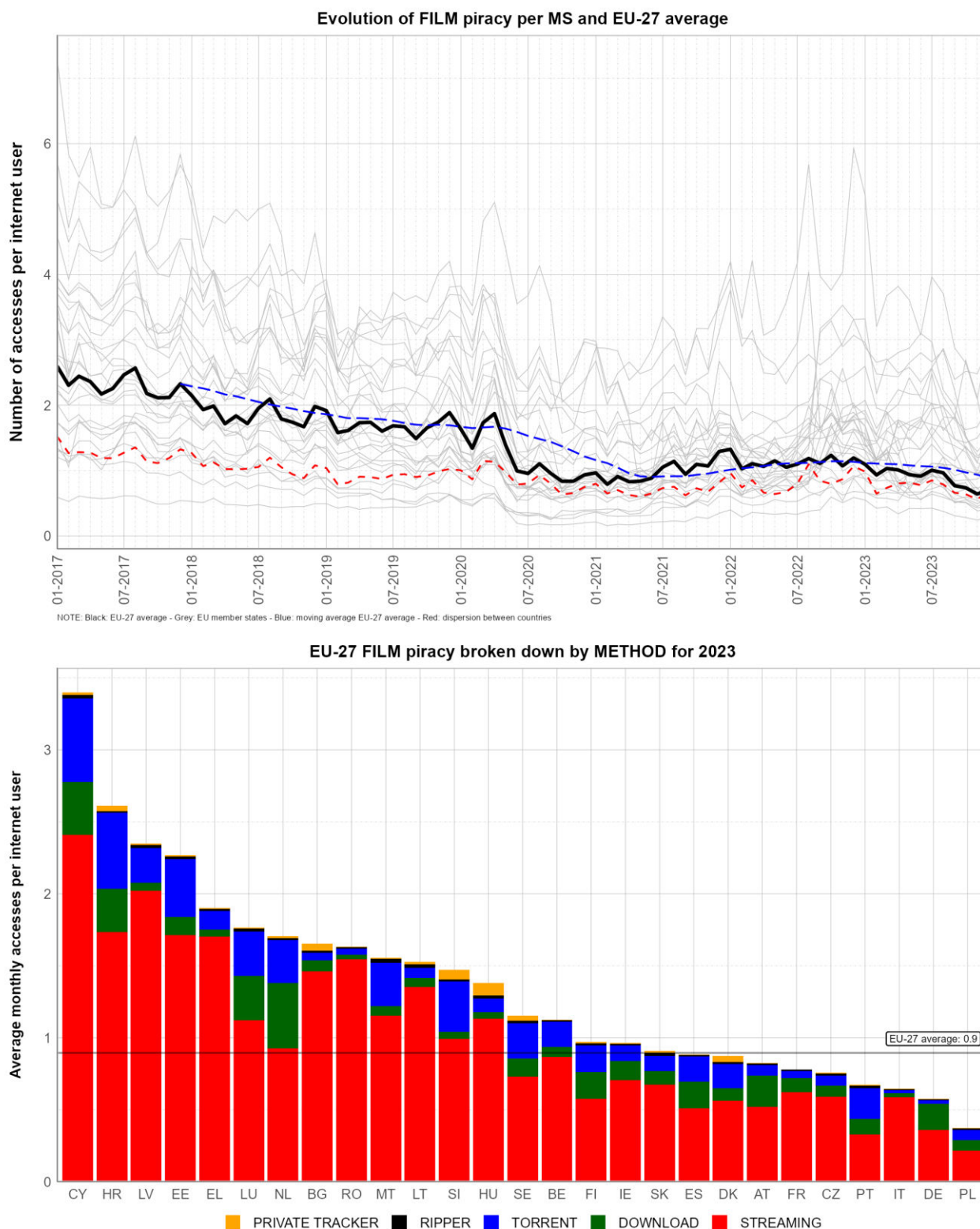


Figure 8: (Top) Evolution of film piracy and (bottom) TV piracy per country and method.

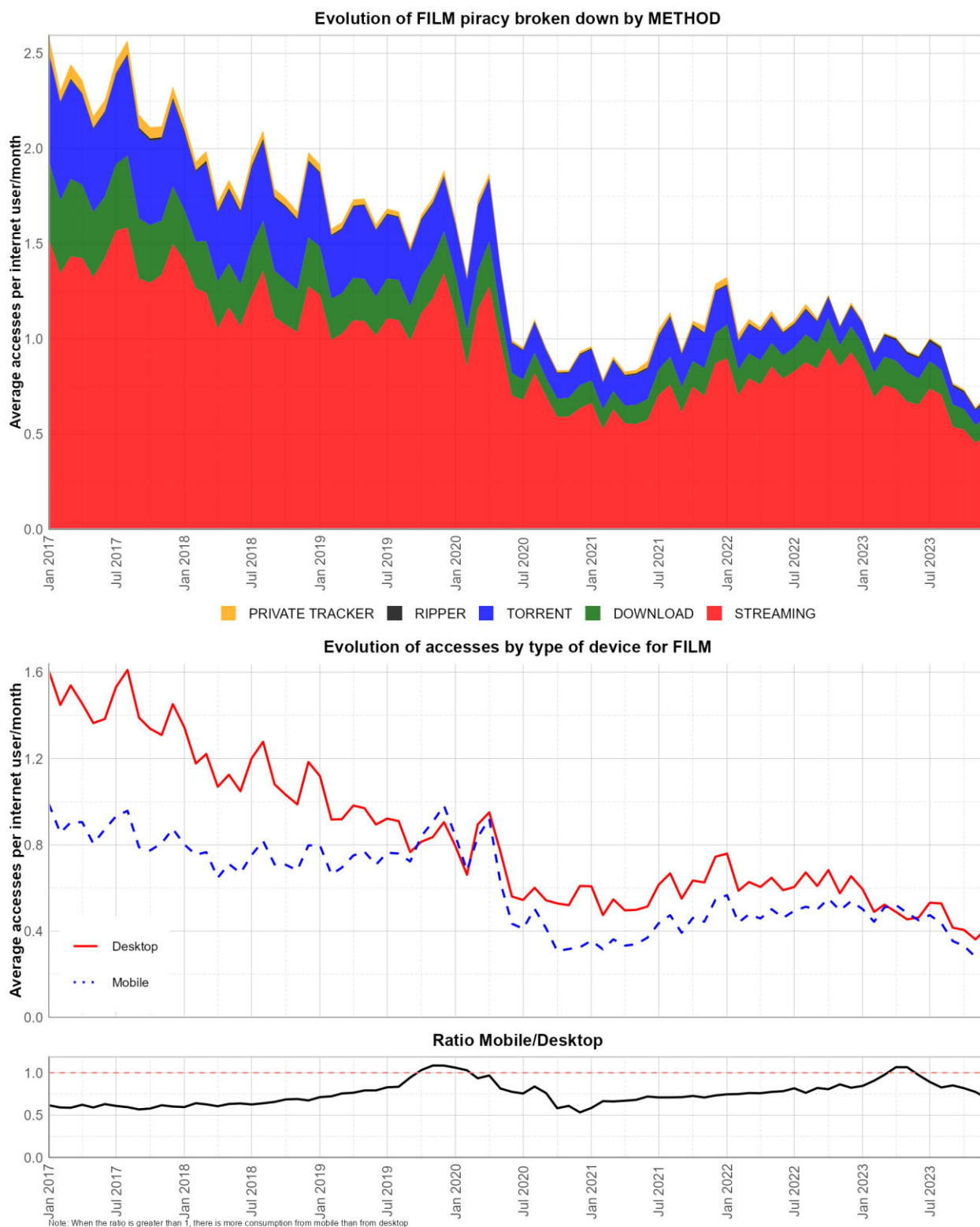


Figure 9: (top) Evolution of the film piracy breakdown per method and (bottom) evolution per type of device.

5.4 Evolution of music piracy

Pirated accesses to music content, which closed 2023 at 0.6 accesses per internet user, have slightly grown compared to 2022. Despite this slight growth, piracy remains at about one quarter of the level at the beginning of the time series (2017). Figure 10⁽³⁴⁾ shows that variability across EU Member States has been increasing since early 2023.

The preferred method for accessing pirated music content in most Member States remains ripping (Figure 10), which accounted for nearly half of all the accesses to pirated music in 2023. Downloading represented about 26 %, and streaming 21 %. No clear shifts across the different methods have been detected as these shares are in the same ranges as the previous years.

Downloading was the preferred method in Ireland and Germany with 42 % and 36 % respectively. In contrast, it represented around 12 % in Hungary and Malta. Finally, pirated music streaming reached 47 % in Latvia and 6 % in Croatia. There are, therefore, substantial differences when it comes to the preferred methods for pirated music consumption across the 27 EU Member States.

Mobile devices remained the preferred way of consuming pirated music, accounting for twice as many accesses as desktop consumption.

⁽³⁴⁾ The reader will notice the spike in July 2023, which is due to a known data collection inaccuracy. This may be smoothed out in future editions of the report.

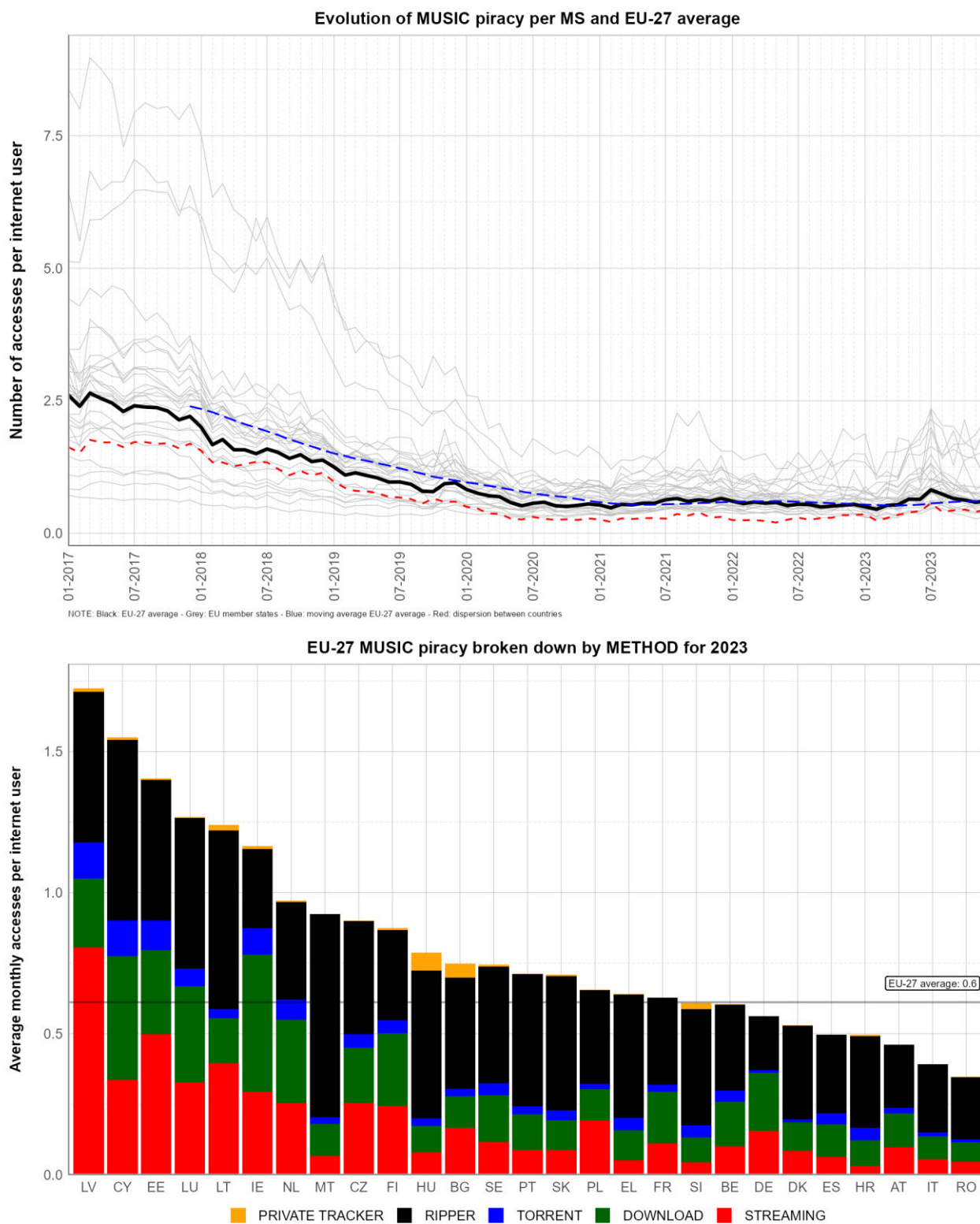


Figure 10: (Top) Evolution of music piracy and (bottom) TV piracy per country and method.

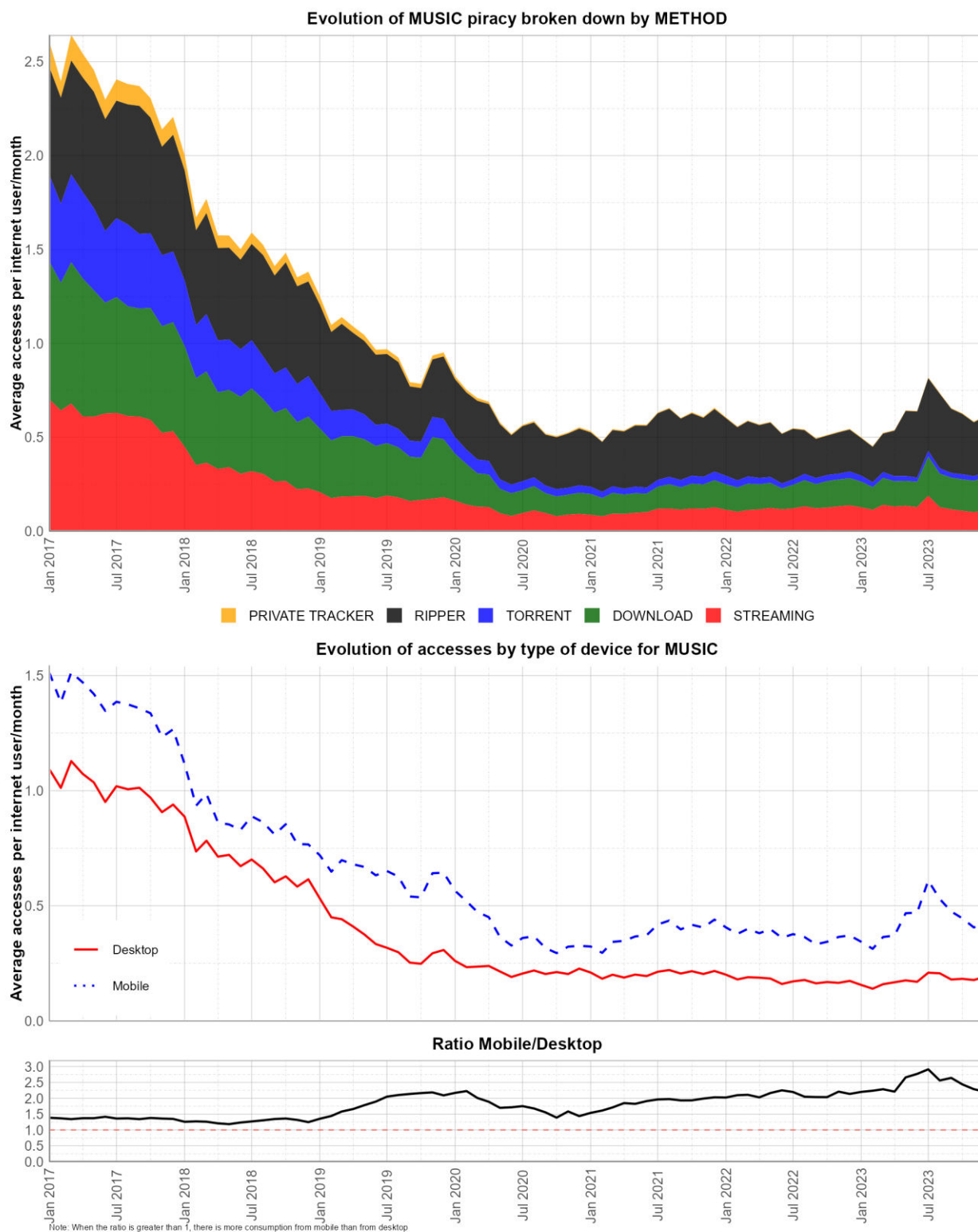


Figure 11: (top) Evolution of the music piracy breakdown per method and (bottom) evolution per type of device.

5.5 Evolution of publications piracy

Data on accesses to sites providing pirated publications and software are available from 2021. The trend in 2023 is flat with an average EU-27 piracy of 2.7 accesses per internet user and month. December 2023 ended with 2.62 accesses per internet users, which represents a reduction of 10.8 % and a slight increase of 3.5 % with respect to the same months in 2022 and 2021 respectively. The dispersion across EU Member States remains at the same level as in 2022.

Downloading is the preferred method (88 % in 2023) to obtain publications from pirate sources, followed by torrent (about 9 %) and private trackers (3 %). However, the distribution by method across country was not homogeneous. Downloads represented 65 % of all the publications accesses in Bulgaria and 66 % of those in Hungary, compared to 96 % and 93 % in Germany and Spain respectively. Torrent use was high in Latvia and Croatia (21 % and 19 % respectively).

The main type of pirated publication was manga, which varied from about 46 % up to 80 % depending on the Member State. Manga is followed by general publications³⁵, which accounted for between 11 % and 40 %, while e-book use was in the range of 10 %-12 %.

Accesses from mobile devices remain the most important way to consume pirate publications. Overall, accesses from mobile devices are about 50 % higher than those from desktop devices. The relation between mobile and desktop is at the same level as in 2022. In 2023, DK, ES and PT pirate accesses were through mobile devices in more than 2/3 of the cases annually. On the other hand, the pirates' accesses to publications for BG and SI occurred from mobile devices in about half of the cases.

³⁵ General publishing content spanning multiple categories.

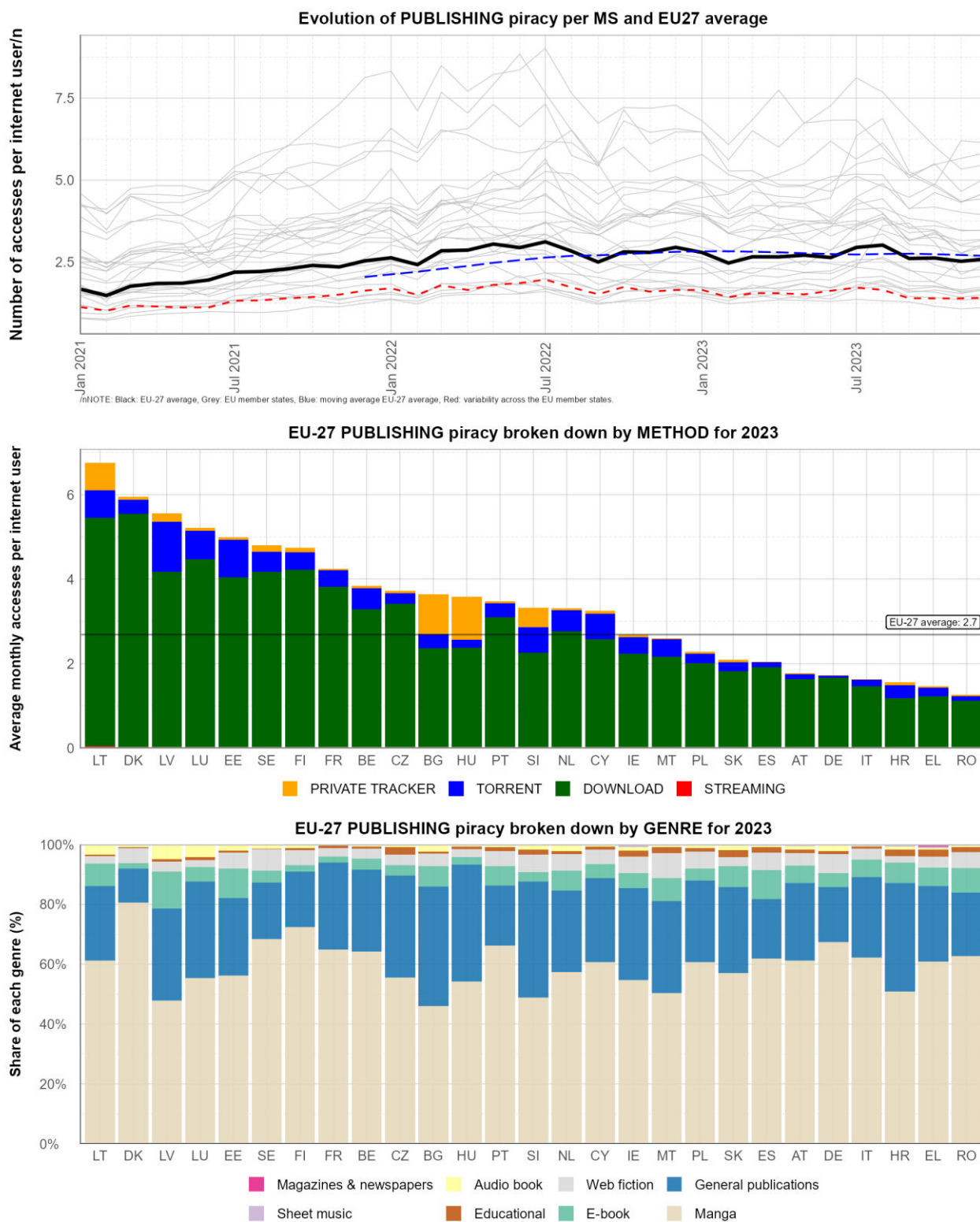


Figure 12: Trends and breakdown of publications piracy in the EU-27 for 2023

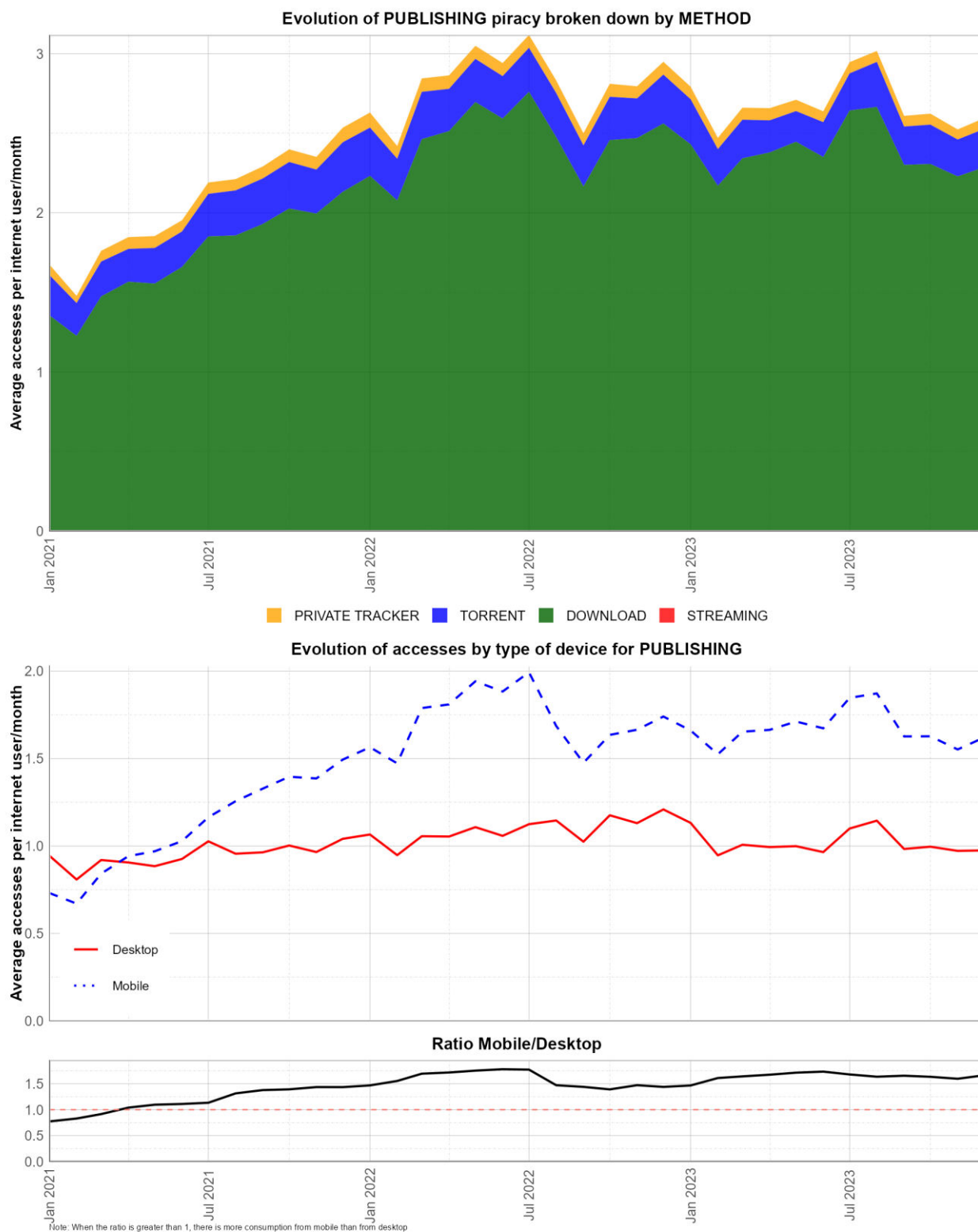


Figure 13: Evolution and breakdown of publications piracy in the EU-27 by method and device type

5.6 Evolution of software piracy

In 2023, software continued its previous increasing trend and closed the year at 0.9 accesses per user, which is about 6 % higher than December 2022. The 12-months moving average closed about 10 % higher than 2022, which points to an increasing trend on an annual basis.

As before, the main method of obtaining this kind of pirated content is downloading, with torrenting in second place. Downloading has been growing since the beginning of the time series, starting at 64 % and currently representing 75 % of all the accesses to pirated software. In contrast, torrenting reduced its share from about 30 % to 21 %. As for other types of content, the preferred method to obtain pirated software varied across the 27 EU Member States. For instance, in Germany, downloading was used in nearly 90 % of the cases while in Slovenia it was below 50 %. Torrents use was below 10 % in Germany while it accounted for 41 % of all the accesses in Latvia.

With regards to the split per genre, beyond general software⁽³⁶⁾, mobile software⁽³⁷⁾ (which included games) was the most common type of illegally obtained software. Another important software genre was video games⁽³⁸⁾, which spanned between 42 % and 18 % depending on the Member State.

The share of mobile devices in software piracy has steadily increased since 2017 while desktop use has slowly decreased. The growth detected in the software category is actually coming exclusively from mobile devices. At the end of 2023, piracy from mobile and desktop devices was equally distributed.

⁽³⁶⁾ General software content which spans multiple categories.

⁽³⁷⁾ Software and games for mobile devices, such as a smartphone or tablet.

⁽³⁸⁾ Video games played on a PC or gaming consoles.

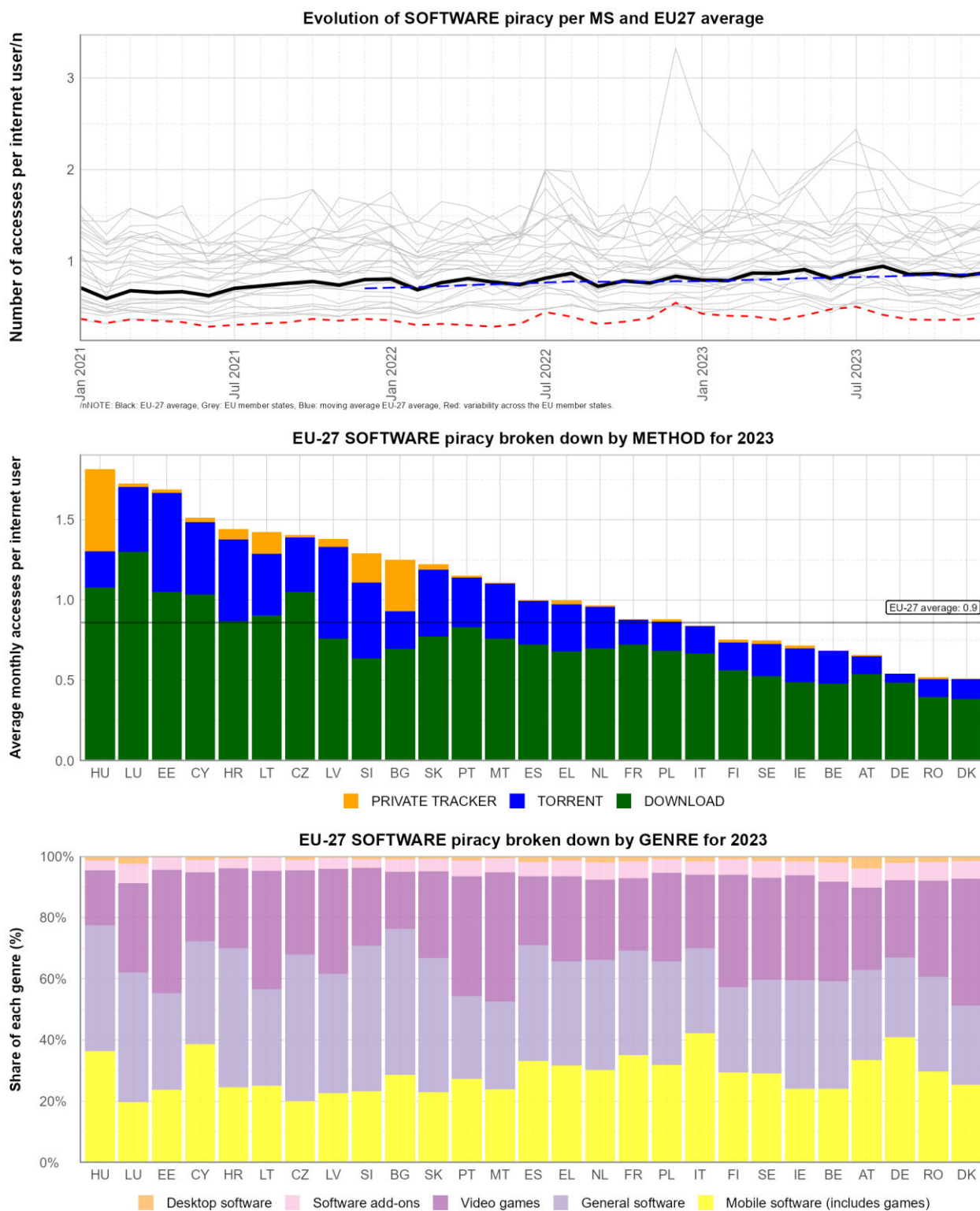


Figure 14: Trends and breakdown of software piracy in the EU-27 for 2023

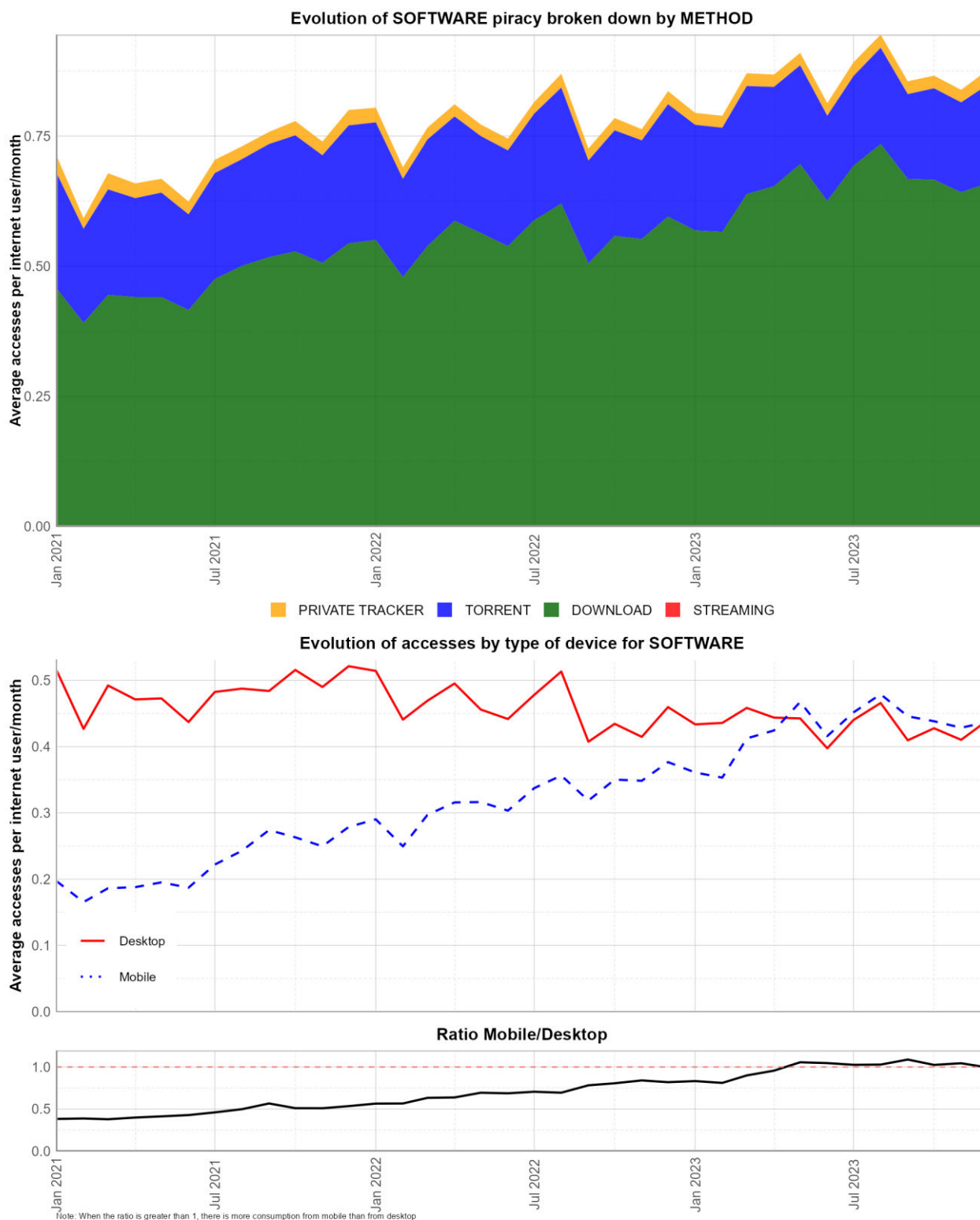


Figure 15: Evolution and breakdown of software piracy in the EU-27 by method and device type

5.7 Sports and live event piracy

The European Commission adopted a [Recommendation](#) on May 4, 2023, aimed at combating the commercial-scale online piracy of sports and other live events. It encourages Member States, national authorities, right holders and intermediary services providers to implement effective, appropriate, and proportionate measures to address unauthorised retransmissions of such streams.

The initiative highlights the significant investments required for the organisation and live transmission of these events, as well as the economic impact of unauthorised streaming on revenue, job creation, and the viability of services offered by event organisers and broadcasters.

The recommendation emphasises several key actions.

- Prompt treatment of notices: providers of hosting services are encouraged to act swiftly on notices related to unauthorised retransmissions of live events to minimise harm. This includes cooperation with trusted flaggers and the use of technical solutions like application programming interfaces.
- Dynamic injunctions: Member States are advised to use blocking injunctions tailored to live events and to grant legal standing to sports event organisers. These injunctions can be dynamically extended to cover new pirate services that may appear after the initial injunction is issued. This aims to address the resilience strategies of pirate services effectively.
- Voluntary cooperation and commercial offers: The recommendation highlights the importance of voluntary initiatives by intermediary service providers and market players (e.g. advertisers and payment services) to prevent their services from being misused for unauthorised retransmissions. Furthermore, it encourages rights holders to increase the availability, affordability and attractiveness of legal commercial offers for live events.

To monitor the implementation and effects of this recommendation, the European Commission, with the support of the EUIPO, has established Key Performance Indicators (KPIs). These KPIs include tracking visits to pirate websites, prompt treatment of notices, the use of blocking injunctions, and the attractiveness of legal commercial offers. The data for this monitoring exercise for the year 2024 will be available in early 2025.

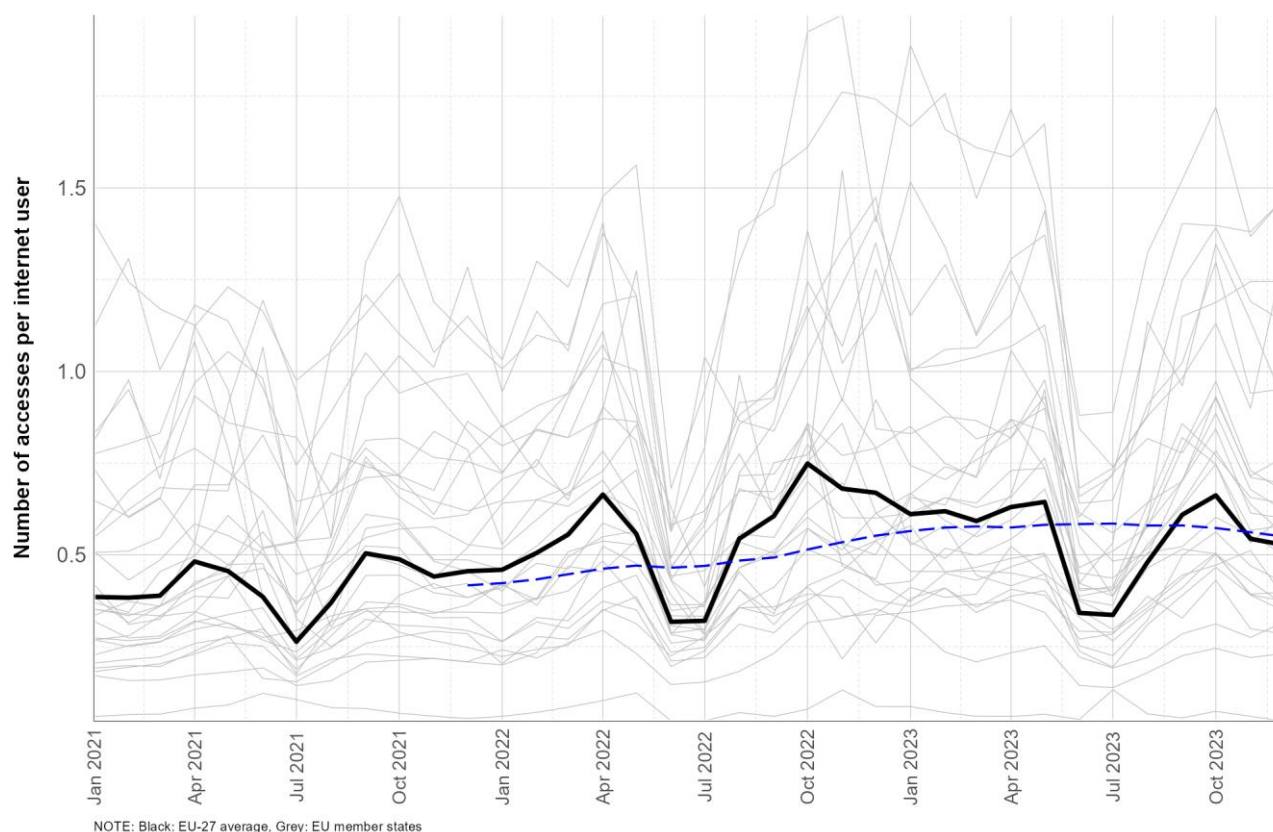


Figure 16. Evolution of sports and live event piracy (accesses per month) in the EU-27.

As shown in Figure 16, sports and live event piracy has been steadily increasing from an initial 12-month average of 0.41 accesses per internet user and month at the end of 2021, up to a maximum value of 0.75 in October 2022 when it started a slight decline, closing 2023 at 0.56. In 2023 two peaks are visible in April-May and October, as well as a significant reduction of piracy in June and July⁽³⁹⁾.

The evolution per country (Figure 17) shows a high degree of variability, although one common element is that piracy increased in most of them. Some countries, such as Greece, Hungary,

⁽³⁹⁾ Possibly because the main European football leagues have their summer break during those months.

Romania, Sweden and Slovakia did not experience any significant variation compared to the previous year.

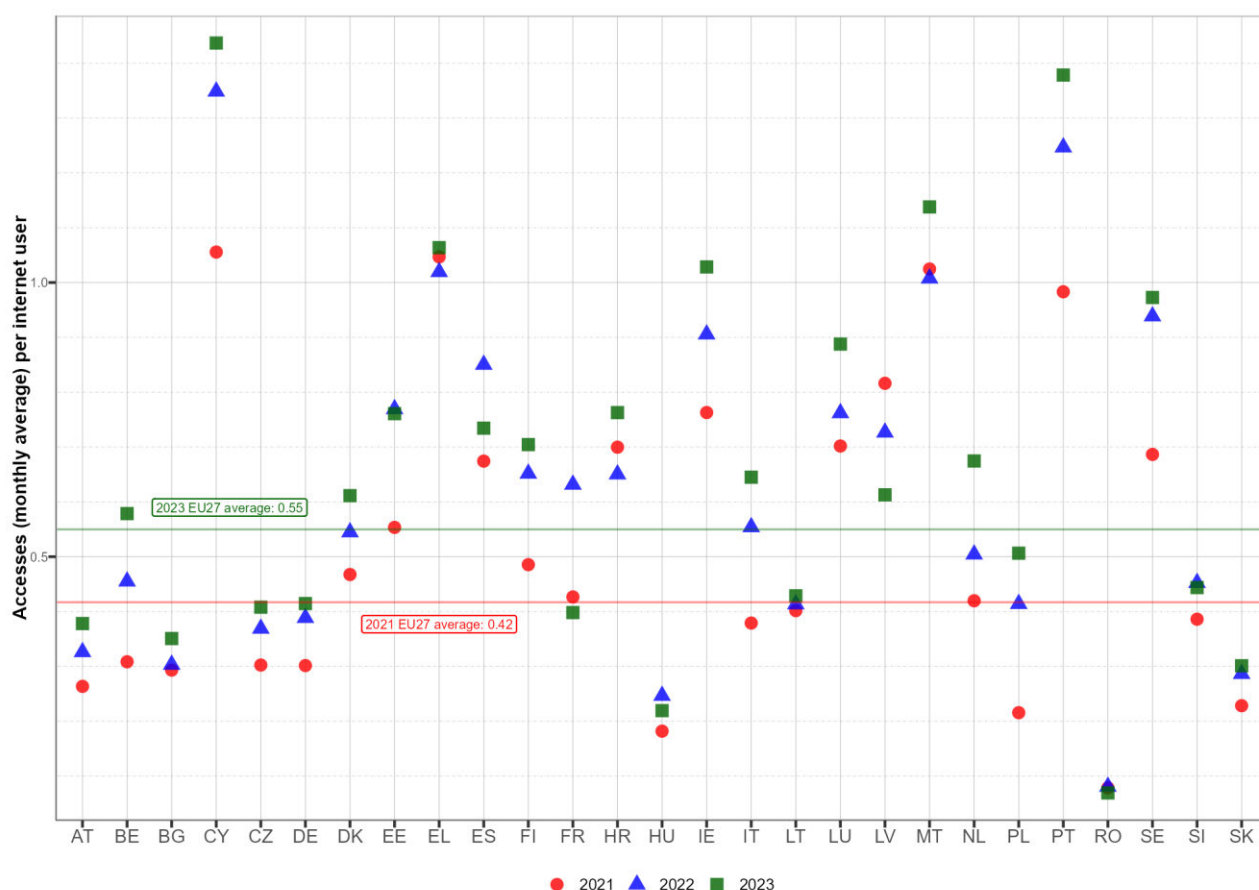


Figure 17. Live sports event piracy per country for 2021 to 2023, and EU-27 averages

The way in which users find unlicensed live sports events is, in nearly two thirds of cases, through direct access (61 %). Internet searches (20 %) and referrals (18 %) are the other main sources. Desktop devices are the preferred access method.

5.8 IPTV Piracy

So far, all the data presented refer to website piracy. In this section, the first available IPTV piracy data for 2022 and 2023 are presented. As already mentioned, IPTV piracy is not directly measured, as is the case for website piracy. The charts below correspond to the number of visits to pirate IPTV registration websites that are used to sign up. Actual pirate IPTV consumption is not measured and remains unknown as it is not carried out through these websites.

Figure 18 (top) represents the percentage⁴⁰ of all internet users that have visited an IPTV piracy registration website. The bars show a reduction in May, June and July, which is the same phenomenon as that already identified for live sports events piracy (see the corresponding section). Therefore, this could suggest that a significant part of IPTV users are interested in illegal access to live sports events. In 2022, an average of about 1.95 % of all internet users visited these pirate websites every month. This proportion increased to 2.14 % in 2023, which represents an increase of nearly 10 %.

The number of users who sign up on these websites is unknown. Some will just visit the website and leave without registering. However, others will register and access illegal IPTV services. Therefore, there will be a cumulative effect, month after month, that will keep increasing the number of pirate IPTV users. As the rate of visitors that end up registering and paying for illegal services is unknown, Figure 18 (bottom) shows a simulation, under three assumptions⁴¹: that 5 %, 10 % and 15 % of the visitors register. The yellow line indicates that even under the assumption of the 5 % scenario, in only two years, 1 % of all internet users in the EU-27 will be subscribed to illegal IPTV services. This does not consider the ‘stock’ of users of these services before 2022. Therefore, the total number of users in the EU-27 is likely to be significant.

(⁴⁰) The same metric as that used for website piracy could be used (accesses per internet user). The reason for using percentages in this case is to be consistent with the chart below, for which the adoption of percentages makes more sense than accesses per internet user.

⁴¹ According to the IP Perception Study 2023, 14% of Europeans admit to having intentionally accessed content via illegal sources. The three values chosen in this study have been selected taking into consideration this figure.

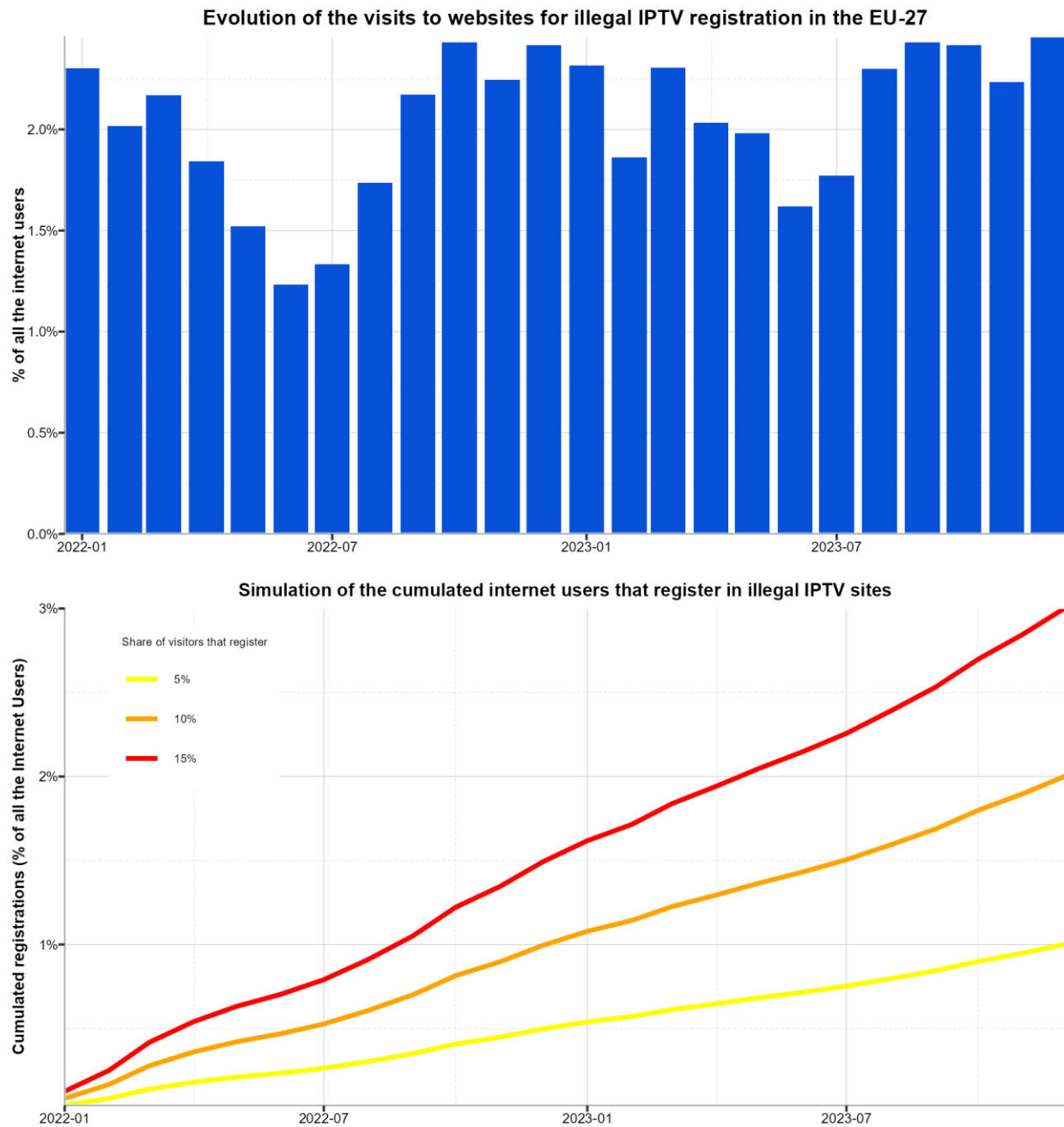


Figure 18: Evolution of the monthly IPTV piracy (top) and cumulated IPTV piracy users (bottom)

6 Econometric Analysis

The previous section described the extent of piracy, its distribution per country and its evolution over time. In this section, econometric analysis is employed to better understand the factors that drive piracy. A set of variables is selected with the aim of testing specific hypotheses about the drivers of piracy. The methodology of the econometric models is fully described in the previous report, published in 2023 ⁽⁴²⁾. The explanatory variables are summarised in Table 4.

The econometric analysis was performed with a dataset of 189 observations that corresponds to the annual film, music and TV piracy in each of the 27 EU Member States for the 7 ⁽⁴³⁾ years between 2017 and 2023. Several combinations of the independent variables were tested to better understand the quantitative aspects of piracy. In all cases, the dependent variable is the number of accesses to sites providing pirated content per internet user per year. The dataset used in this study has a panel structure, where the values of the dependent and control variables are observed for the same countries for 7 or 3 years. To analyse panel data, three types of models were tested: pooled models ⁽⁴⁴⁾, fixed effects ⁽⁴⁵⁾ models or random effects ⁽⁴⁶⁾ models.

For the model selection, the main criteria were: i) a variance inflation factor (VIF) below 3 to ensure low multicollinearity; and ii) maximising the adjusted R^2 , an indicator of the explanatory power of the model. The results are further discussed in the subsections that follow.

⁽⁴²⁾ [Online Copyright Infringement in the European Union 2023](#)

⁽⁴³⁾ For Software, Publications and Live Sports, the number of available observations was 81 because data was only available between 2021 and 2023.

⁽⁴⁴⁾ Usual cross-sectional models where neither time nor individual effects are considered.

⁽⁴⁵⁾ In the fixed effects model, the individual effects are correlated with the regressors.

⁽⁴⁶⁾ In the random effects model, the individual effects are distributed independently of the regressors (no correlation).

Variable	Description	Data source
I_GDP	Log10 of gross domestic product per capita	Eurostat
Gini	Gini coefficient	Eurostat
you_unemp	Youth unemployment	Eurostat
p_young	Proportion of population aged 15-24	Eurostat
q3.6	It is acceptable to obtain content illegally from the internet when there is no immediately available legal alternative	EUIPO IP Perception Study
q4b.2	Paid to access, download or stream copyright-protected content from a lawful source	EUIPO IP Perception Study
q6*	User awareness of legal offers (four different variables)	
Share_iusers	Share of internet users in the adult population	Eurostat
TVch	Number of TV channels	European Audiovisual Observatory
I_plat_vi	Number of online platforms for video and TV	
n_plat_mu	Number of online platforms for music	Pro Music

Table 4: Variables in the econometric models.

		Dependent variable		
		Accesses per internet user, year and country		
		Music (m03.fe)	Film (m07.p)	TV (m5.tv.r)
H1	Income l_GDP	-6.46	-17.37 ***	
H2	Income inequality Gini	1.18 ***		1.6
H3	Proportion of youth p_young you_unemp	1.57 . -0.21 *	3.73 *** 0.49 ***	8.24 ** -1.28 ***
H4	Inclination to piracy q3.6	0.31 ***	0.1	
	Paid to legal services q4b.2	-0.24 **		
H5	Awareness of legal offer Music – q6.1 Film – q6.2		-0.36 ***	
H6	Share of internet users Share_iusers			-2.03 ***
H7	Number of legal platforms Video – n_plat_vi TV – Tvchannels_scaled Music – n_plat_mu		-0.02 ***	-0.01 -3.84 ***
	COVID-19 Dummy Variable		-4.32 **	-11.01 ***
	Mobile subscriptions/100 people	0.03	-0.08	0.68 **
	Intercept	See 6.2.3	81.81 ***	116.17
	observations:	189	189	189
	Overall R ² adjusted	0.67	0.54	0.46
	Variance Inf. Fact.	1.7	2.3	1.9
Note: . p<0.1; * p<0.05; ** p<0.01; *** p<0.001;				

		Dependent variable		
		Accesses per internet user, year and country		
		Publications	Software	Live sports
H1	Income l_GDP			8.16***
H2	Income inequality Gini	2.18***	0.32***	0.24**
H3	Proportion of youth p_young you_unemp			0.26 0.18***
H4	Inclination to piracy q3.6	0.74***	0.31***	0.02
	Paid to legal services q4b.2			0.03
H5	Awareness of legal offer Music – q6.1 Film – q6.2			
H6	Share of internet users Share_iusers	2.29***	0.1	-0.18**
H7	Number of legal platforms Video – n_plat_vi TV – Tvchannels_scaled Music – n_plat_mu			-0.002 -0.01***
COVID-19 Dummy variable				
	Mobile subscriptions/100 people		0.09***	0.05
	Intercept	-257.64***	-28.89***	-20.40
	Observations:	81	81	81
	R ² adjusted	0.34	0.47	0.44
	Variance Inf. Fact.	1.6	2.0	2.0
Note: . p<0.1; * p<0.05; ** p<0.01; *** p<0.001;				

6.1 Results for TV piracy

For the analysis of TV piracy, fixed effects and random effects models were analysed. The statistical tests performed pointed to a random effects model.

- The model showed that the economic variables, such as the Gini index and the GDP per capita, were not statistically significant predictors of TV piracy. The youth unemployment rate had high statistical significance, although the sign is negative, as happens for music. One possible hypothesis could be that unemployed young people tend to live with their parents who are likely to pay their subscriptions to legal TV platforms.
- The proportion of youngsters in the total population is statistically significant with positive sign. Therefore, its decrease contributes to decreasing TV piracy.
- The share of internet users was significant, and the coefficient indicates that the higher this share, the lower the level of TV piracy, holding other variables constant.
- The dummy variable associated with the COVID-19 crisis had very high significance, indicating a negative relationship with TV piracy.
- Concerning the offer of TV channels and VOD platforms, the model supported the hypothesis that a broader legal offer, as indicated by the number of VOD platforms and TV channels, reduces piracy.
- The newly added variable 'number of mobile subscriptions per 100 people' is statistically significant with a positive impact on piracy. That is, a higher mobile penetration is associated with higher levels of TV piracy.

6.2 Results for film piracy

A pooled model turned out to be the most appropriate for film piracy. The selected model yielded a high R^2 that explained 56 % of the variance. The variables that showed statistical significance were:

- GDP: this highly significant variable with a negative sign indicates that rich countries will tend to have lower film piracy rates;
- Proportion of young people in the total population: this coefficient suggests that the higher the proportion of youngsters in the total population, the higher this type of piracy;
- Youth unemployment rate: the positive sign of this indicates that higher unemployment rates among young people can lead to more piracy, possibly due to more free time and less disposable income – it is noteworthy that this variable influences film piracy in an opposite direction than for music and TV;
- Awareness of the legal offer of films (Q6.2) implies that better awareness of legal options correlates with lower piracy;
- The negative coefficient associated with the number of video platforms suggests that more platform choices decrease piracy, possibly because consumers have more legal options that meet their preferences; while the effect is small, it is statistically significant;

6.3 Results for music piracy

In the case of music piracy, a time fixed-effects model was chosen. Both the time and individual fixed effect tested models provided good results. Table 5 shows the time fixed effect of the selected model. These coefficients indicate that following the overall music piracy decrease since 2017, it has stabilised after the COVID-19 crisis.

The statistically significant variables are as follows.

- The Gini index showed high statistical significance. Its positive sign indicates that higher levels of income inequality increase music piracy.
- The youth unemployment rate has a negative sign. This indicates that music piracy could decrease when unemployment of young people goes up (see same effect for TV), which may be counterintuitive. One possible hypothesis could be that unemployed young people tend to live with their parents who are likely to pay their subscriptions to music platforms.
- The proportion of young people in the population is also significant although less than the youth unemployment rate. Its positive sign indicates that as the share of young people in the total population grows, music piracy also grows.
- Attitude towards piracy (q3.6) shows that, as piracy acceptability grows, music piracy also grows.
- The negative sign of variable Q4b.2 shows that as more users pay to access content from a lawful source, piracy declines.

Year	Fixed effects
2017	5.76
2018	-4.00
2019	-7.40
2020	-12.67
2021	-13.73
2022	-14.44
2023	-13.10

Table 5: Time fixed effects.

6.4 Results for publications

As there are now three years of piracy data for publications, an econometric model is feasible. However, since the number of years is only three, this dataset will be analysed as a conventional cross-sectional one instead of panel data as was done for films, music and TV.

The econometric models calculated with the available data yield the following conclusions.

- The Gini index was highly significant and with a positive sign, which indicates that greater income inequality increases publications piracy.
- The share of internet users contributes to increasing publications piracy. The model showed with high significance that the more internet users there were, the more piracy per internet user there was.
- The attitude towards piracy (variable q3.6) is also relevant in this case. As was the case with music, greater acceptance of piracy leads to more piracy.

6.5 Results for software

As for publication, this is the first time an econometric model is applied to software piracy. The main conclusions provided by the estimated model are the following:

- The Gini index, with a positive sign, is statistically significant, which indicates that a more unequal income distribution tends to increase software piracy.
- The attitude towards piracy is also statistically significant and reveals that software piracy increases as tolerance towards piracy grows.

- As one of the most pirated contents within the software category is mobile applications, the number of mobile subscriptions⁽⁴⁷⁾ per 100 people, year and country was included as an independent variable. It was found that software piracy grows as the number of mobile subscriptions per 100 people does. This variable showed very high statistical significance.

6.6 Results for live sports events

Following the models for software and publications, an econometric model for live sports events piracy has been developed. The following are the statistically significant variables.

- GDP per capita: the results of this model indicate that piracy grows as the GDP per capita does. The visualization of the GDP per capita versus piracy confirms that the trend is towards more piracy when GDP grows. Some possible hypotheses that could explain this are: i) relative lower offer in countries with a smaller GDP per capita that would lead to little interest; ii) high demand in richer countries that push prices up which could be dissuasive for a significant proportion of population; and iii) users in rich countries may have already moved to subscription-based products for music, films and TV and may be reluctant to add one more subscription.
- The result for the Gini index is in line with other types of content: as piracy increases when the income distribution becomes more unequal.
- Youth unemployment behaves as initially expected as its growth contributes to the increase of piracy.
- The growth of the internet users share in the total population reduces piracy rates, as was also the case for TV piracy.

(47) This data has been obtained from the World Bank Open Data portal:

<https://data.worldbank.org/indicator/IT.CEL.SETS.P2>

7 Conclusions

This report provides a comprehensive analysis of online copyright infringement in the European Union, covering films, music, TV, software, and publications from 2017 to 2023. The study reveals a complex and multifaceted phenomenon, with trends shifting over time. The findings of this report are based on a dataset of observations, corresponding to piracy rates in each of the 27 EU Member States for the 7 years between 2017 and 2023.

The report's descriptive analysis shows that overall piracy trends have stabilised, with an average of 6.5 accesses per internet user per month for films, music, and TV, rising to 10-10.5 when including publications and software. There is a notable trend of consuming pirated music and publications on mobile devices, while TV piracy is preferred on desktop computers.

TV piracy has stabilised at approximately 5.1 accesses per internet user per month, with significant variations between countries. Film piracy shows a downward trend, ending 2023 with a significant decline in accesses compared to the previous year. Music piracy has slightly increased, but not sharply, and the preferred access method remains ripping, followed by downloading and streaming. Publications piracy remains flat with downloading as the preferred access method. Manga is the most pirated publication type. Software piracy is on the rise, mainly obtained through downloading, with mobile software being a significant category. Sports and live event piracy shows a slightly decreasing trend although the monthly data has peaks in May and October and a noticeable decline in June and July.

IPTV piracy remains a significant challenge, with a growing user base accessing pirated live TV and sports content. The number of visits to pirate IPTV registration websites increased by 10 % in 2023, with an average of 2.14 % of internet users visiting these websites per month. This trend suggests a potential increase in users interested in illegal access to live sports events, with a simulation indicating that up to 1 % of EU-27 internet users could have subscribed to illegal IPTV services in only two years. As IPTV piracy figures share some common features with live sports events piracy, it suggests that the share of IPTV piracy users interested in live sports events could be significant.

The econometric analysis reveals that economic and social factors are important in reducing piracy. The models show that countries' wealth, inequality, population structure, and youth employment opportunities influence piracy. **The volume of the legal offer contributes to reducing piracy in almost all domains.**

The report also highlights the importance of attitudes towards piracy and payment for legal services in reducing piracy. There is some substitution between pirated and legal content, as citizens who purchase legal content will reduce or eliminate their consumption of pirated content in all domains.

The study's findings have implications for policymakers, industry stakeholders, and consumers. The report suggests that a multifaceted approach, integrating technological solutions, legal offers, enforcement actions and educational campaigns, is necessary to reduce both the supply and demand for pirated content.

Furthermore, the report highlights the need for continued monitoring and analysis of piracy trends to inform evidence-based policy decisions.

In conclusion, this report provides a comprehensive understanding of online copyright infringement in the European Union, highlighting the complex relationships between piracy, consumer behaviour, and the creative industry. The findings of this report will hopefully inform the development of effective strategies to combat piracy and promote a culture of respect for intellectual property rights, ultimately contributing to the growth of the digital content industry.

This report has not addressed how market prices and copyright law enforcement in the EU Member States influence piracy for each type of content. Future research activities could include these two points to improve the understanding of piracy. Furthermore, while the range of content being analysed has expanded compared to the earlier studies, with the inclusion of publications and software as well as a more granular specification of genres within each content type, the access methods included in the data omit an important form of piracy, namely dedicated IPTV devices. This data limitation will hopefully be addressed in a future study.

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Glossary

CJEU	Court of Justice of the European Union
DVD	digital versatile disc
GDP	gross domestic product
GNI	gross national income
LD	laserdisc
VCD	video compact disc
VOD	video on demand

Annexes

Annex A **METHODOLOGICAL NOTE**

The dataset processed in this report comprises 189 observations, broken down into the 27 EU Member States, for which there are seven observations that correspond to the period between 2017 and 2023.

The piracy for each type of content is analysed separately. It is assumed that the level of piracy for each type is not directly linked to piracy in the others.

This dataset is analysed as a balanced panel. In this context, it is necessary to decide the type of model that will be used to calculate the coefficients of the regression line. Three options were considered: i) pooled data, ii) fixed effects, and iii) random effects. As the data for publications and software is available for only three years, no panel data analysis has been carried out.

The selection of the best model requires evaluating the presence or absence of individual effects and their characteristics. In the context of this study, the decision has been made by performing the Breusch-Pagan and Hausman tests.

Annex B ONLINE PLATFORMS DATA

On-demand Video platforms (VOD)

Targeted country	2018	Variation 2018-2020	2020	Variation 2020-2022	2022 ⁽⁴⁸⁾	Variation 2022-2023	2023 ⁽⁴⁹⁾
AT	46	94	140	354	494	89	583
BE	51	79	130	95	225	74	299
BG	21	107	128	123	251	93	344
CY	15	95	110	89	199	74	273
CZ	25	102	127	183	310	96	406
DE	70	94	164	80	244	77	321
DK	46	96	142	90	232	70	302
EE	17	107	124	92	216	70	286
EL	17	97	114	103	217	74	291
ES	57	84	141	123	264	75	339
FI	38	106	144	82	226	71	297
FR	96	186	282	280	562	55	617
HR	23	94	117	103	220	72	292
HU	29	95	124	248	372	64	436
IE	33	94	127	128	255	71	326
IT	33	93	126	88	214	73	287
LT	22	112	134	91	225	74	299

⁽⁴⁸⁾ Figures from May 2023.

⁽⁴⁹⁾ Figures from May 2024.

LU	18	98	116	111	227	73	300
LV	20	100	120	107	227	77	304
MT	11	95	106	91	197	73	270
NL	43	87	130	128	258	256	514
PL	63	82	145	468	613	300	913
PT	31	94	125	98	223	74	297
RO	22	96	118	101	219	74	293
SE	49	137	186	90	276	73	349
SI	19	102	121	106	227	76	303
SK	22	94	116	193	309	162	471
TOTAL EU-27	937	2,720	3,657	3,845	7,502	2,510	10,012

Table 6: Number of online video platforms in the EU (source: European Audiovisual Observatory/MAVISE).

MUSIC PLATFORMS

Table 7: Number of online music platforms in the EU (source: Pro-Music).

Country	2018	2020	2022	2023
AT	22	23	29	29
BE	19	20	26	25
BG	13	13	18	18
CY	8	8	11	11
CZ	17	15	20	20
DE	33	22	27	26
DK	13	14	19	19
EE	9	9	13	13

EL	15	15	18	18
ES	22	25	36	33
FI	12	12	17	16
FR	31	30	44	41
HR	4	9	11	11
HU	14	14	18	18
IE	19	19	27	26
IT	18	18	22	22
LT	9	9	13	13
LU	12	12	16	15
LV	9	9	13	13
MT	9	9	13	13
NL	25	24	23	23
PL	23	19	23	23
PT	16	16	21	20
RO	11	7	11	11
SE	12	14	22	20
SI	7	8	11	11
SK	11	10	16	16
TOTAL EU-27	413	403	538	524

TV CHANNELS

Country	2018	Variation	2020	Variation	2022	Variation	2023
AT	1,288	132	1,420	62	1,482	-43	1,439
BE	1,299	29	1,328	59	1,387	-43	1,344
BG	1,311	75	1,386	41	1,427	-40	1,387
CY	1,172	62	1,234	44	1,278	-35	1,243
CZ	1,310	211	1,521	67	1,588	-21	1,567
DE	1,585	77	1,662	95	1,757	-29	1,728
DK	1,259	76	1,335	120	1,455	-5	1,450
EE	1,212	43	1,255	58	1,313	-38	1,275
EL	1,289	93	1,382	63	1,445	-35	1,410
ES	1,760	-100	1,660	49	1,709	-26	1,683
FI	1,246	10	1,256	64	1,320	-19	1,301
FR	1,510	46	1,556	59	1,615	-26	1,589
HR	1,300	80	1,380	81	1,461	-35	1,426
HU	1,636	40	1,676	5	1,681	-57	1,624
IE	1,195	112	1,307	61	1,368	-40	1,328
IT	2,701	173	2,874	-600	2,274	-60	2,214
LT	1,217	63	1,280	58	1,338	-33	1,305
LU	1,158	57	1,215	70	1,285	-48	1,237
LV	1,216	66	1,282	59	1,341	-26	1,315
MT	1,150	66	1,216	53	1,269	-37	1,232
NL	1,480	93	1,573	20	1,593	-35	1,558

PL	1,331	70	1,401	58	1,459	-33	1,426
PT	1,206	72	1,278	60	1,338	-41	1,297
RO	1,495	56	1,551	31	1,582	-38	1,544
SE	1,269	47	1,316	143	1,459	-9	1,450
SI	1,294	82	1,376	78	1,454	-45	1,409
SK	1,342	98	1,440	62	1,502	-24	1,478
TOTAL EU-27	37,231	1,929	39,160	1,020	40,180	-921	39,259

Table 8: Number of TV Channels in the EU (source: European Audiovisual Observatory/MAVISE)

Annex C TAXONOMY

B.1. Delivery methods⁽⁵⁰⁾

- **Public Torrent** – piracy sites in this category are publicly accessible torrent indexing sites, which are online catalogues of torrent files available for download from the peer to peer (P2P) torrent network. A public torrent indexing site provides the user with a mechanism to search for torrent files and torrent magnet links which facilitates peer-to-peer (P2P) file sharing among users of the BitTorrent protocol. Public torrent is a measurement of visits to the websites offering publicly searchable catalogues of torrents.
- **Private Torrent** – piracy sites in this category are very similar to those in the public torrent category, but only members of the site can login and access the site's content. Most private torrent sites operate an invite only policy on membership. Private torrent is a measurement of visits to websites offering privately accessible catalogues of torrents.
- **Web Download** - piracy sites that primarily allow consumption of infringing material via a direct file download from the user's web browser. These sites typically offer a wide range of downloadable content directly searchable from within the site. The site acts as the point of discovery for a user searching for content. The web download site often acts as a referrer to a separate file download hosted on third party anonymous cyberlockers.
- **Web Streaming** - piracy sites that primarily allow consumption of infringing material streamed directly to a media player embedded in the web page of the web browser. These sites typically offer a wide range of content that is searchable from within the site. Sites offering both a download and streaming option are included in this category where streaming is the primary focus.

⁽⁵⁰⁾ From MUSO's technical specifications.

- **Stream Ripper** - stream ripper websites are sites that allow a user to supply a link to content hosted on a separate legitimate online streaming service, such as YouTube. The stream ripper site is capable of converting the online video/audio stream into an offline download (i.e. to 'rip' the content). Stream ripper sites infringe the terms and conditions of the original site by extracting content into an unlicensed downloadable format.

B.2. Sources

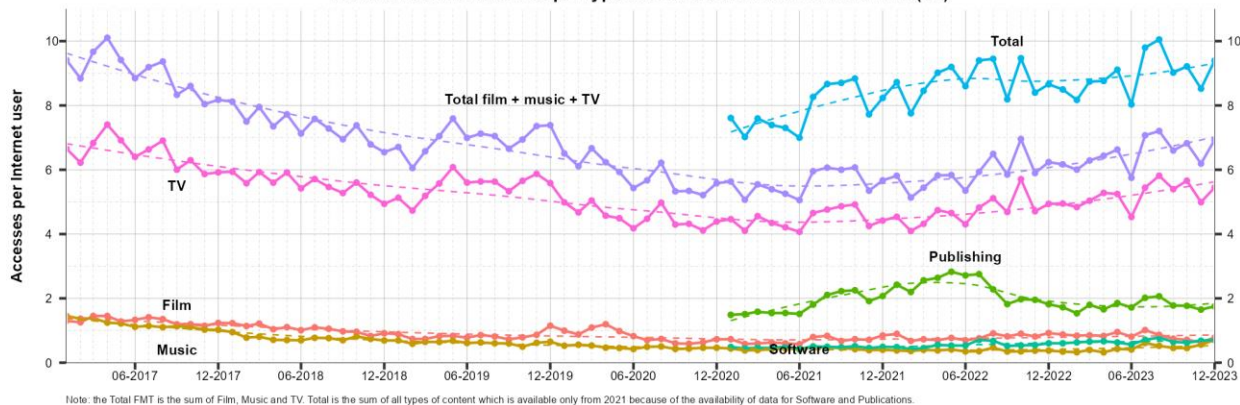
- **Direct:** traffic sent from users via a direct URL address entered into a browser, saved bookmark or a link from outside the browser (i.e. Microsoft Word), Popup ads, Autofill.
- **Search:** traffic sent via the results on search engines such as Google or Bing and search partners. This section includes both organic and paid search traffic.
- **Referral:** traffic sent via links from other domains such as affiliates, partners, news coverage, review sites and direct media buying (not through advertising networks).
- **Social:** traffic sent from social media sites such as Facebook or Reddit.
- **Mail:** traffic sent from web-based mail clients.
- **Display Ads** ⁽⁵¹⁾: traffic sent from other domains via a known ad-serving platform of banner or content suggestion ads (i.e. Doubleclick, Taboola).

⁽⁵¹⁾ The accesses originated by "Mail" and "Display Ads" have been aggregated into this study since the figures are very small.

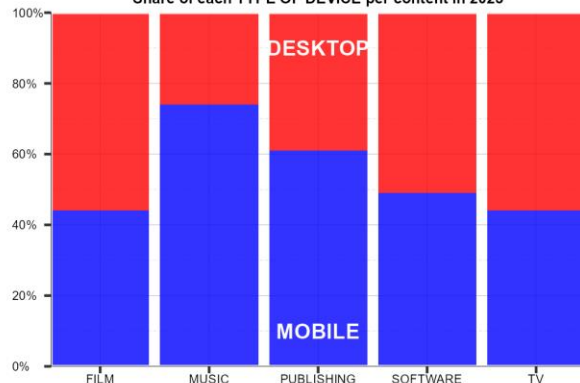
Annex D COUNTRY PROFILES

AUSTRIA

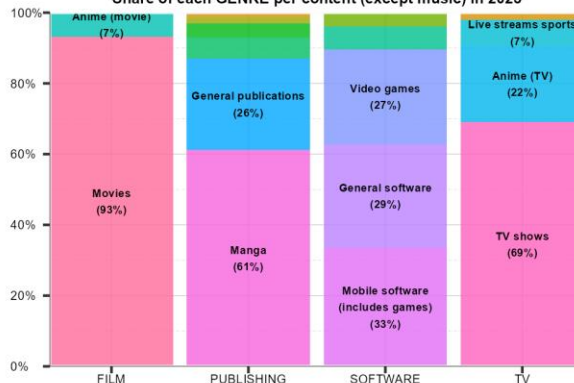
Evolution of the accesses per type of content and totals for AUSTRIA (AT)



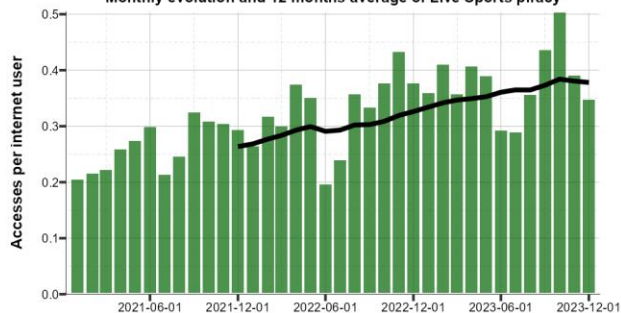
Share of each TYPE OF DEVICE per content in 2023



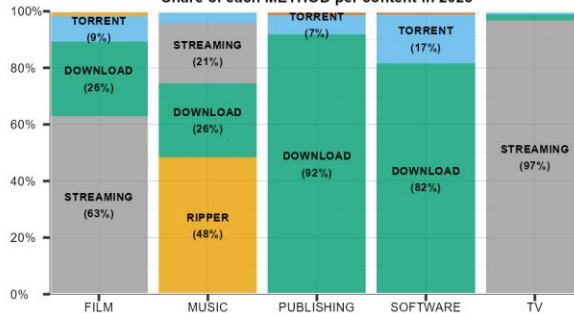
Share of each GENRE per content (except music) in 2023



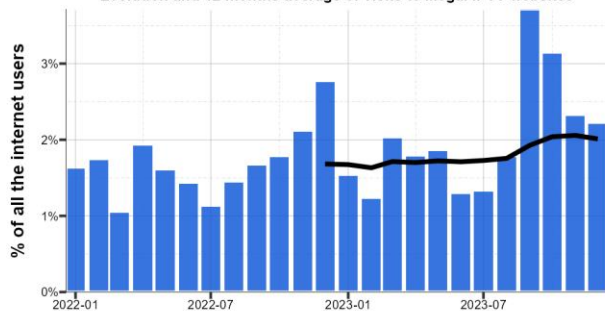
Monthly evolution and 12 months average of Live Sports piracy



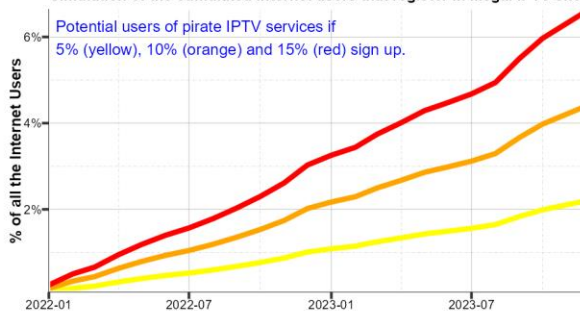
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

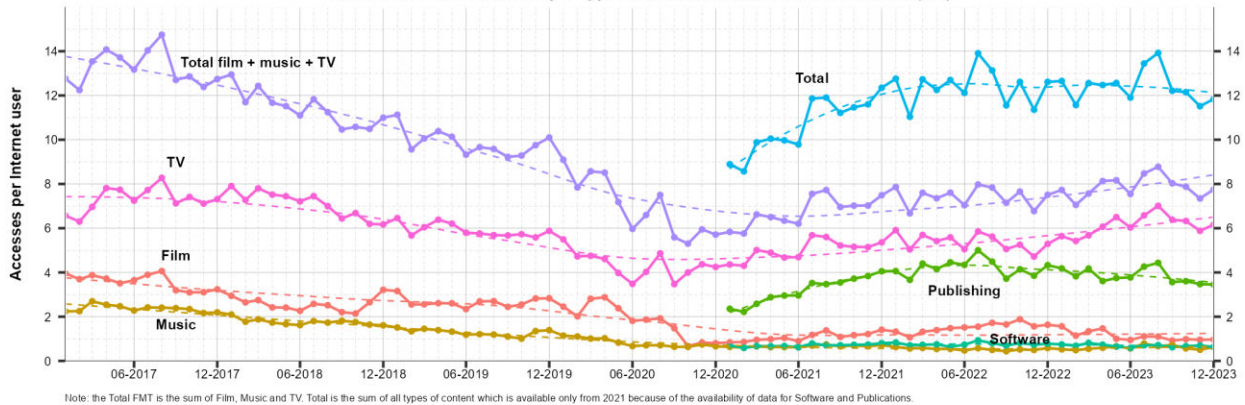


Simulation of the cumulated internet users that register in illegal IPTV sites

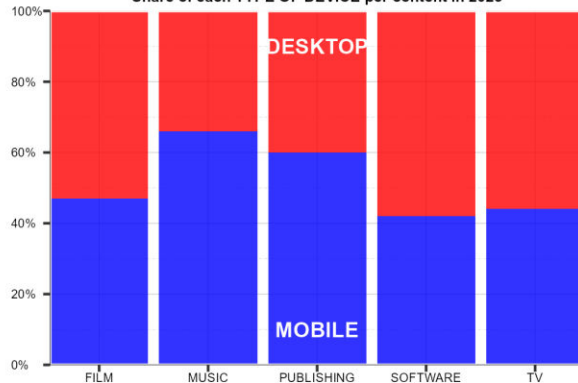


BELGIUM

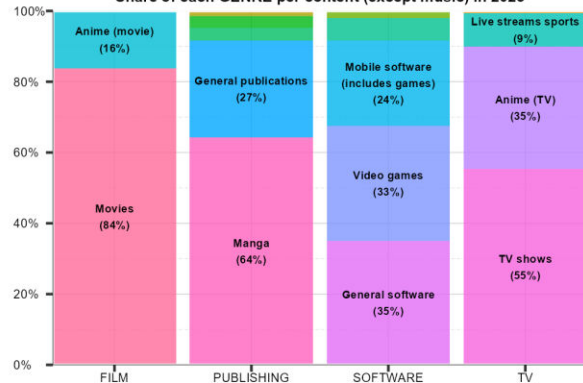
Evolution of the accesses per type of content and totals for BELGIUM (BE)



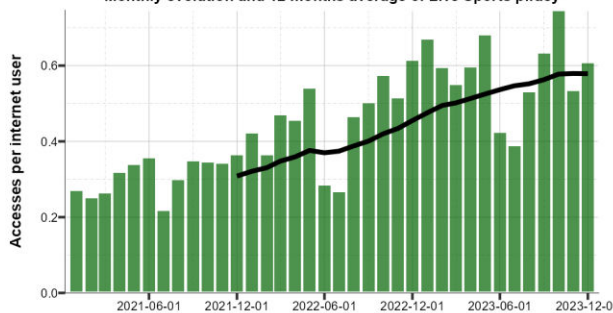
Share of each TYPE OF DEVICE per content in 2023



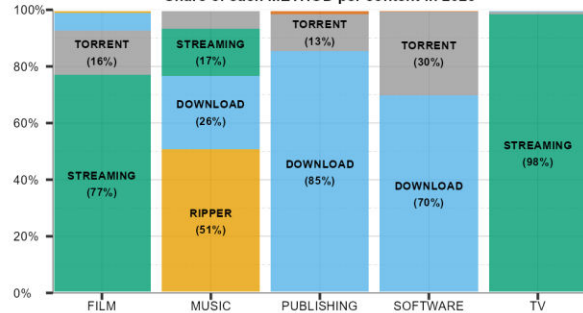
Share of each GENRE per content (except music) in 2023



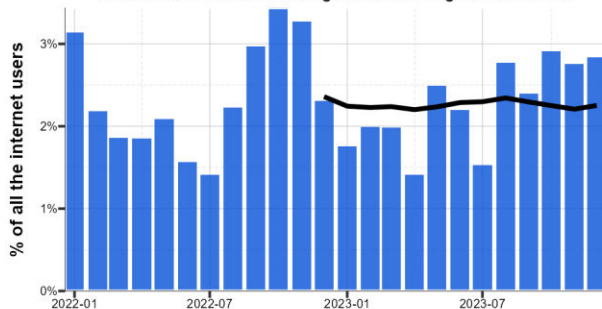
Monthly evolution and 12 months average of Live Sports piracy



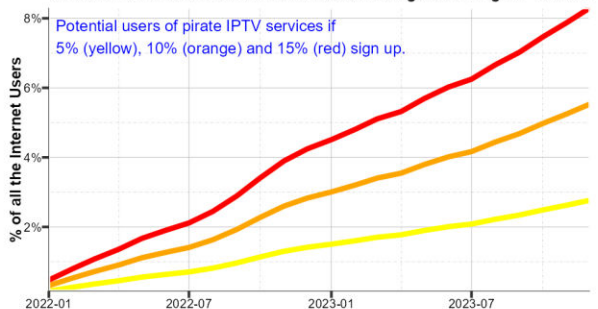
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

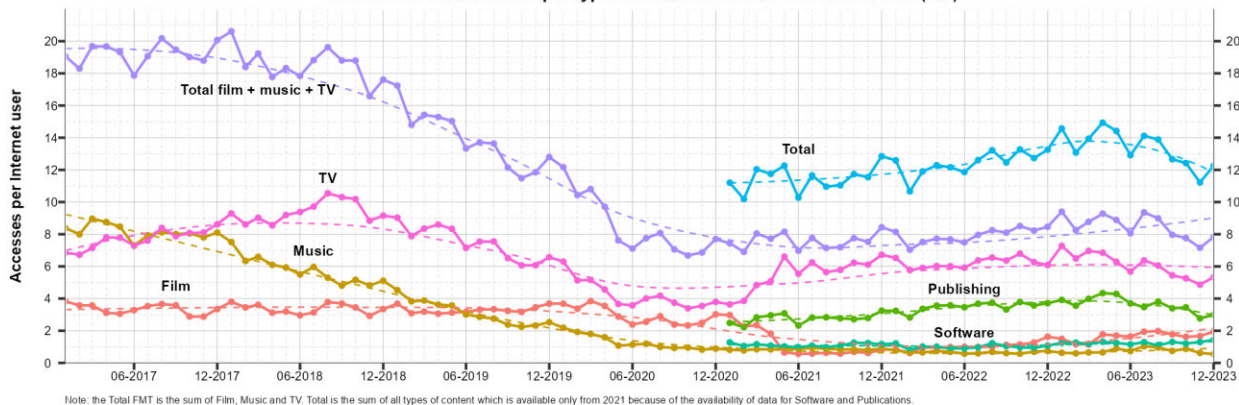


Simulation of the cumulated internet users that register in illegal IPTV sites

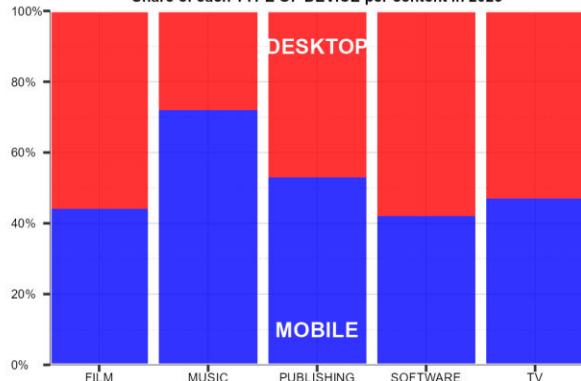


BULGARIA

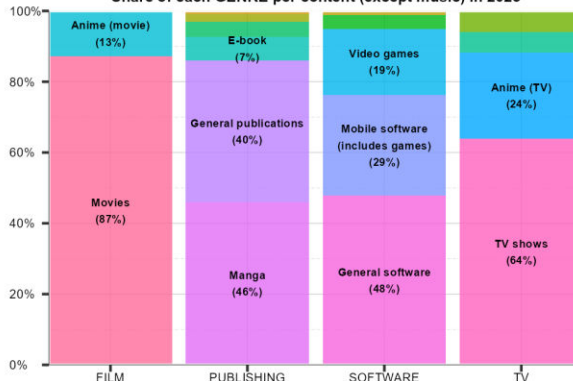
Evolution of the accesses per type of content and totals for BULGARIA (BG)



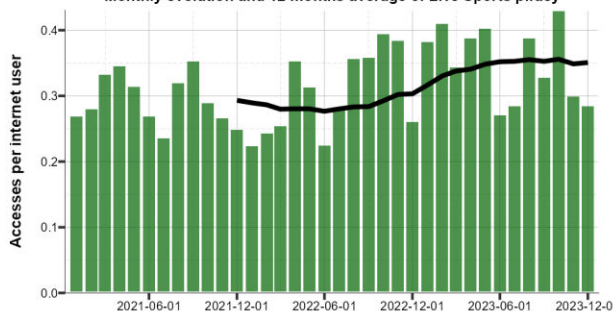
Share of each TYPE OF DEVICE per content in 2023



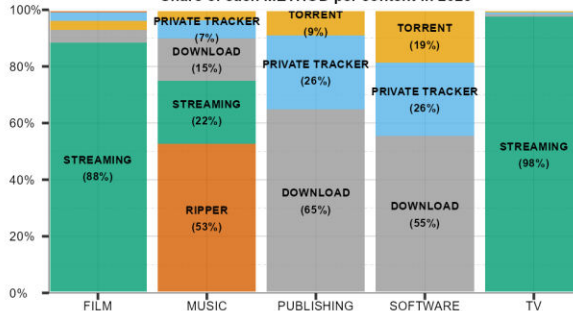
Share of each GENRE per content (except music) in 2023



Monthly evolution and 12 months average of Live Sports piracy



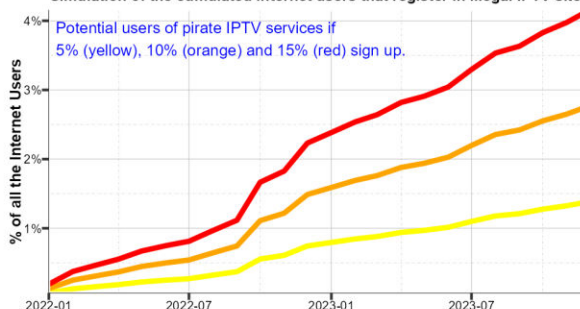
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

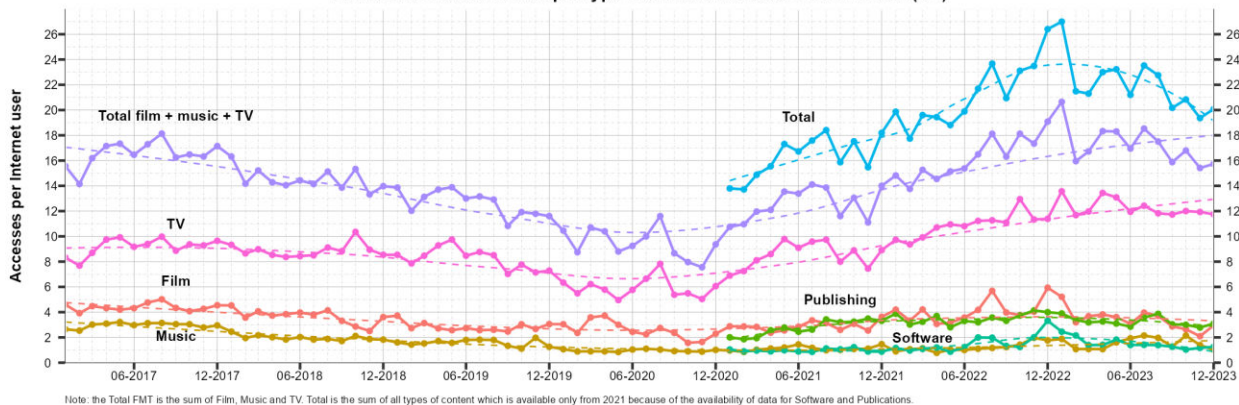


Simulation of the cumulated internet users that register in illegal IPTV sites

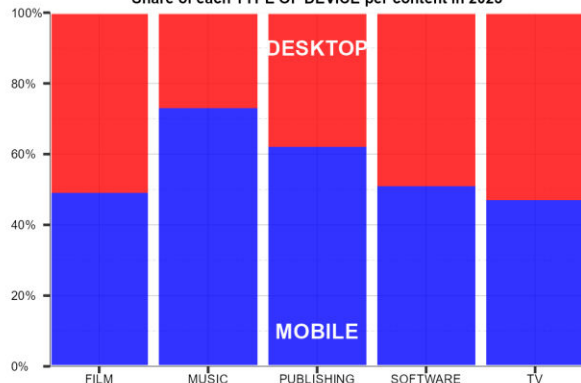


CYPRUS

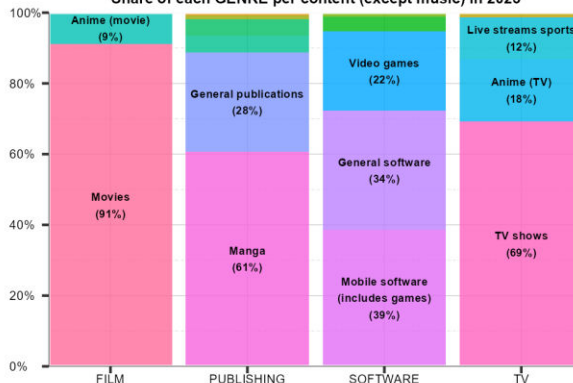
Evolution of the accesses per type of content and totals for CYPRUS (CY)



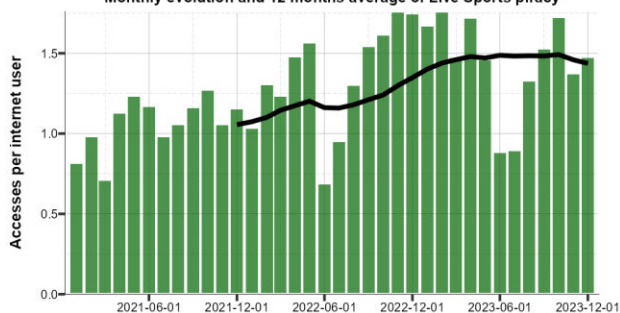
Share of each TYPE OF DEVICE per content in 2023



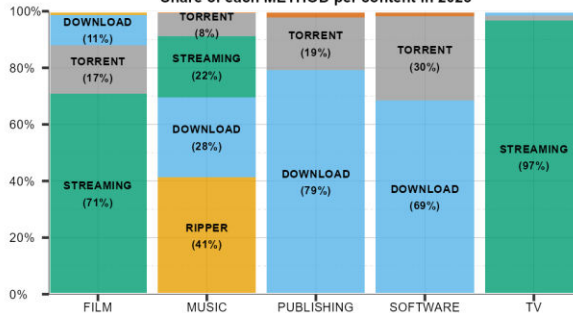
Share of each GENRE per content (except music) in 2023



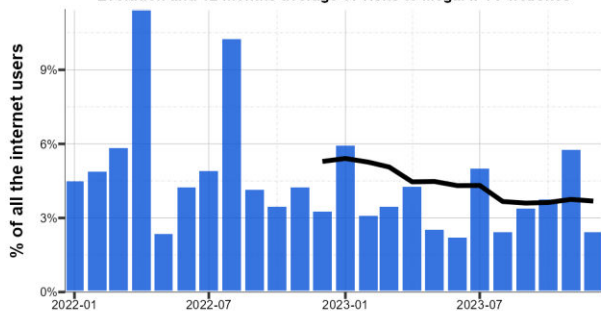
Monthly evolution and 12 months average of Live Sports piracy



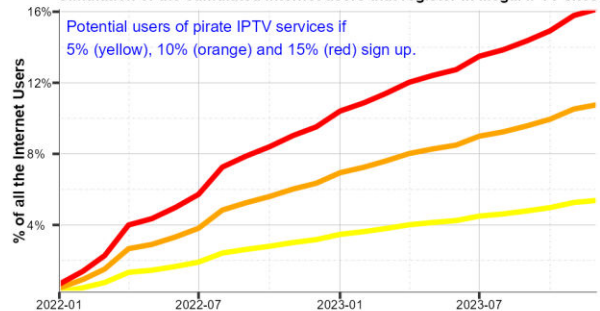
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

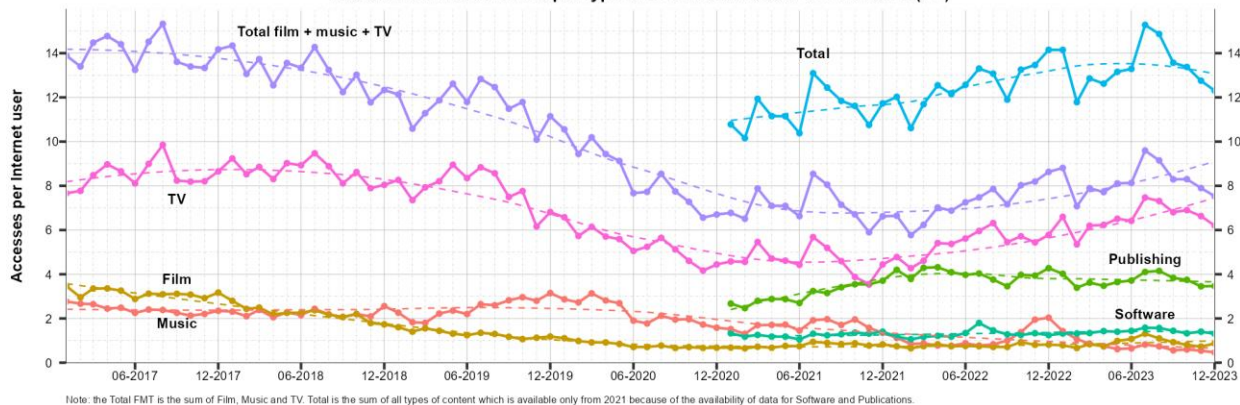


Simulation of the cumulated internet users that register in illegal IPTV sites

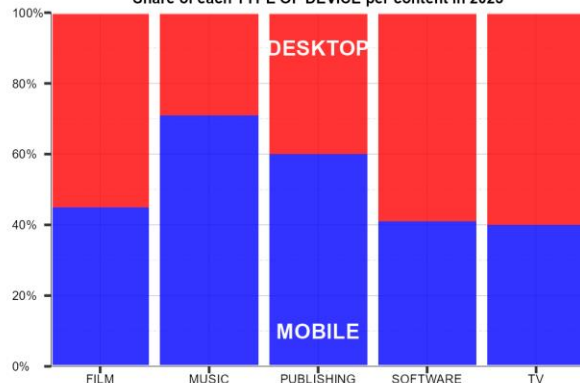


CZECHIA

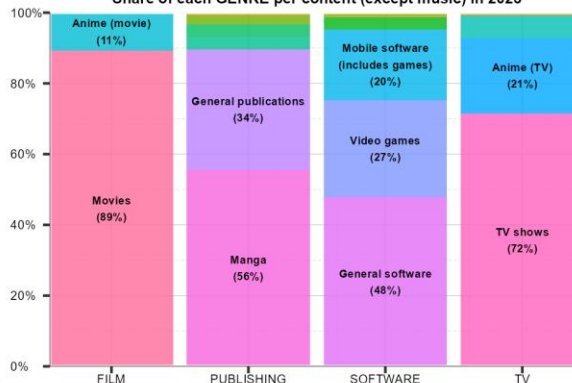
Evolution of the accesses per type of content and totals for CZECHIA (CZ)



Share of each TYPE OF DEVICE per content in 2023



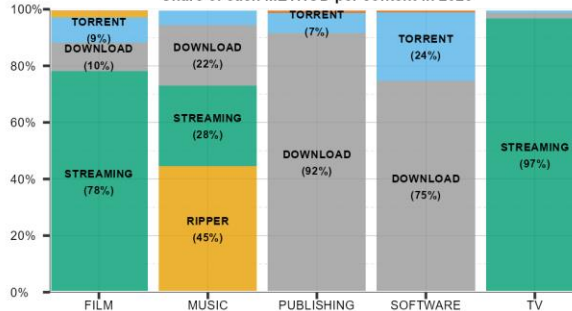
Share of each GENRE per content (except music) in 2023



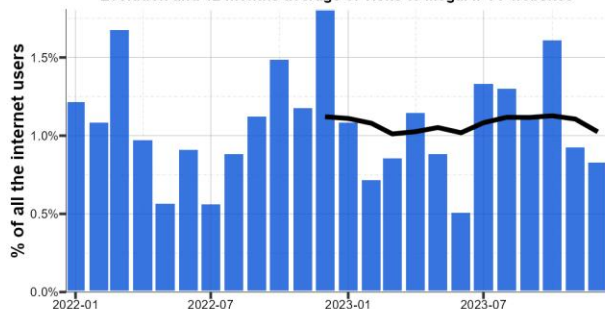
Monthly evolution and 12 months average of Live Sports piracy



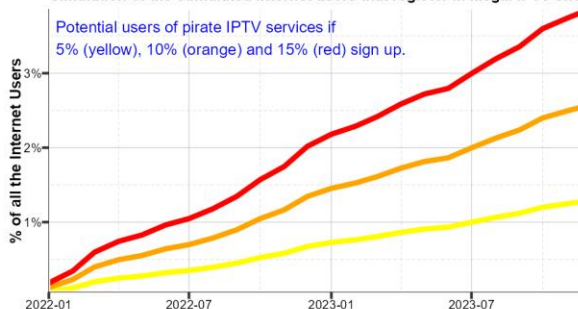
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

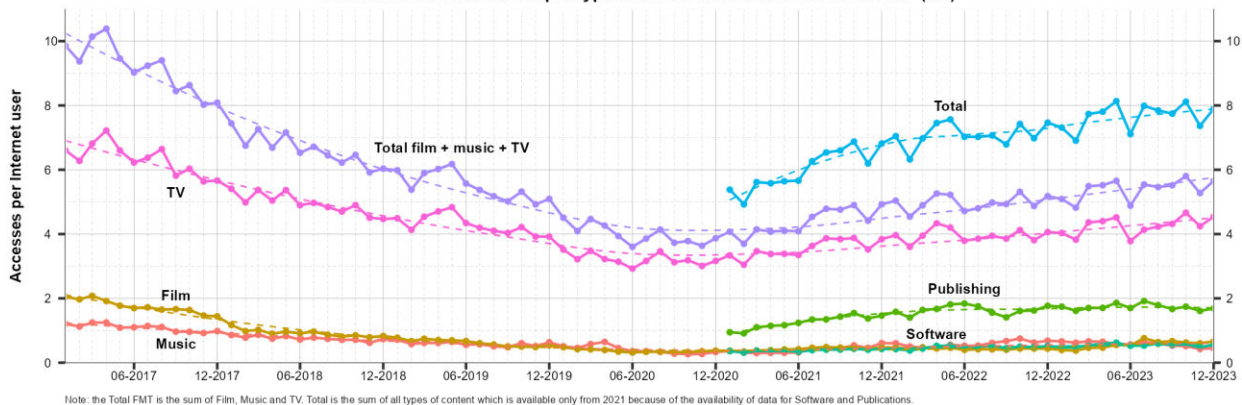


Simulation of the cumulated internet users that register in illegal IPTV sites

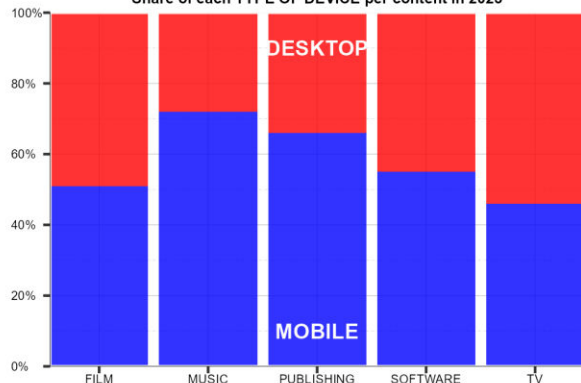


GERMANY

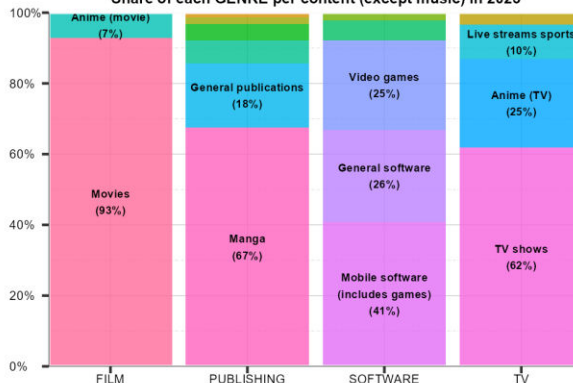
Evolution of the accesses per type of content and totals for GERMANY (DE)



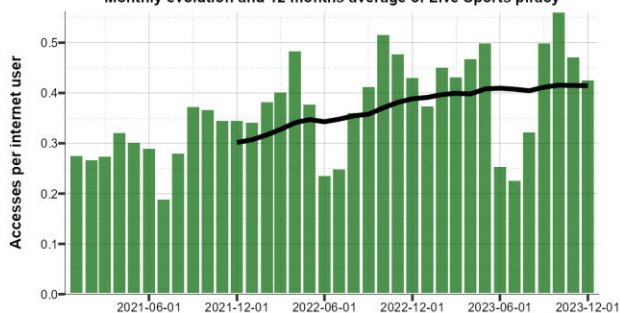
Share of each TYPE OF DEVICE per content in 2023



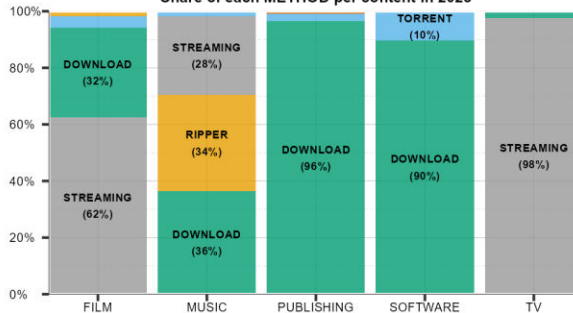
Share of each GENRE per content (except music) in 2023



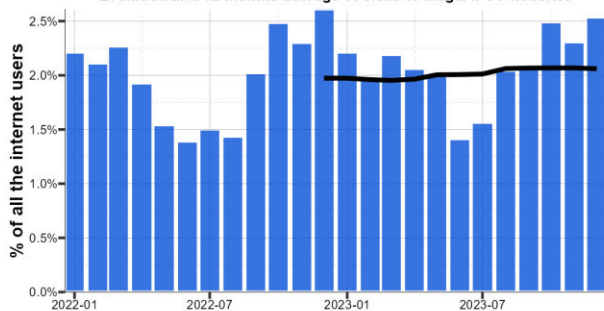
Monthly evolution and 12 months average of Live Sports piracy



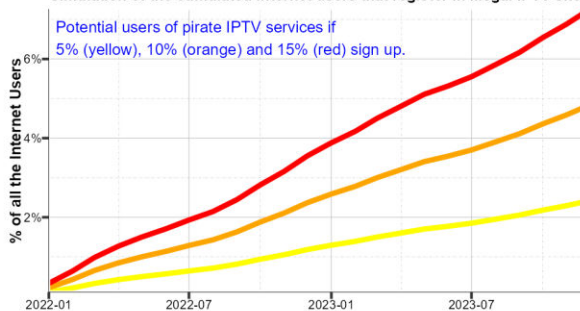
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

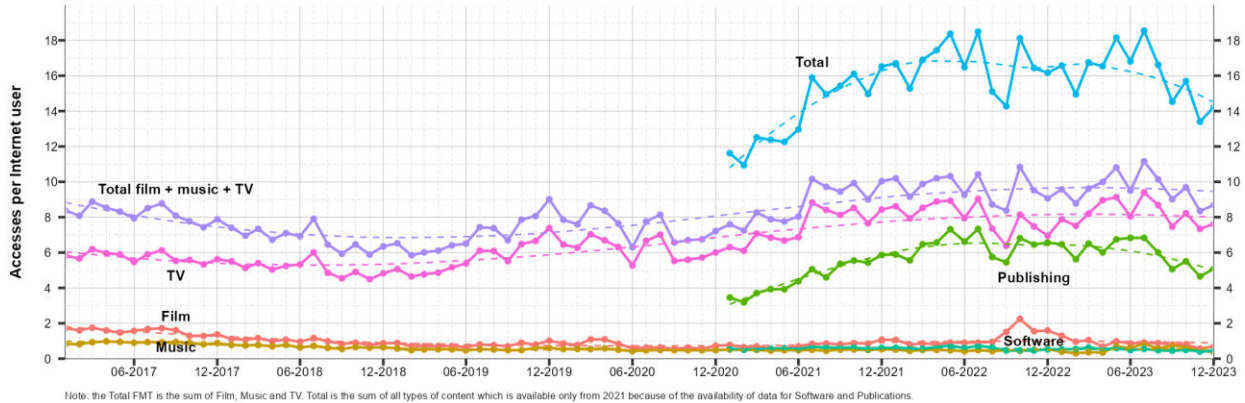


Simulation of the cumulated internet users that register in illegal IPTV sites

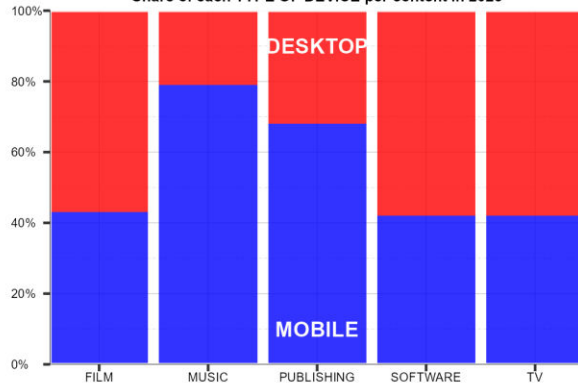


DENMARK

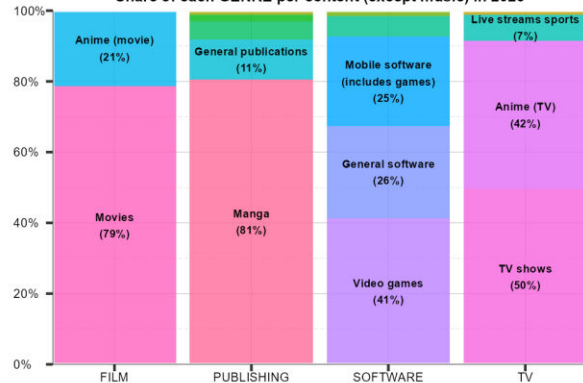
Evolution of the accesses per type of content and totals for DENMARK (DK)



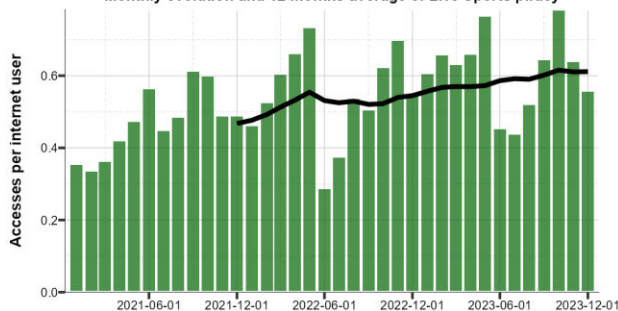
Share of each TYPE OF DEVICE per content in 2023



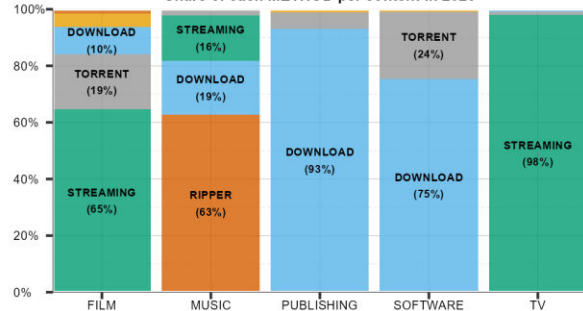
Share of each GENRE per content (except music) in 2023



Monthly evolution and 12 months average of Live Sports piracy



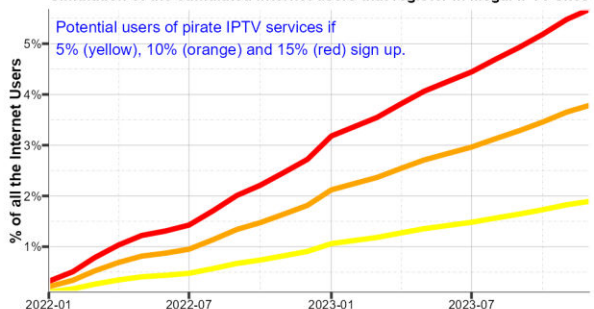
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

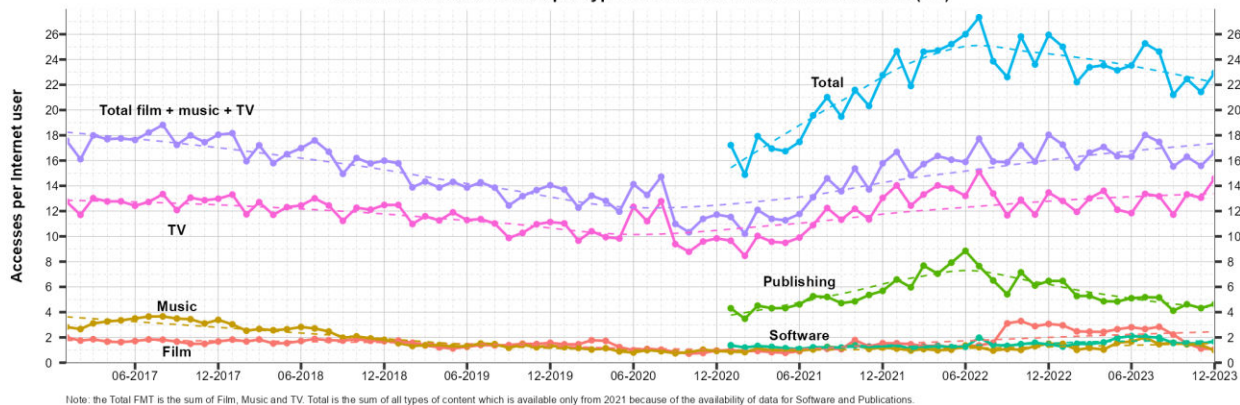


Simulation of the cumulated internet users that register in illegal IPTV sites

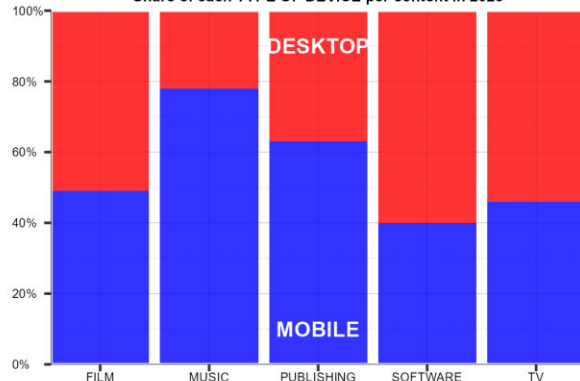


ESTONIA

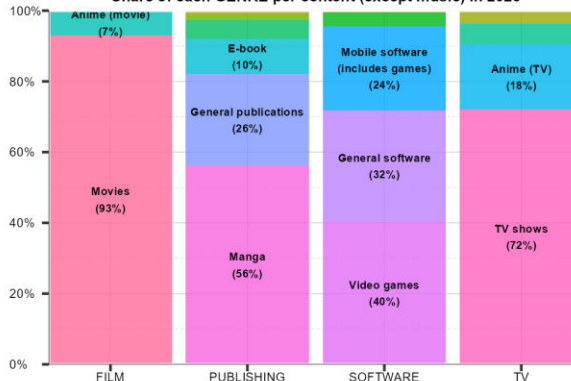
Evolution of the accesses per type of content and totals for ESTONIA (EE)



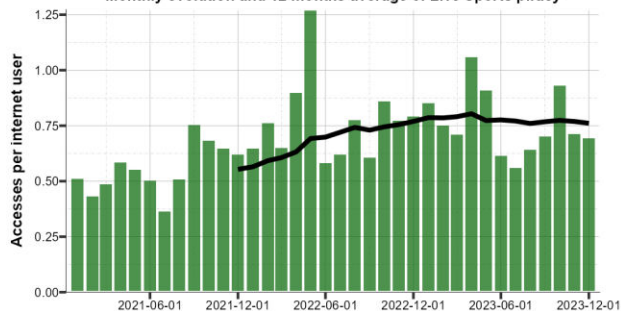
Share of each TYPE OF DEVICE per content in 2023



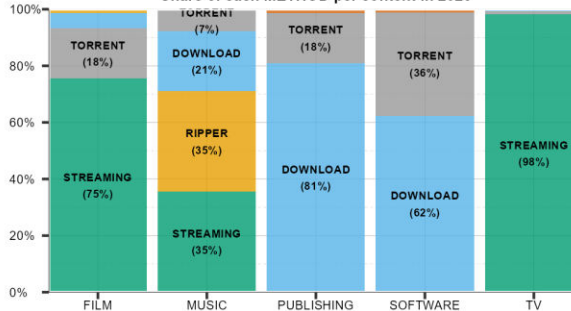
Share of each GENRE per content (except music) in 2023



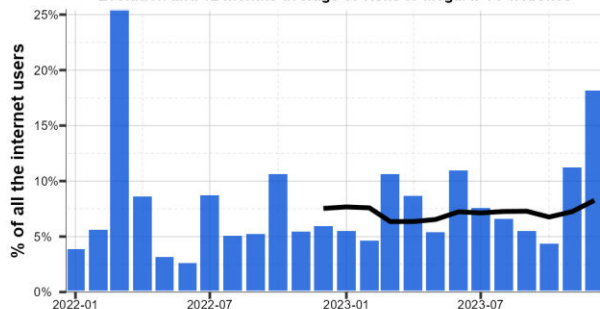
Monthly evolution and 12 months average of Live Sports piracy



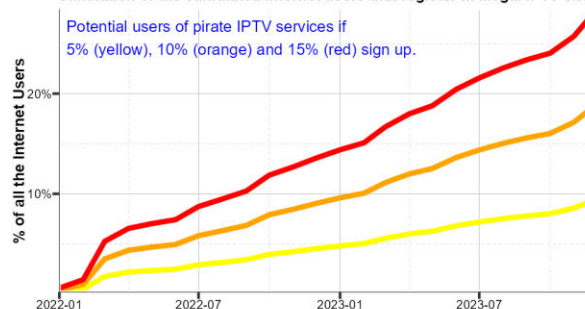
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

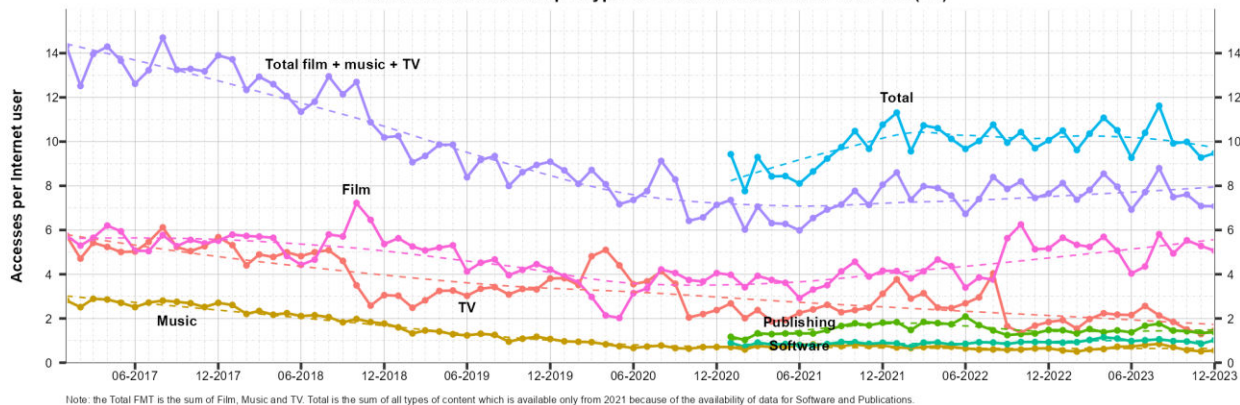


Simulation of the cumulated internet users that register in illegal IPTV sites

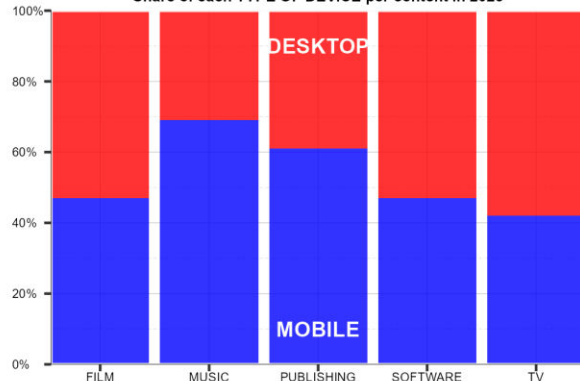


GREECE

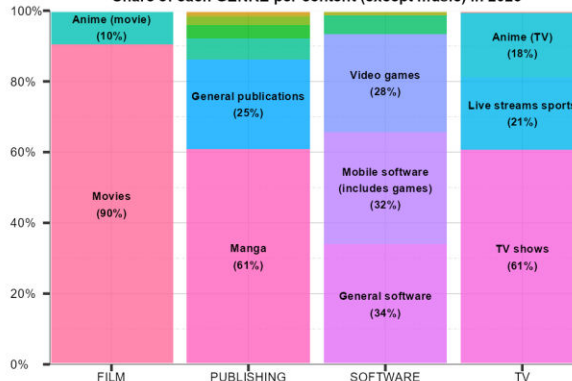
Evolution of the accesses per type of content and totals for GREECE (EL)



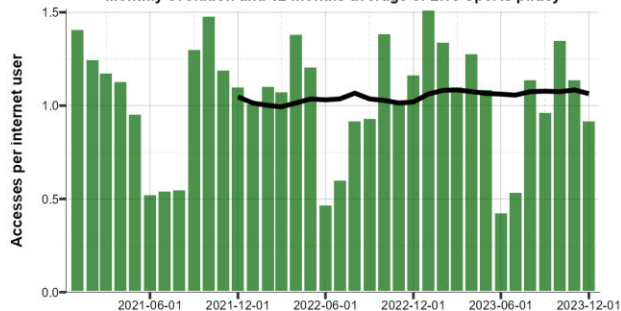
Share of each TYPE OF DEVICE per content in 2023



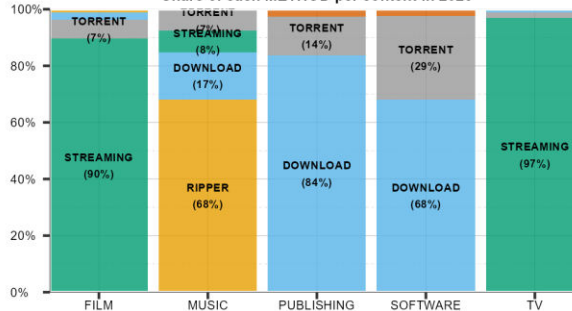
Share of each GENRE per content (except music) in 2023



Monthly evolution and 12 months average of Live Sports piracy



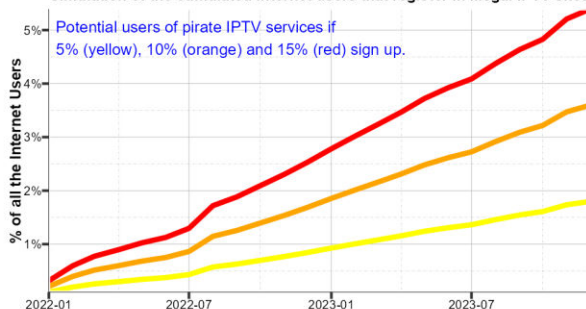
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

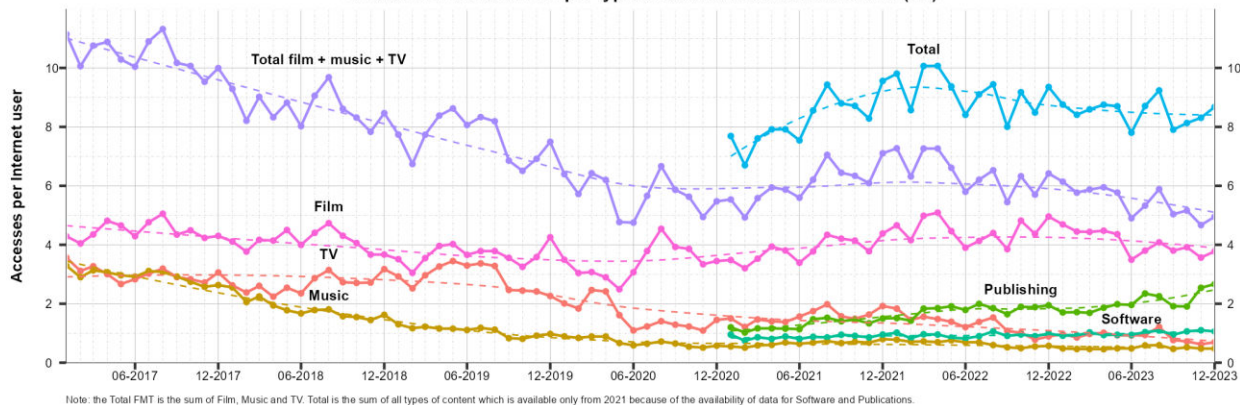


Simulation of the cumulated internet users that register in illegal IPTV sites

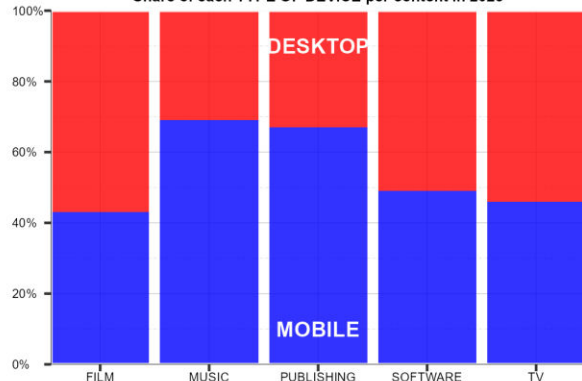


SPAIN

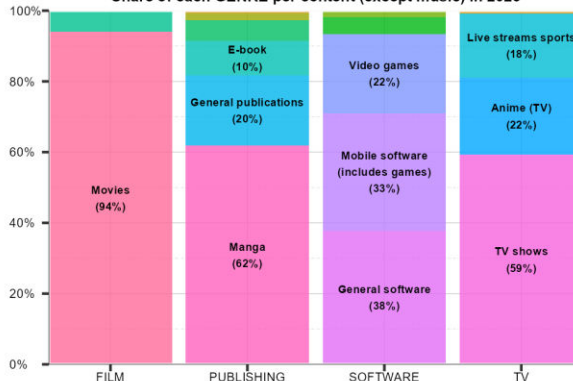
Evolution of the accesses per type of content and totals for SPAIN (ES)



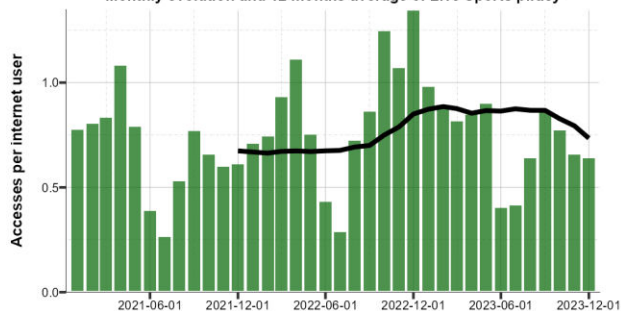
Share of each TYPE OF DEVICE per content in 2023



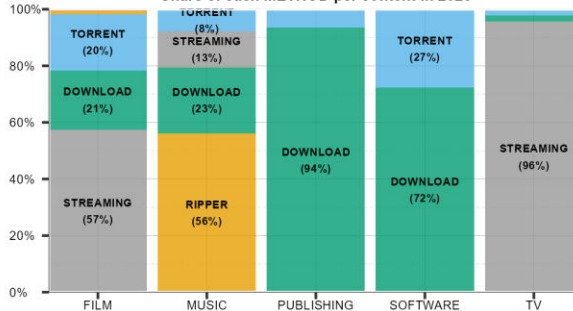
Share of each GENRE per content (except music) in 2023



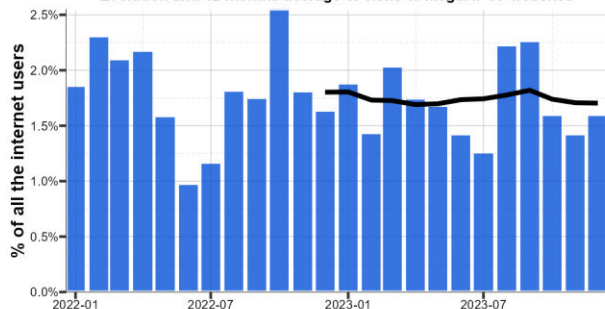
Monthly evolution and 12 months average of Live Sports piracy



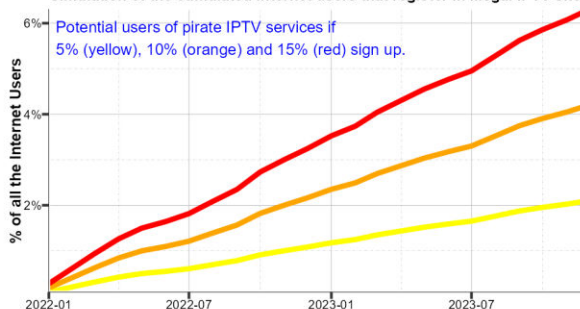
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

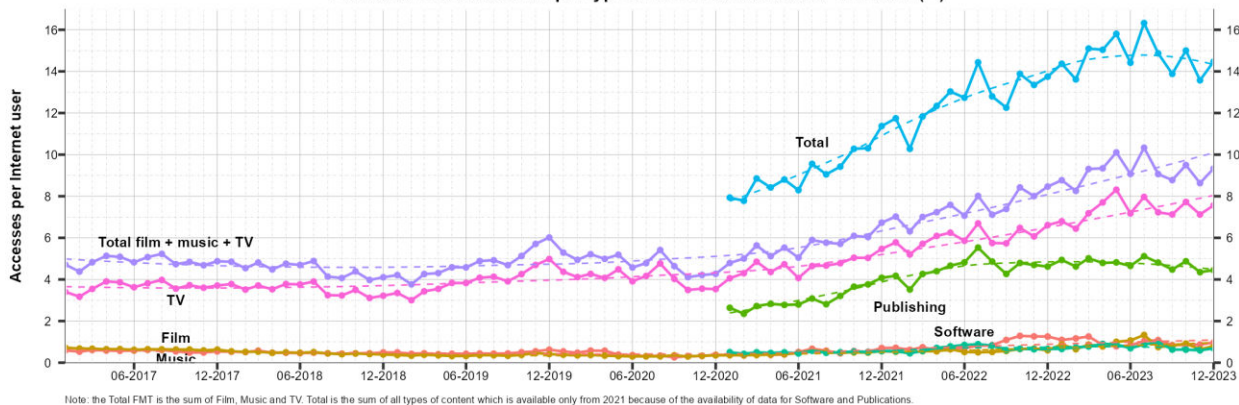


Simulation of the cumulated internet users that register in illegal IPTV sites

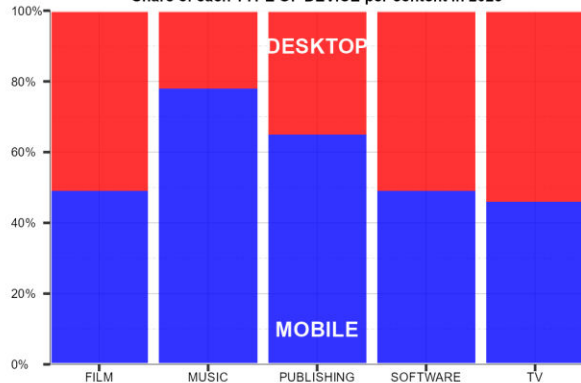


FINLAND

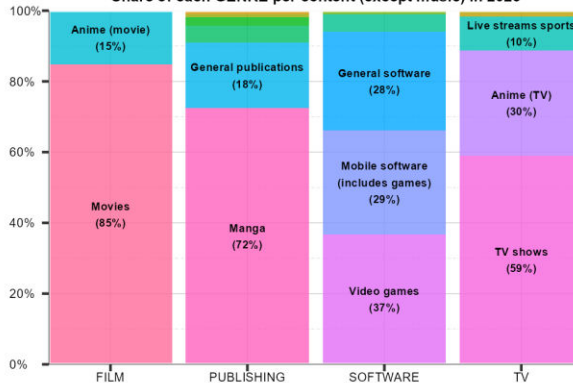
Evolution of the accesses per type of content and totals for FINLAND (FI)



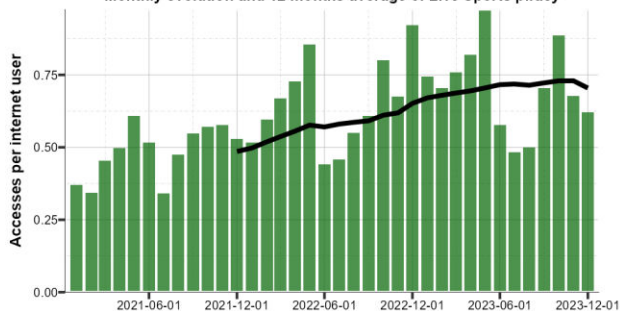
Share of each TYPE OF DEVICE per content in 2023



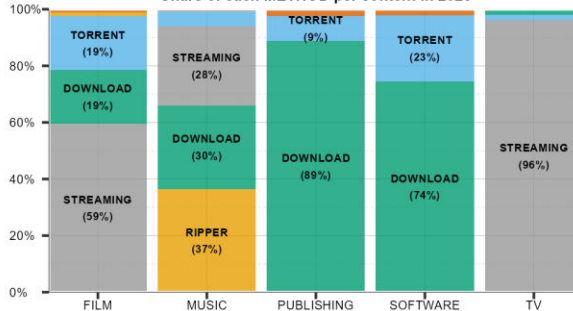
Share of each GENRE per content (except music) in 2023



Monthly evolution and 12 months average of Live Sports piracy



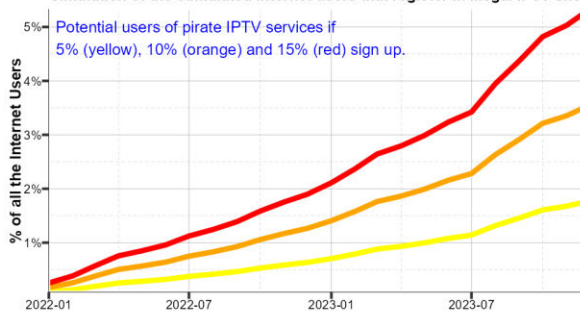
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

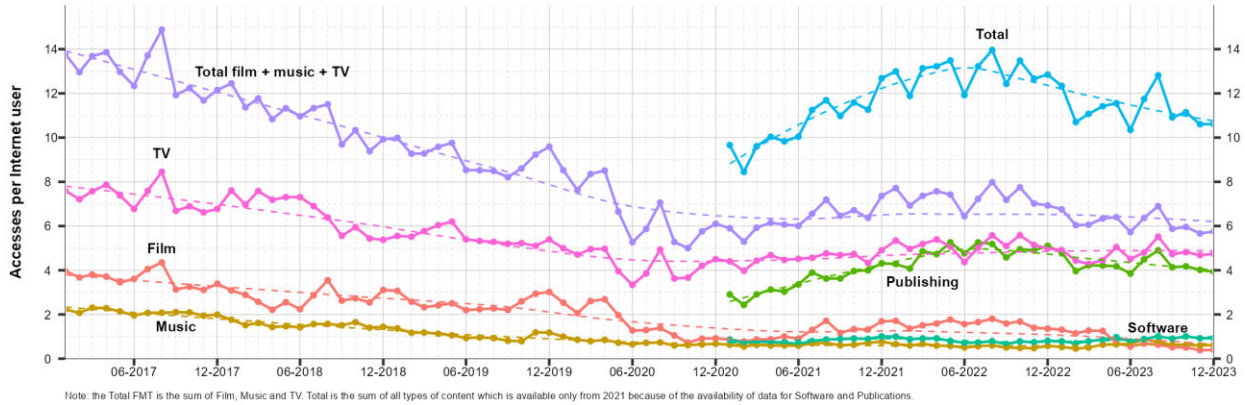


Simulation of the cumulated internet users that register in illegal IPTV sites

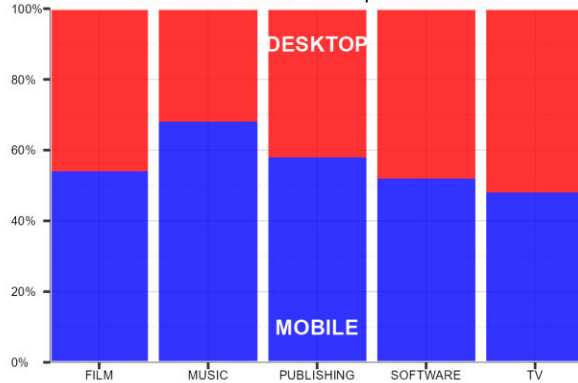


FRANCE

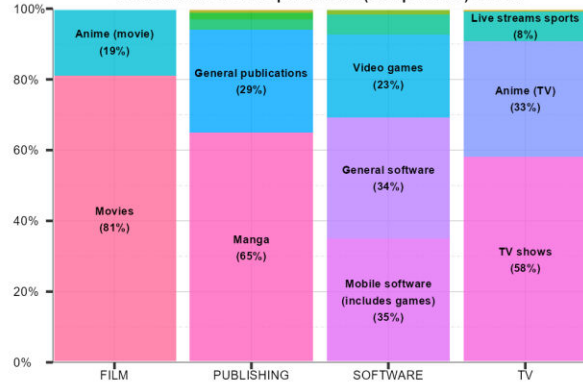
Evolution of the accesses per type of content and totals for FRANCE (FR)



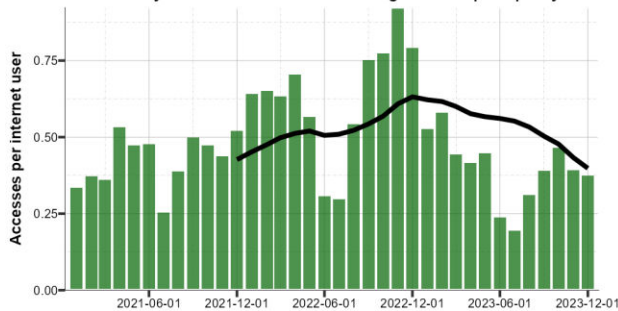
Share of each TYPE OF DEVICE per content in 2023



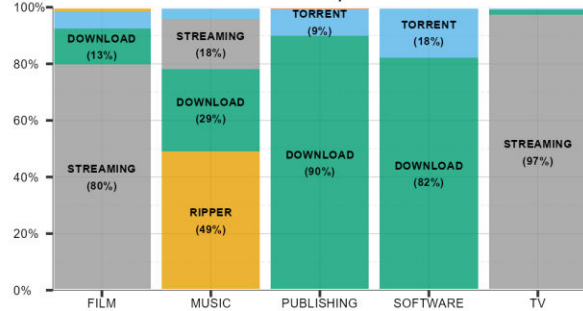
Share of each GENRE per content (except music) in 2023



Monthly evolution and 12 months average of Live Sports piracy



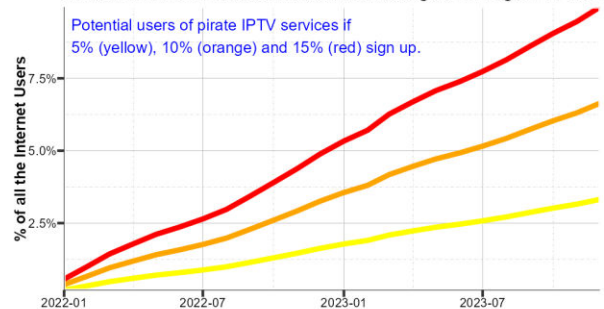
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

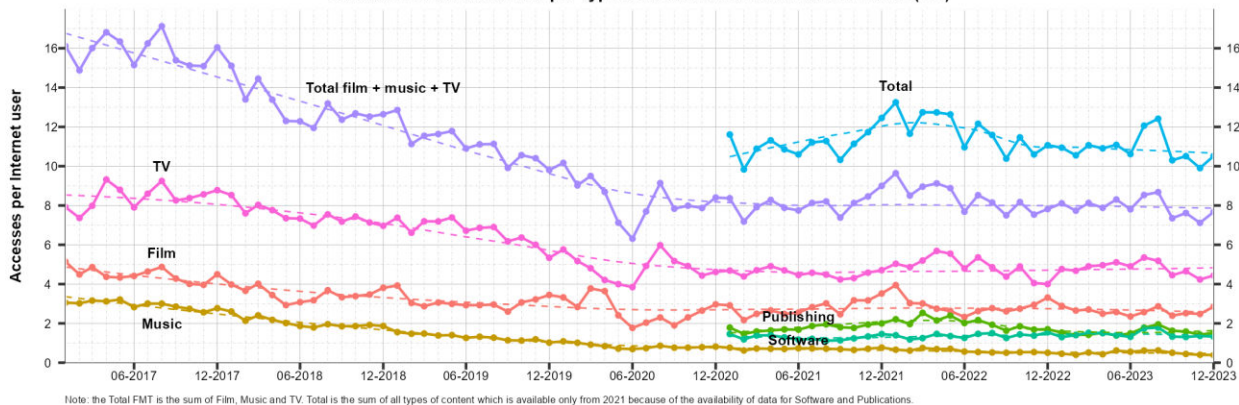


Simulation of the cumulated internet users that register in illegal IPTV sites

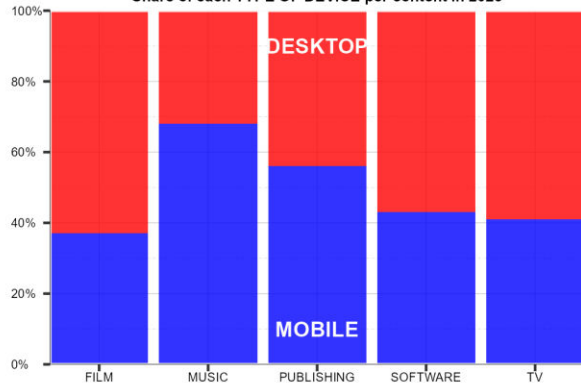


CROATIA

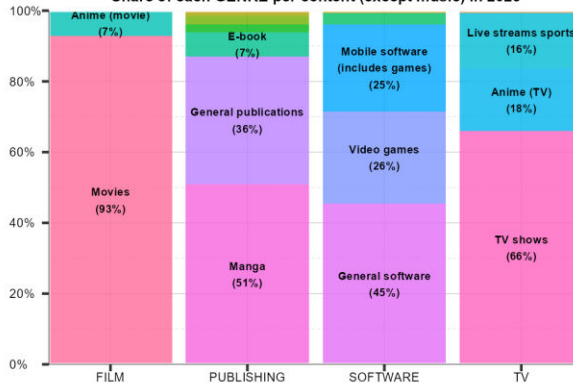
Evolution of the accesses per type of content and totals for CROATIA (HR)



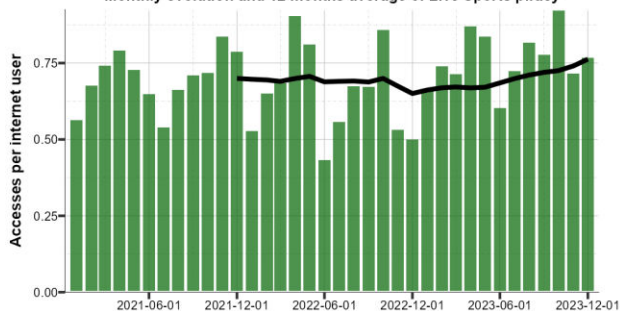
Share of each TYPE OF DEVICE per content in 2023



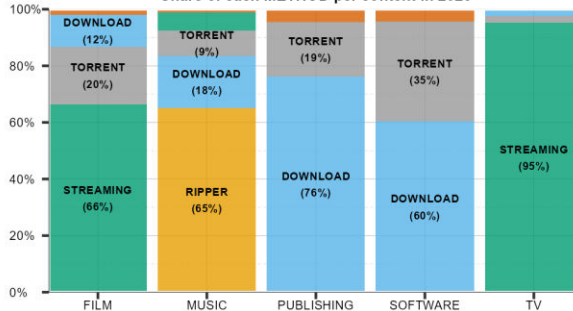
Share of each GENRE per content (except music) in 2023



Monthly evolution and 12 months average of Live Sports piracy



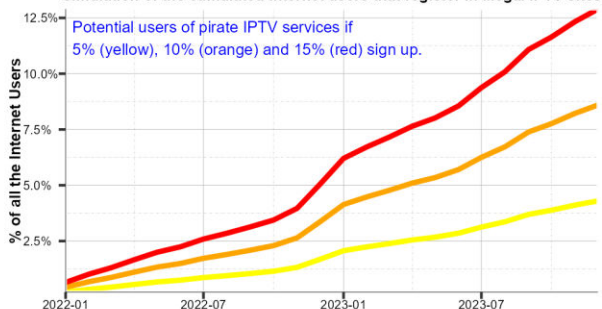
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

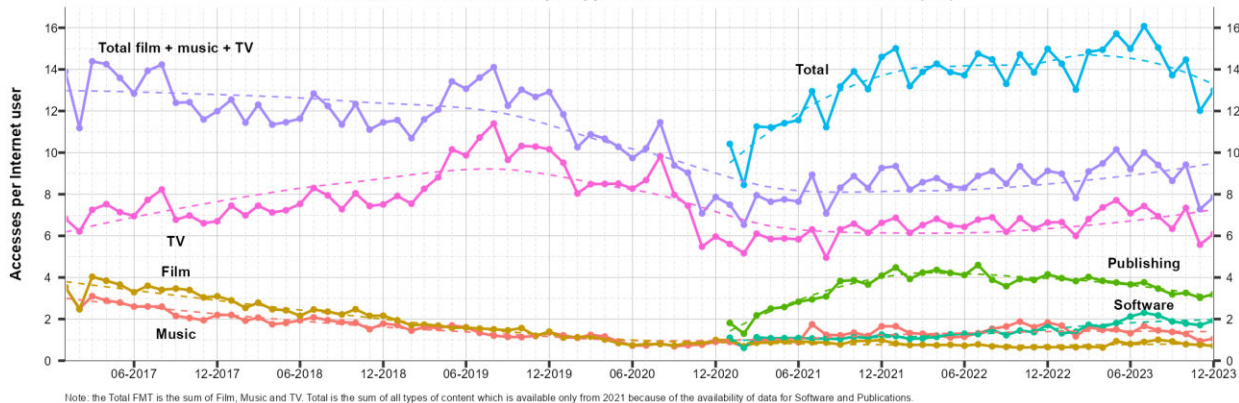


Simulation of the cumulated internet users that register in illegal IPTV sites

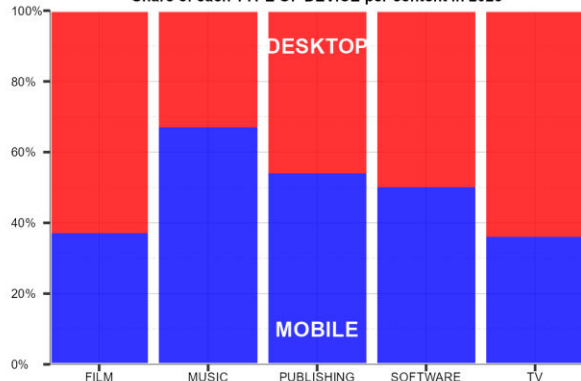


HUNGARY

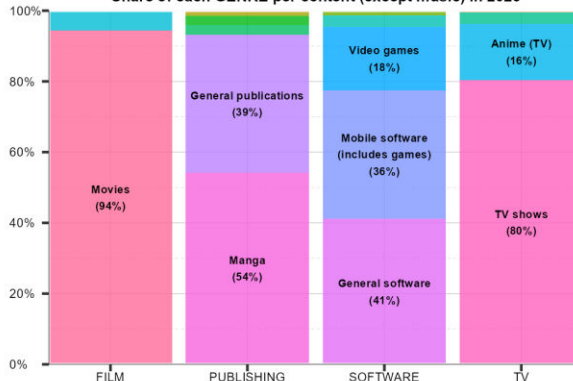
Evolution of the accesses per type of content and totals for HUNGARY (HU)



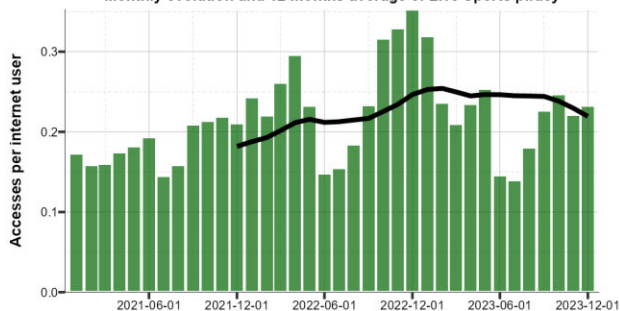
Share of each TYPE OF DEVICE per content in 2023



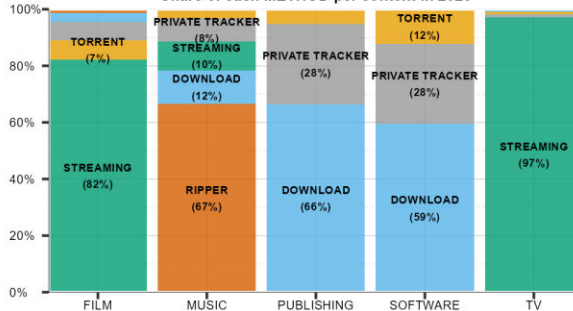
Share of each GENRE per content (except music) in 2023



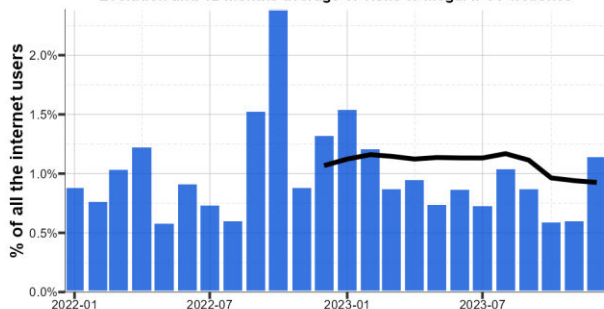
Monthly evolution and 12 months average of Live Sports piracy



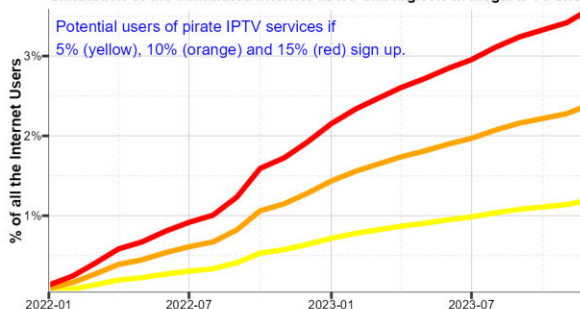
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

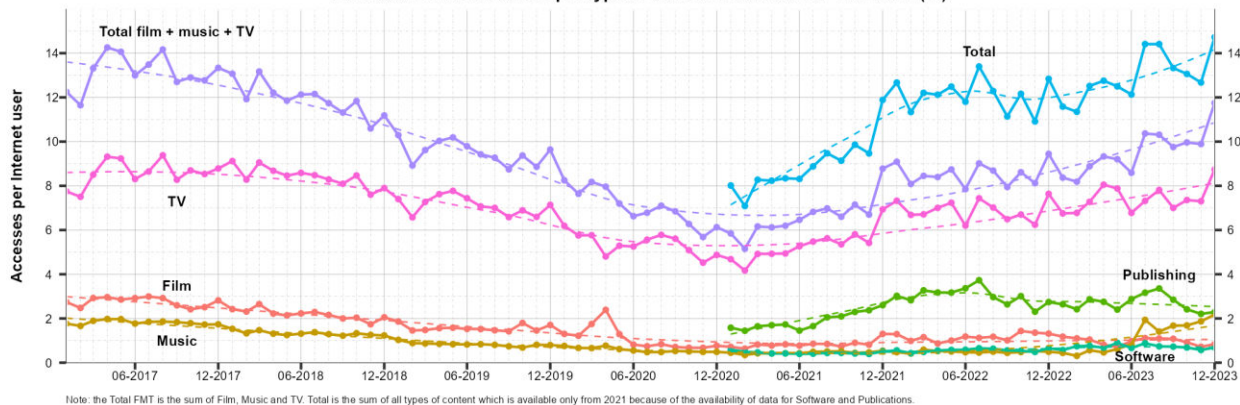


Simulation of the cumulated internet users that register in illegal IPTV sites

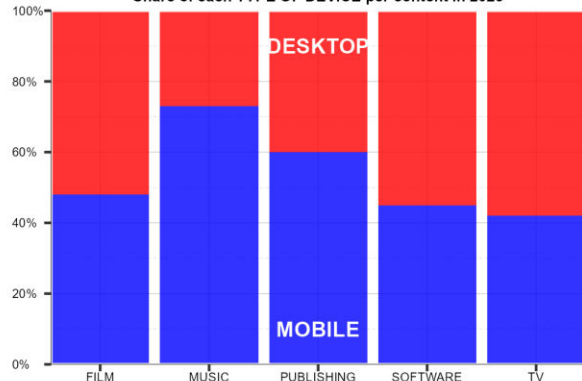


IRELAND

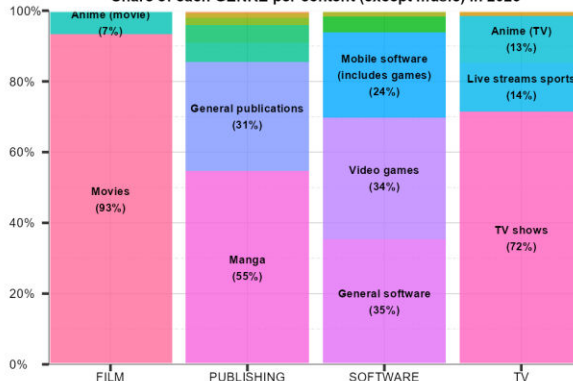
Evolution of the accesses per type of content and totals for IRELAND (IE)



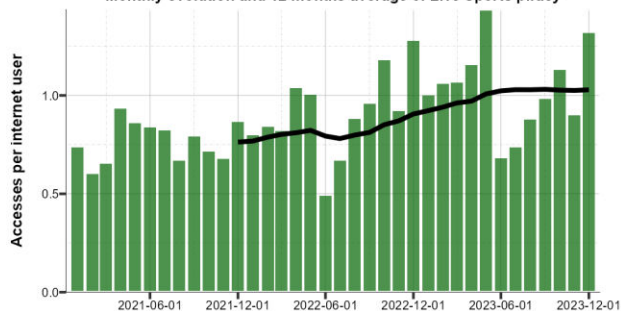
Share of each TYPE OF DEVICE per content in 2023



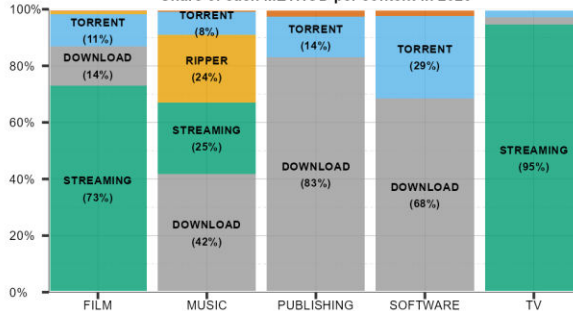
Share of each GENRE per content (except music) in 2023



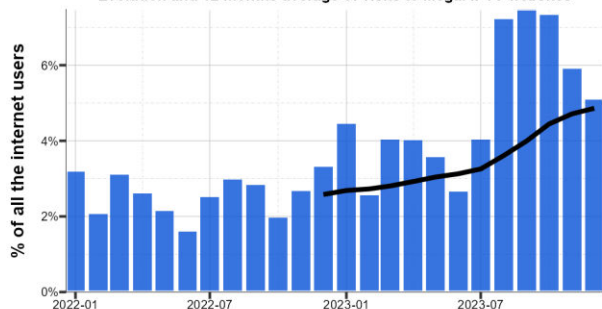
Monthly evolution and 12 months average of Live Sports piracy



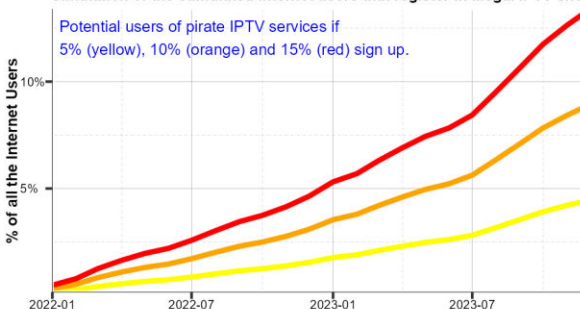
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

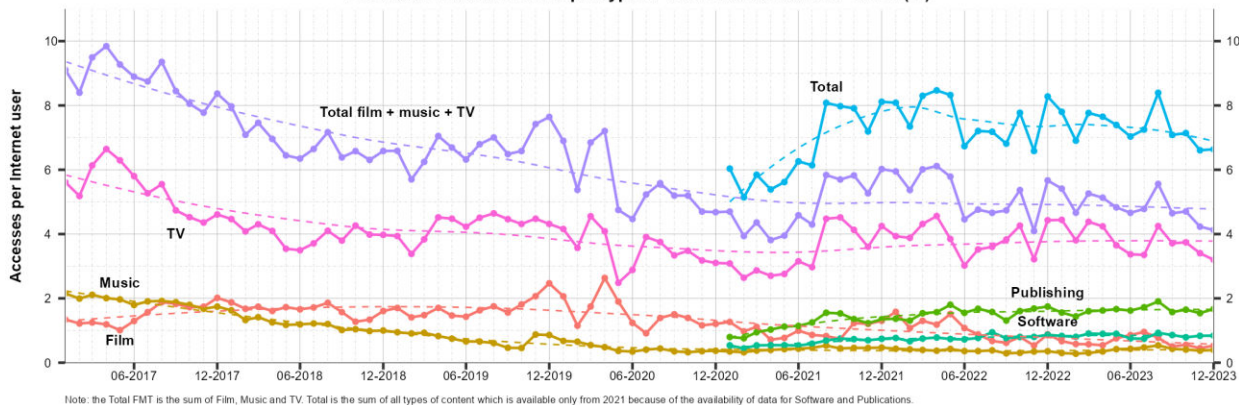


Simulation of the cumulated internet users that register in illegal IPTV sites

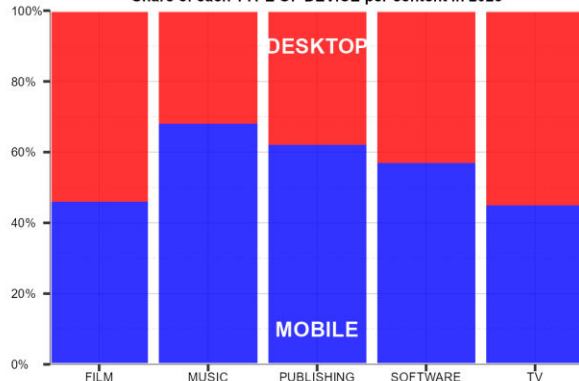


ITALY

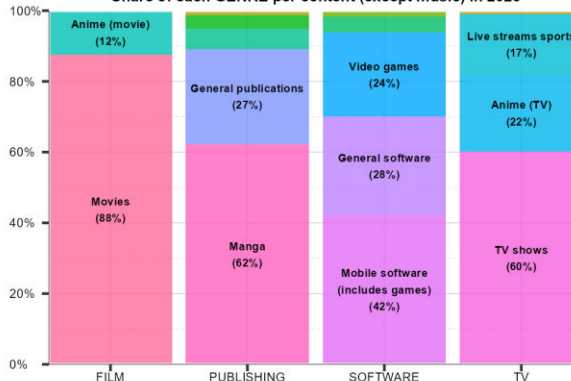
Evolution of the accesses per type of content and totals for ITALY (IT)



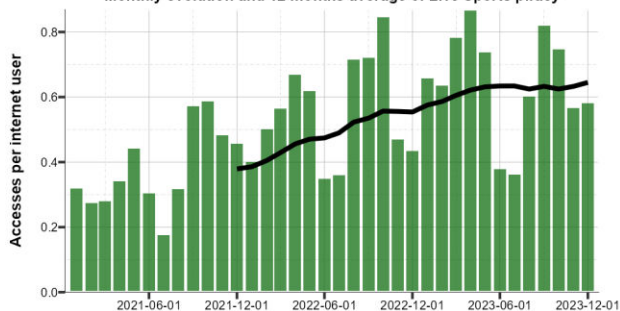
Share of each TYPE OF DEVICE per content in 2023



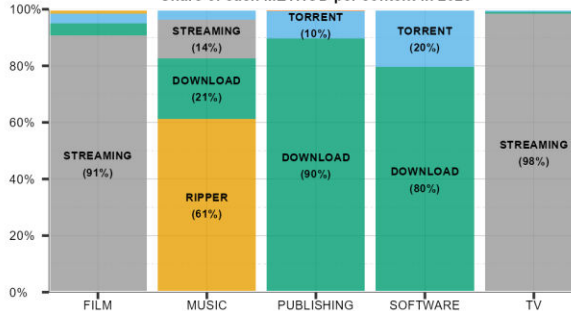
Share of each GENRE per content (except music) in 2023



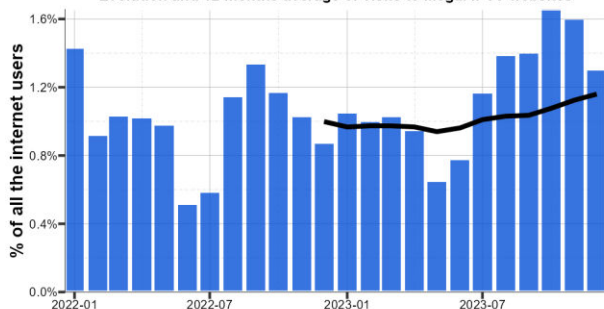
Monthly evolution and 12 months average of Live Sports piracy



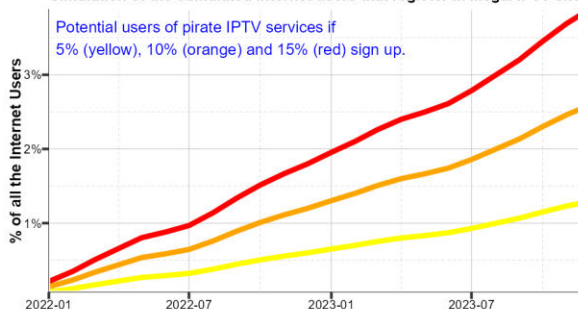
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

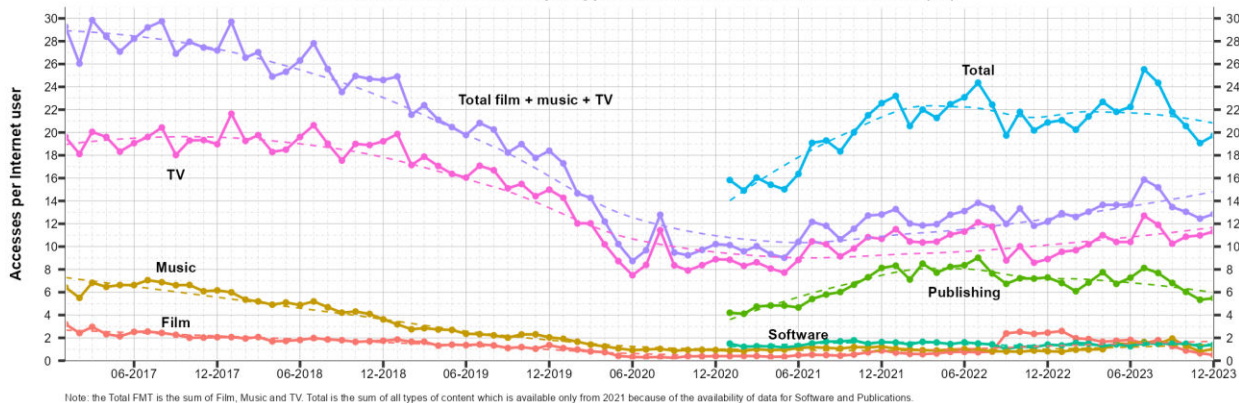


Simulation of the cumulated internet users that register in illegal IPTV sites

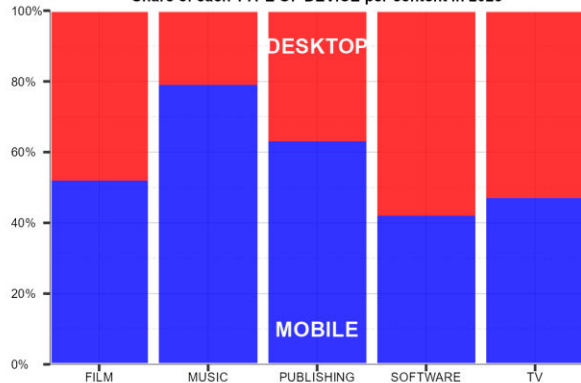


LITHUANIA

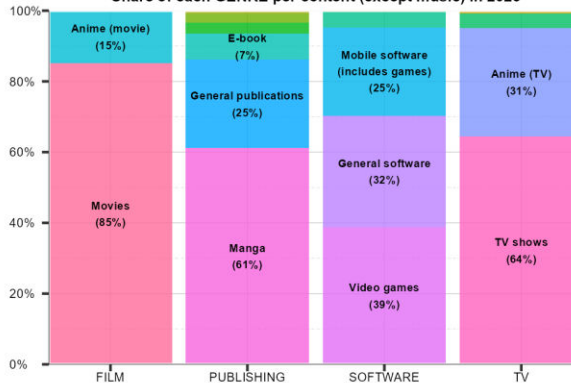
Evolution of the accesses per type of content and totals for LITHUANIA (LT)



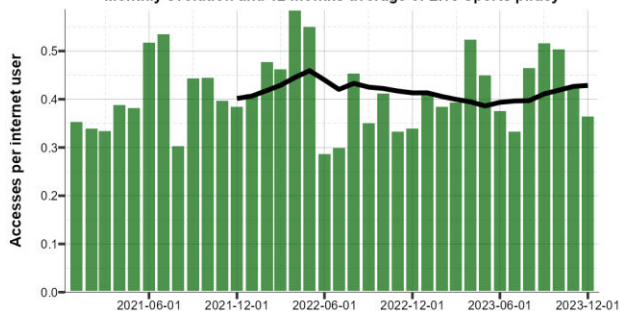
Share of each TYPE OF DEVICE per content in 2023



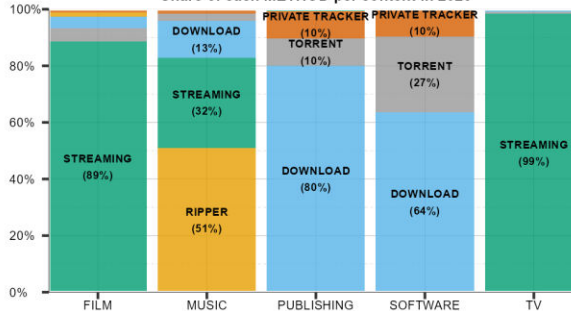
Share of each GENRE per content (except music) in 2023



Monthly evolution and 12 months average of Live Sports piracy



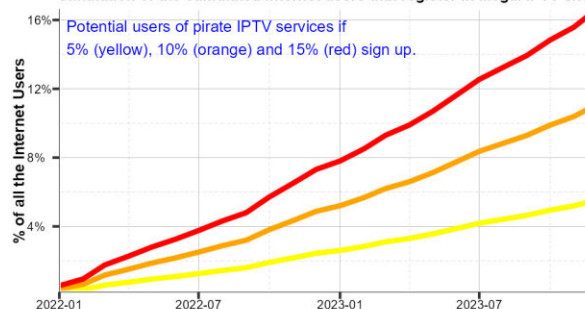
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

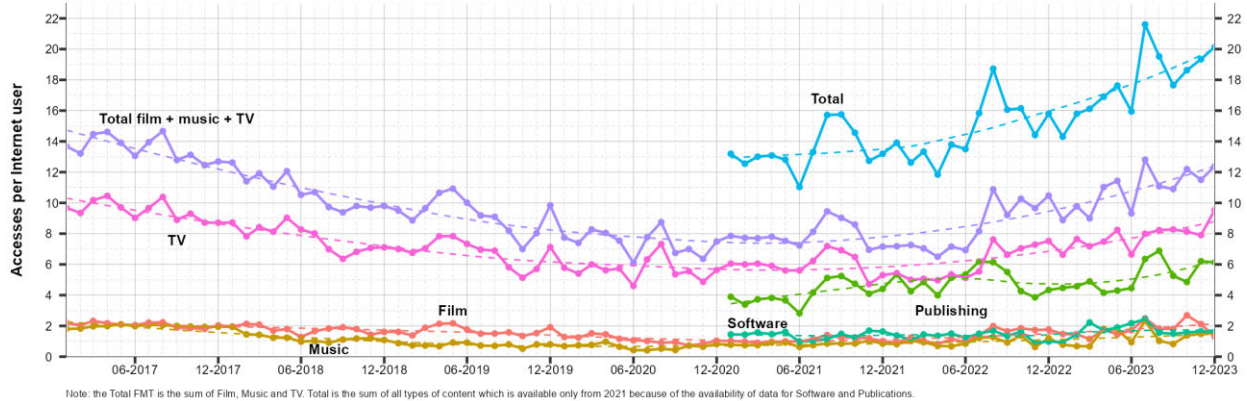


Simulation of the cumulated internet users that register in illegal IPTV sites

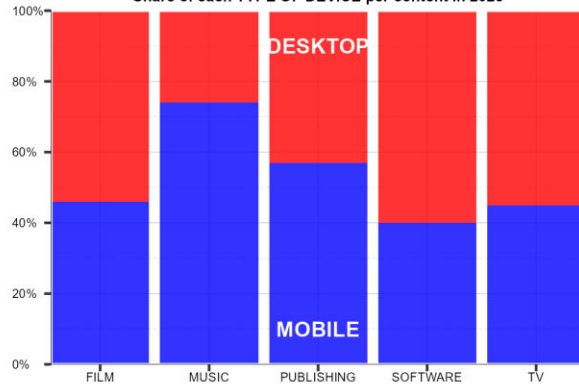


LUXEMBOURG

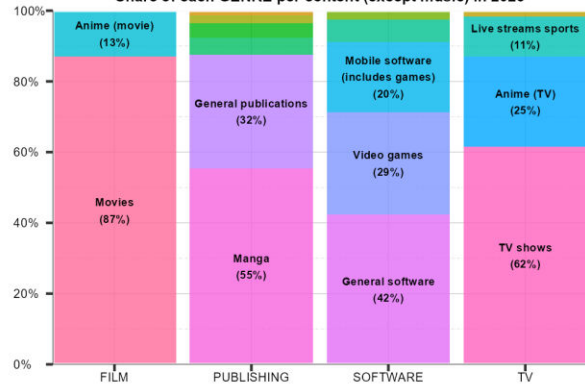
Evolution of the accesses per type of content and totals for LUXEMBOURG (LU)



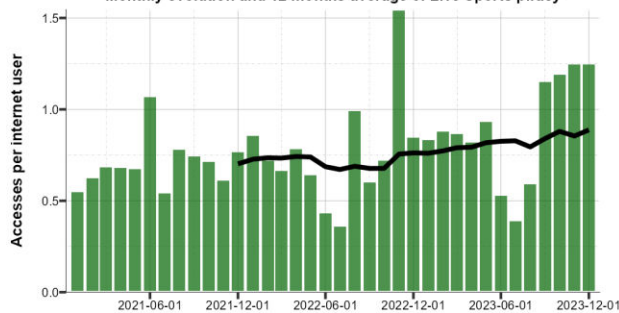
Share of each TYPE OF DEVICE per content in 2023



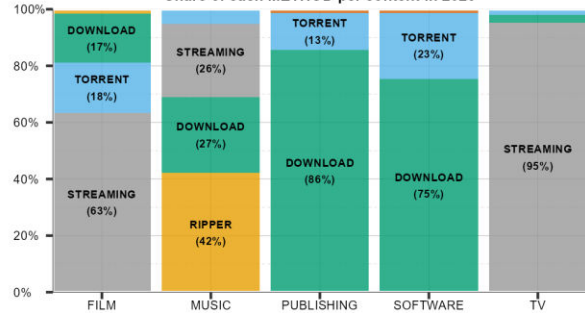
Share of each GENRE per content (except music) in 2023



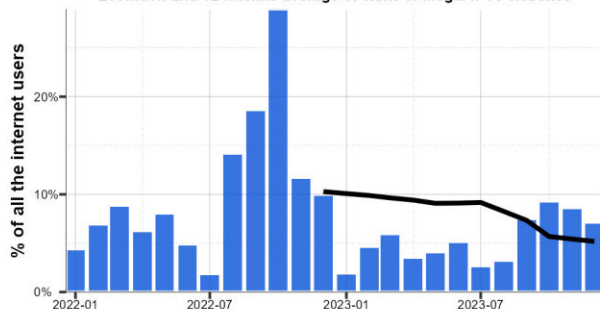
Monthly evolution and 12 months average of Live Sports piracy



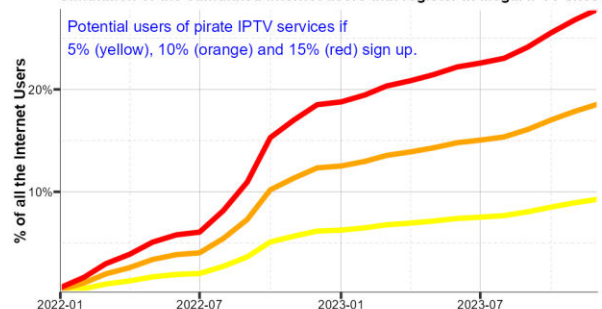
Share of each METHOD per content in 2023



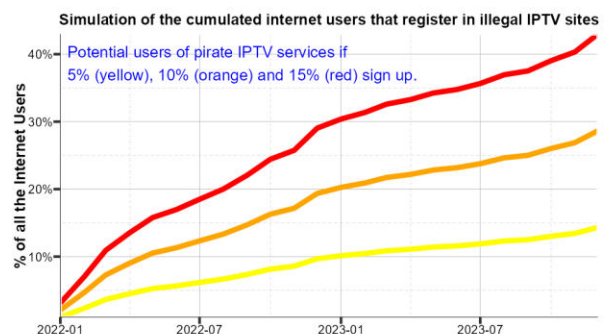
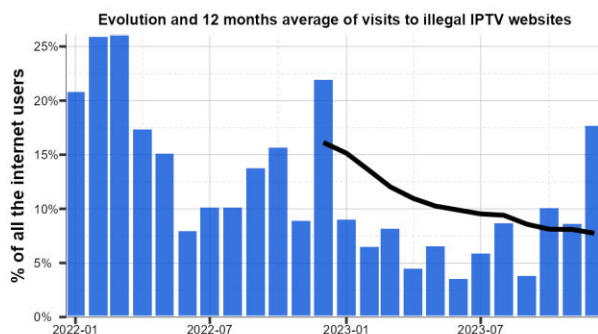
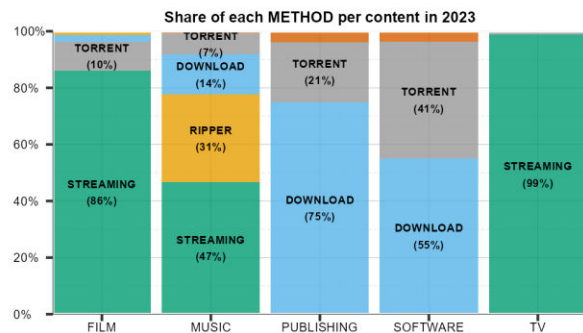
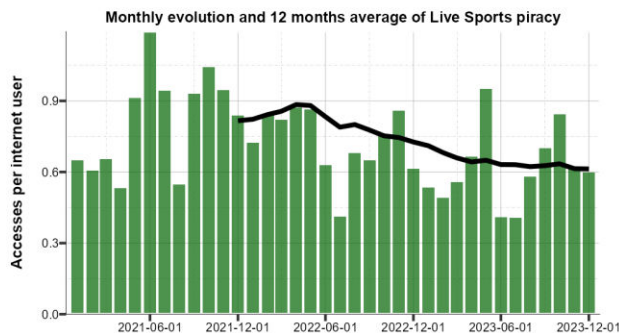
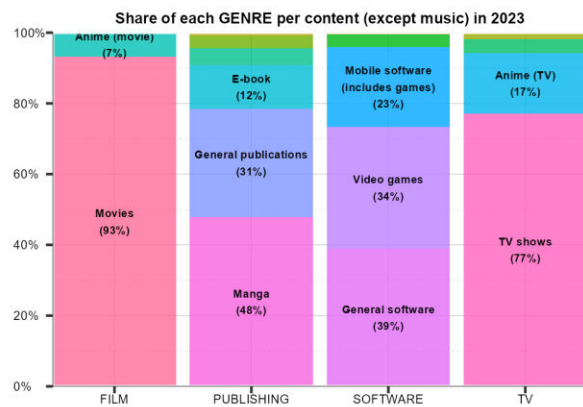
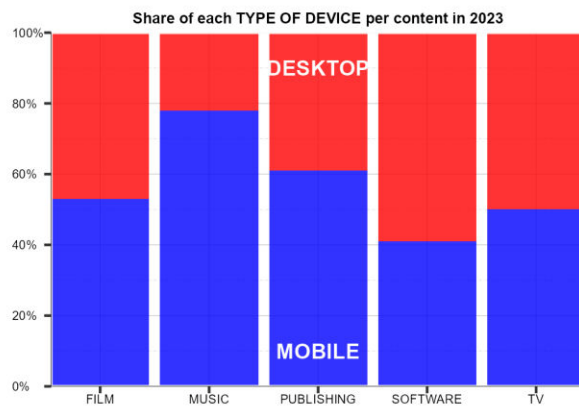
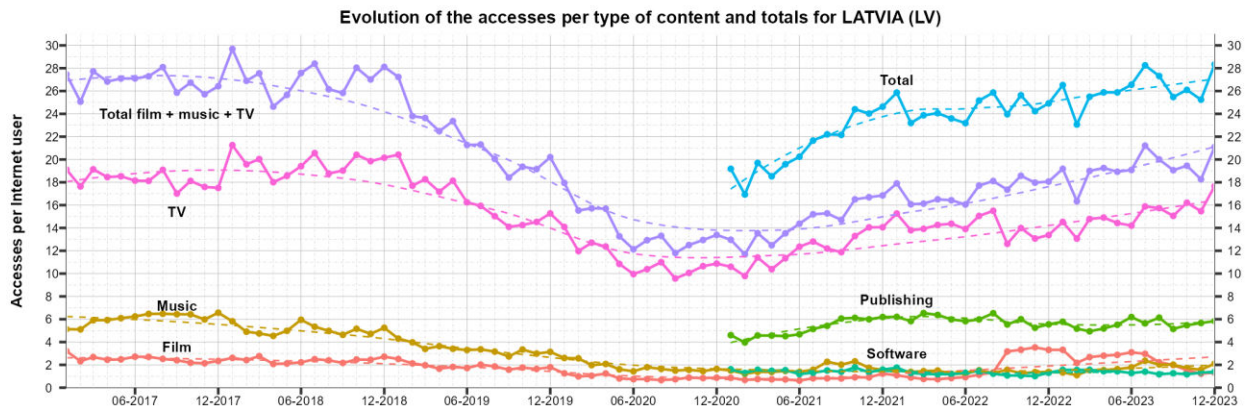
Evolution and 12 months average of visits to illegal IPTV websites



Simulation of the cumulated internet users that register in illegal IPTV sites

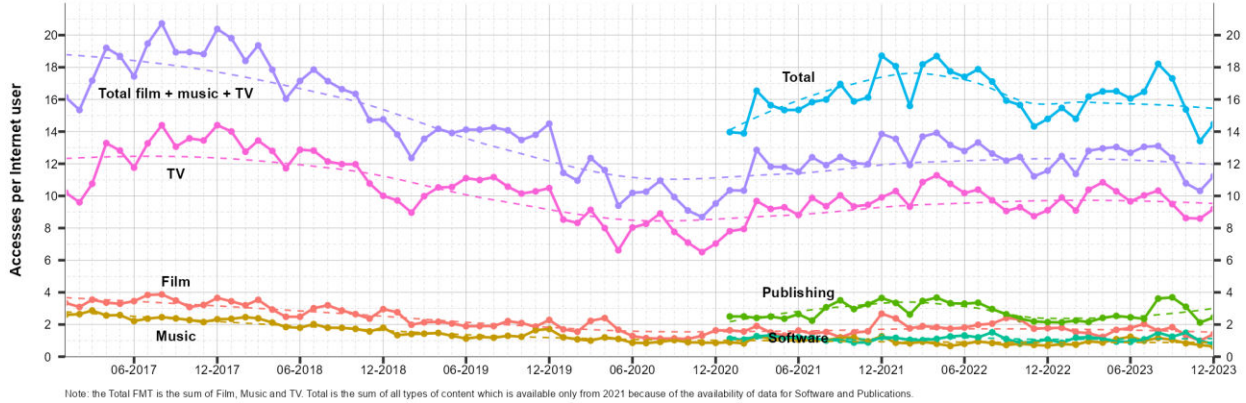


LATVIA

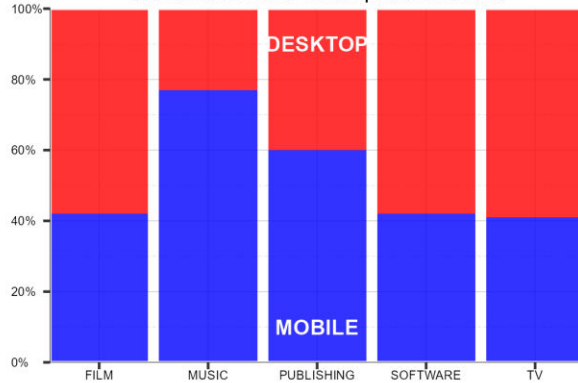


MALTA

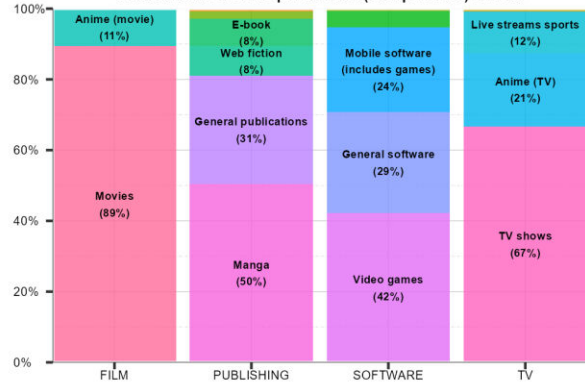
Evolution of the accesses per type of content and totals for MALTA (MT)



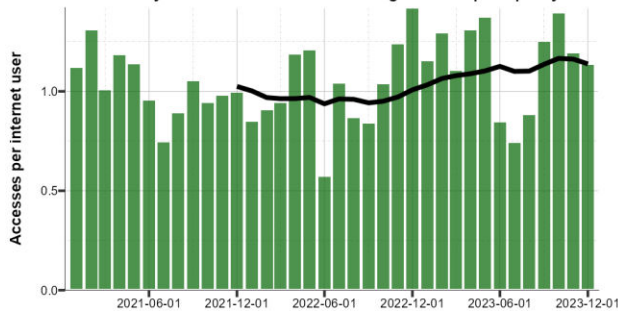
Share of each TYPE OF DEVICE per content in 2023



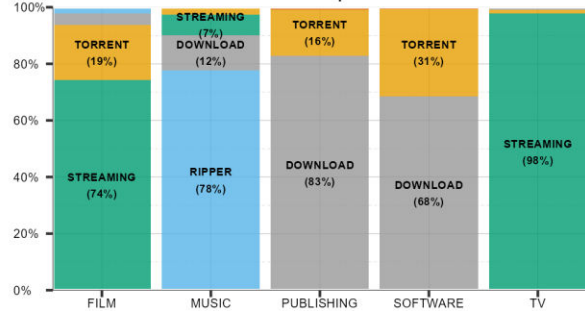
Share of each GENRE per content (except music) in 2023



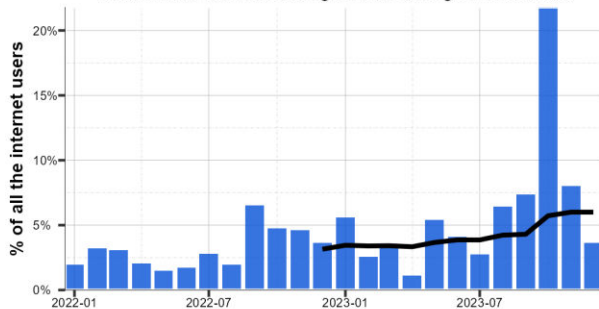
Monthly evolution and 12 months average of Live Sports piracy



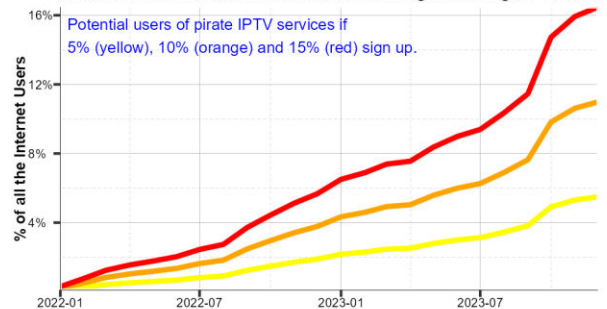
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

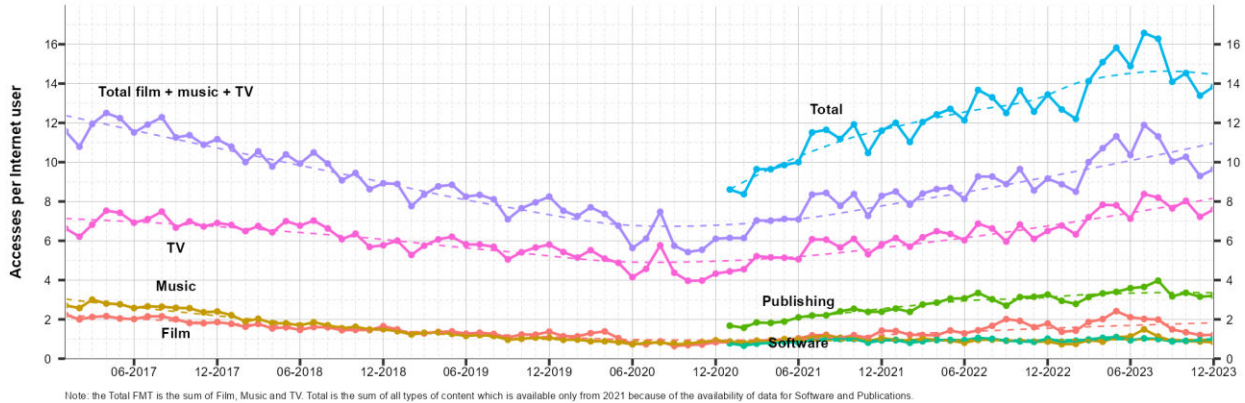


Simulation of the cumulated internet users that register in illegal IPTV sites

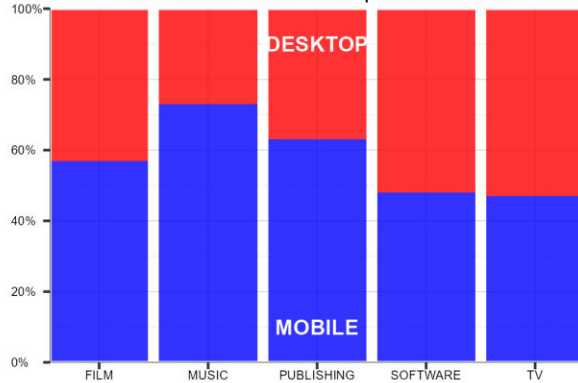


NETHERLANDS

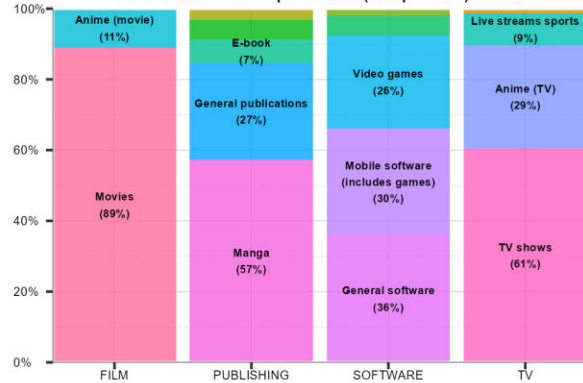
Evolution of the accesses per type of content and totals for NETHERLANDS (NL)



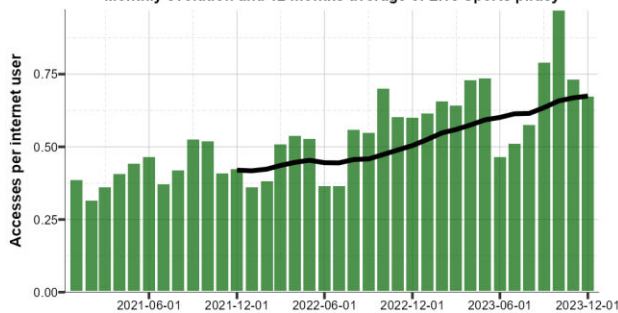
Share of each TYPE OF DEVICE per content in 2023



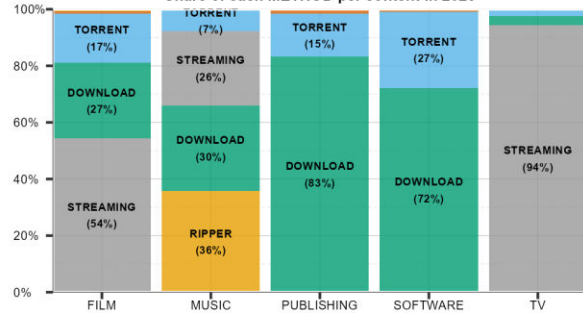
Share of each GENRE per content (except music) in 2023



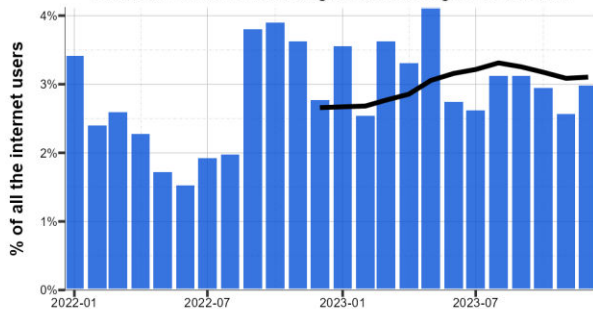
Monthly evolution and 12 months average of Live Sports piracy



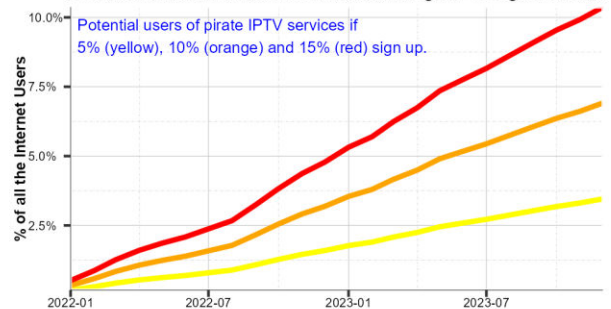
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

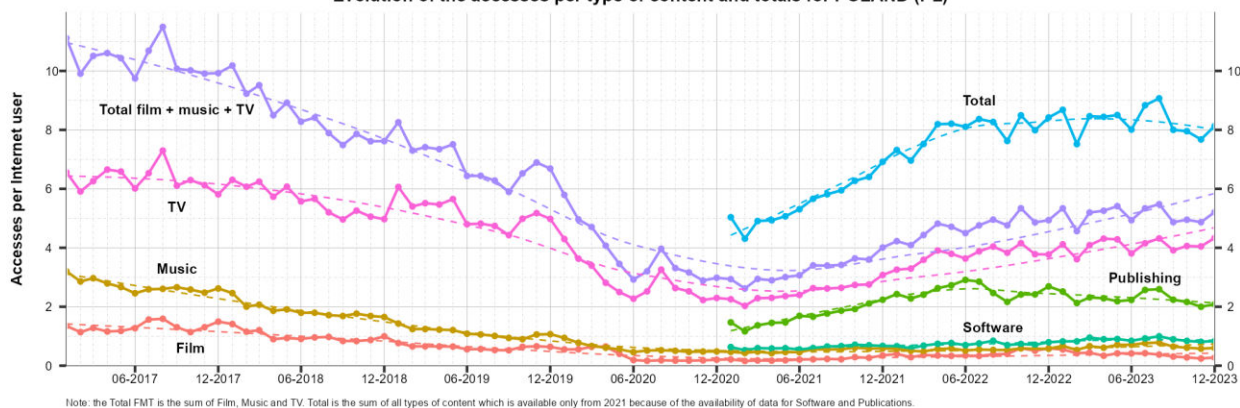


Simulation of the cumulated internet users that register in illegal IPTV sites

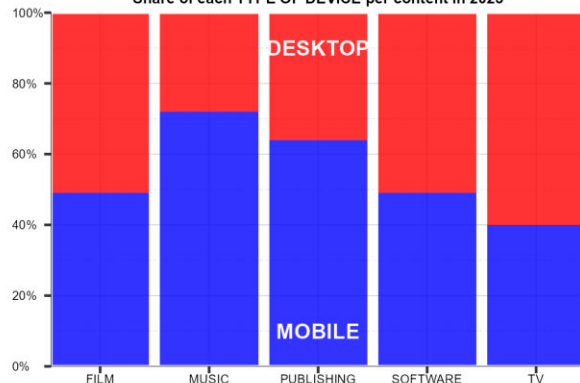


POLAND

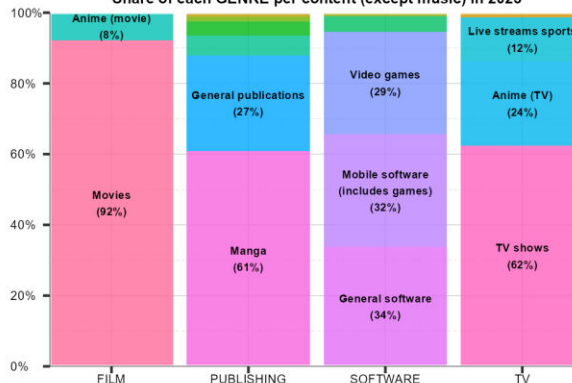
Evolution of the accesses per type of content and totals for POLAND (PL)



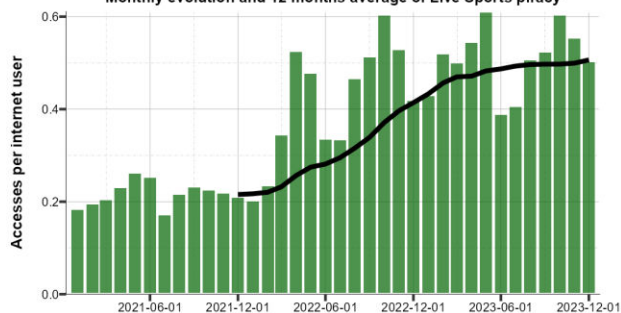
Share of each TYPE OF DEVICE per content in 2023



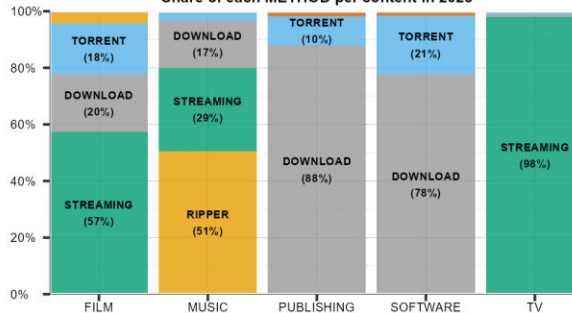
Share of each GENRE per content (except music) in 2023



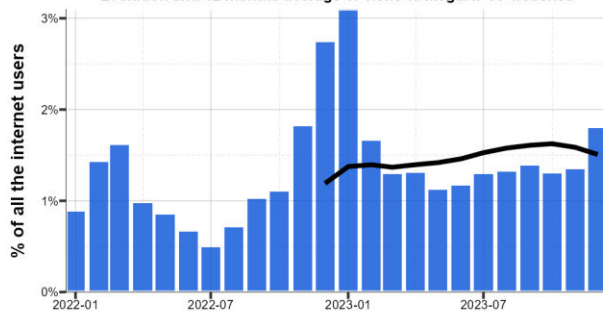
Monthly evolution and 12 months average of Live Sports piracy



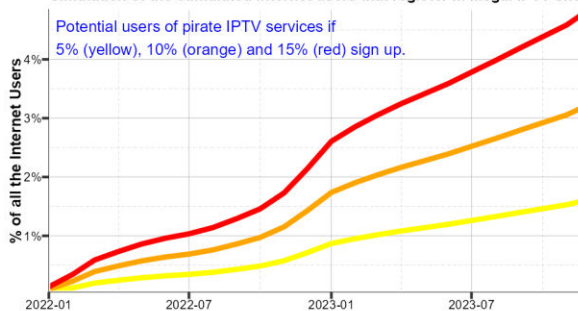
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

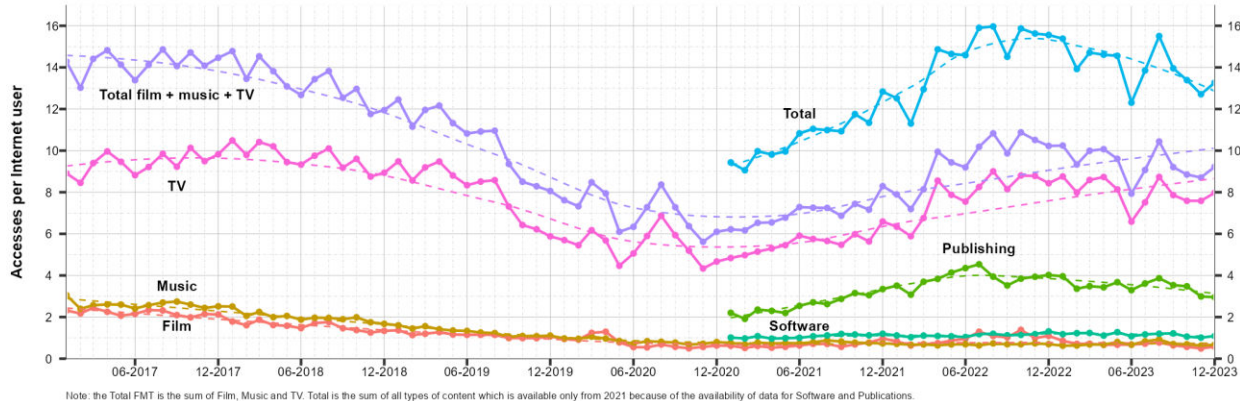


Simulation of the cumulated internet users that register in illegal IPTV sites

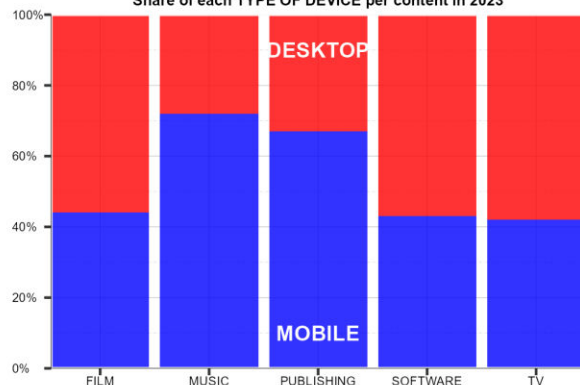


PORTUGAL

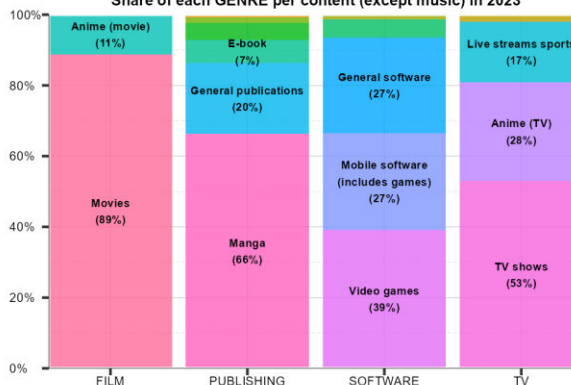
Evolution of the accesses per type of content and totals for PORTUGAL (PT)



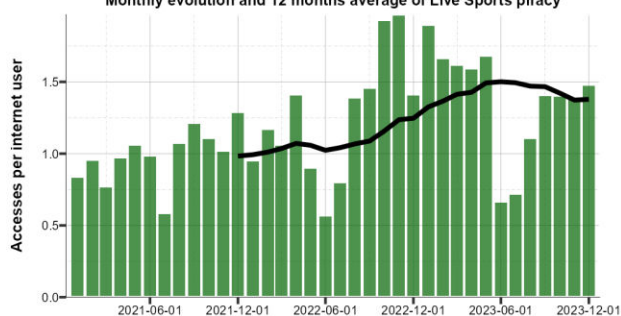
Share of each TYPE OF DEVICE per content in 2023



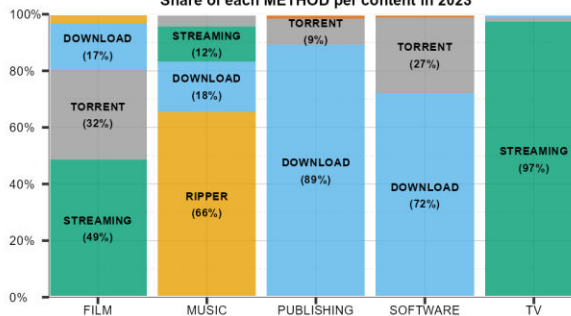
Share of each GENRE per content (except music) in 2023



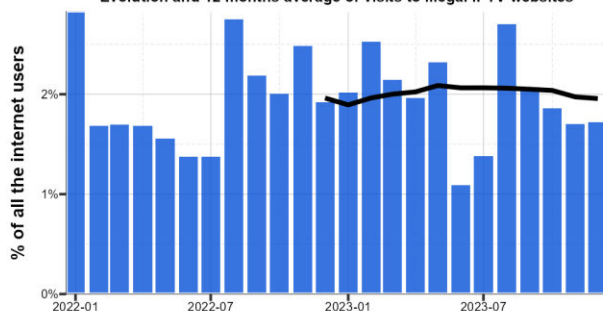
Monthly evolution and 12 months average of Live Sports piracy



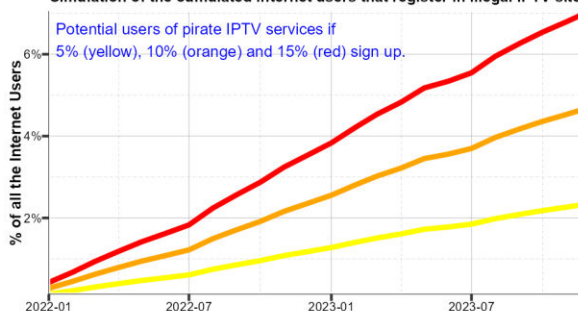
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

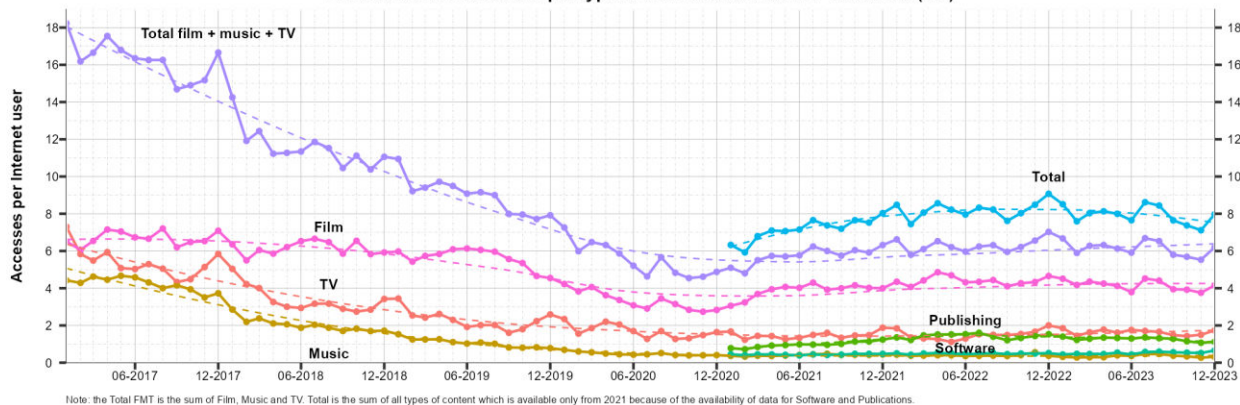


Simulation of the cumulated internet users that register in illegal IPTV sites

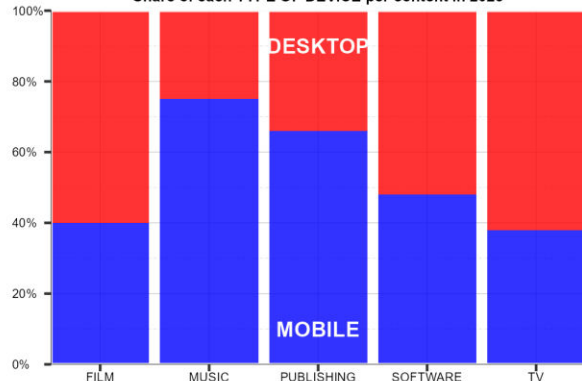


ROMANIA

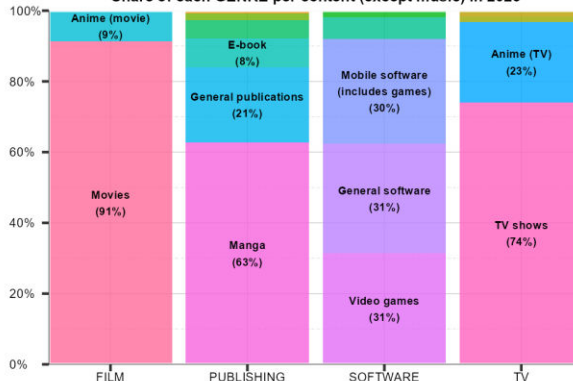
Evolution of the accesses per type of content and totals for ROMANIA (RO)



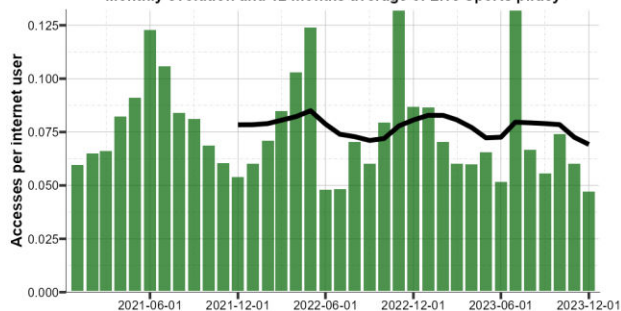
Share of each TYPE OF DEVICE per content in 2023



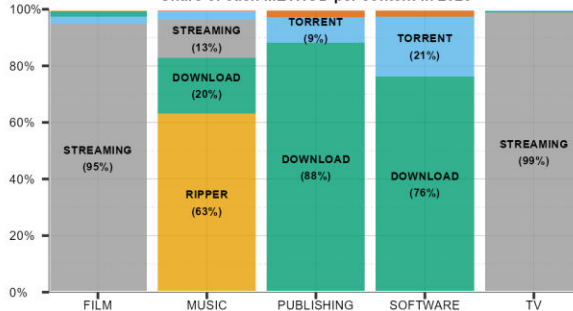
Share of each GENRE per content (except music) in 2023



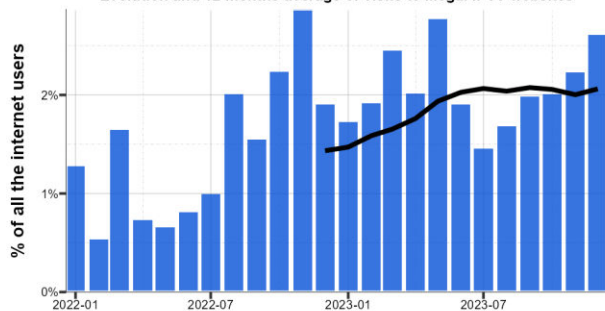
Monthly evolution and 12 months average of Live Sports piracy



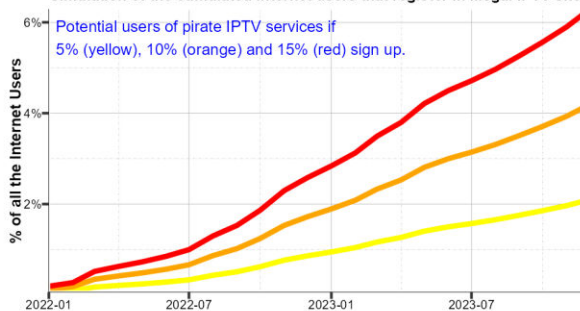
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

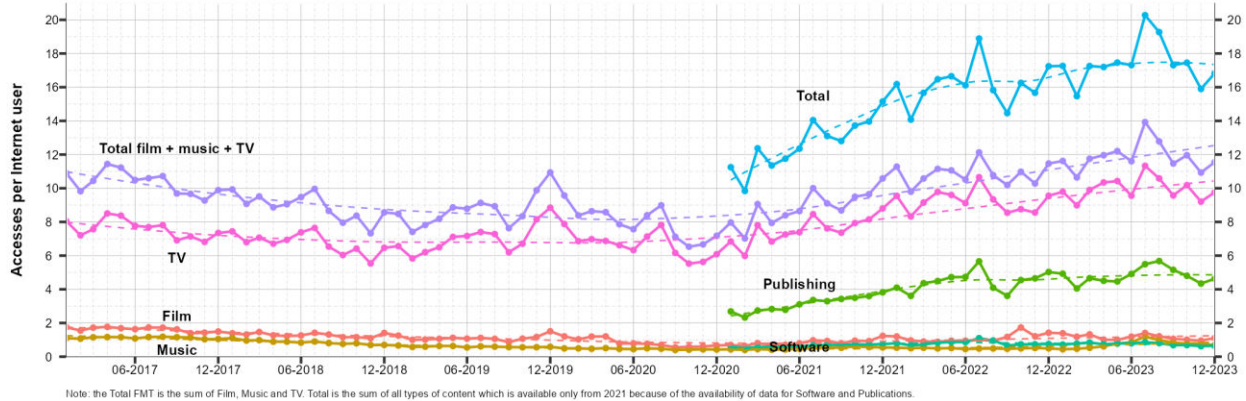


Simulation of the cumulated internet users that register in illegal IPTV sites

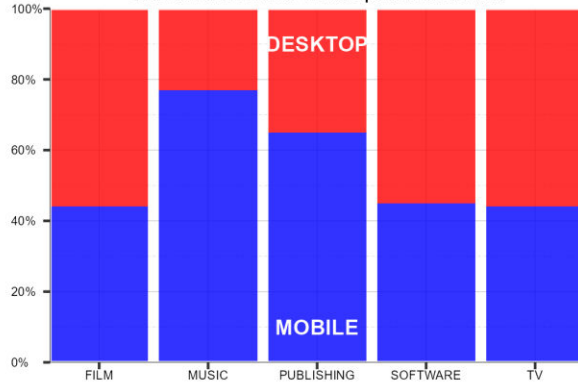


SWEDEN

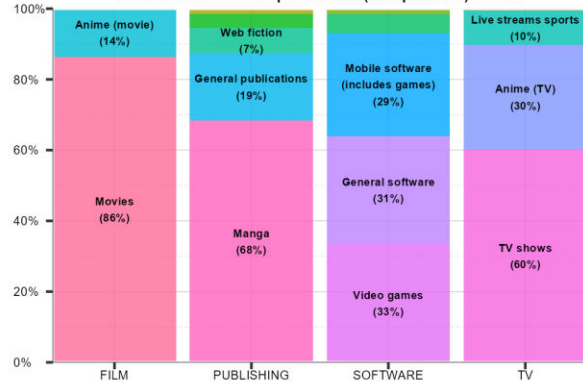
Evolution of the accesses per type of content and totals for SWEDEN (SE)



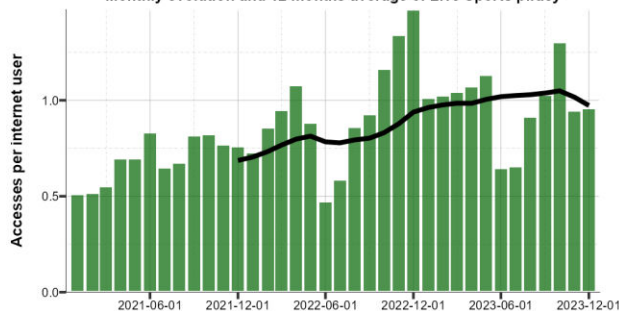
Share of each TYPE OF DEVICE per content in 2023



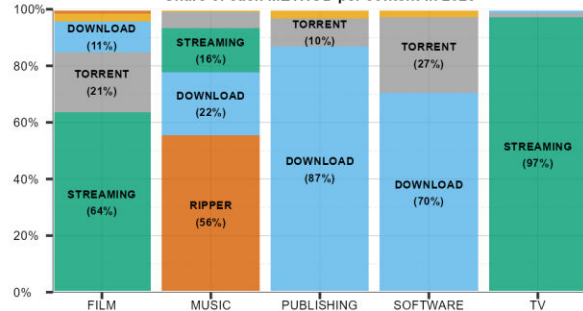
Share of each GENRE per content (except music) in 2023



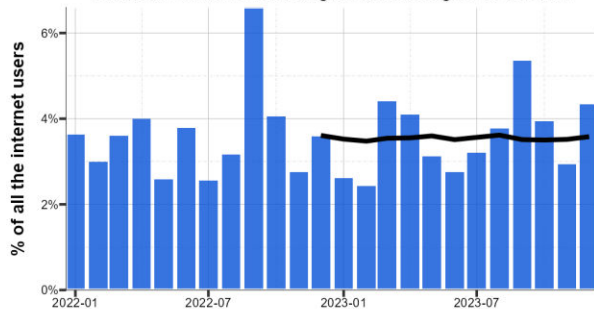
Monthly evolution and 12 months average of Live Sports piracy



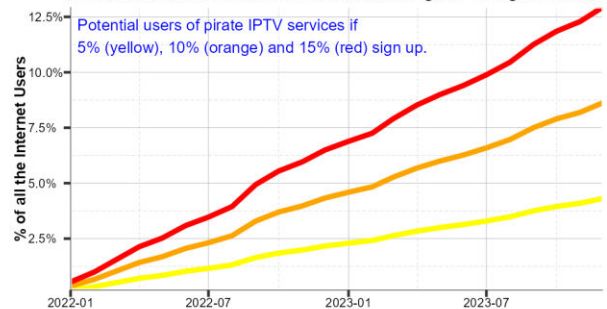
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

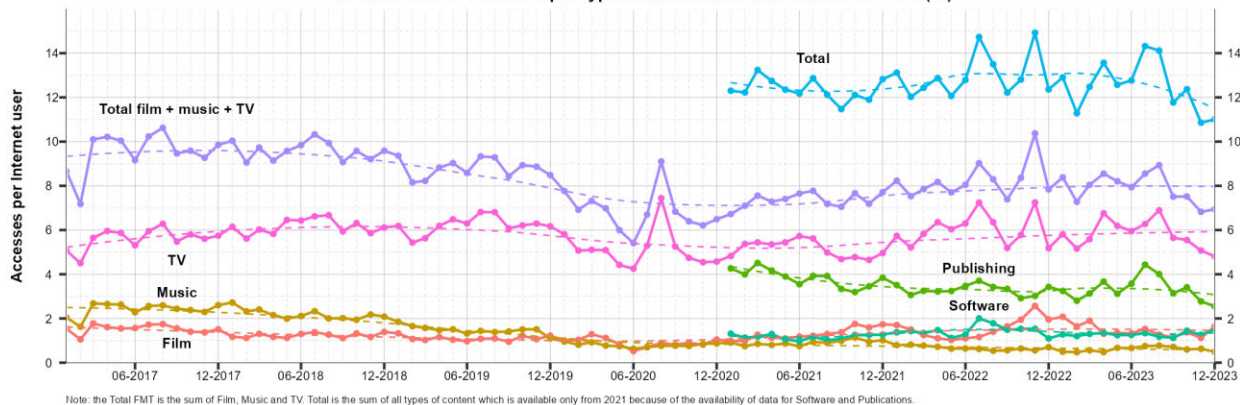


Simulation of the cumulated internet users that register in illegal IPTV sites

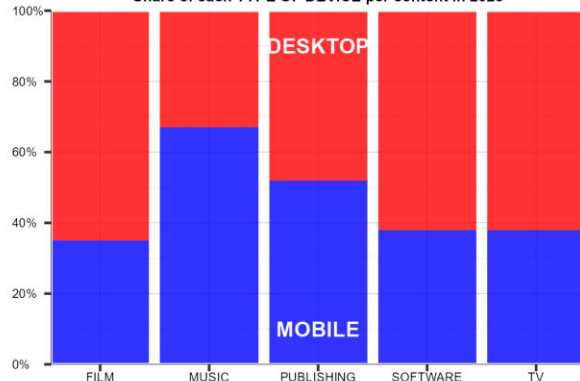


SLOVENIA

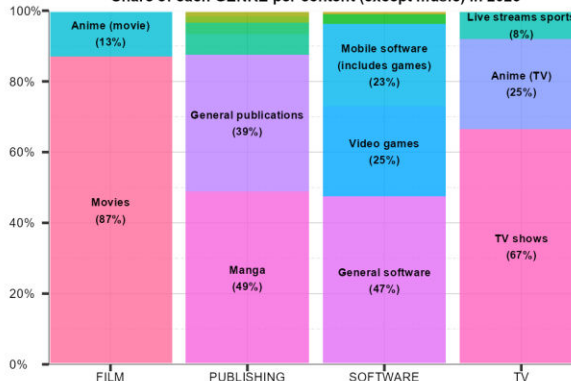
Evolution of the accesses per type of content and totals for SLOVENIA (SI)



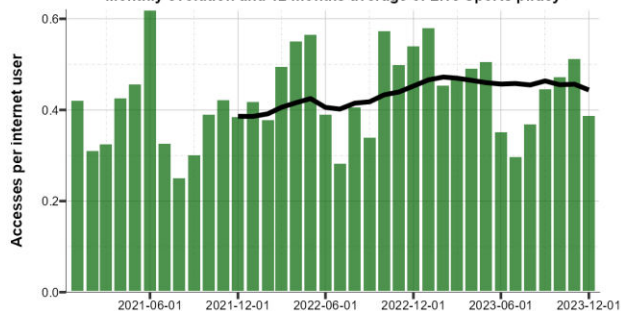
Share of each TYPE OF DEVICE per content in 2023



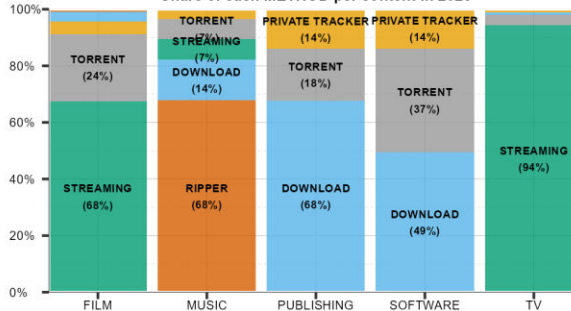
Share of each GENRE per content (except music) in 2023



Monthly evolution and 12 months average of Live Sports piracy



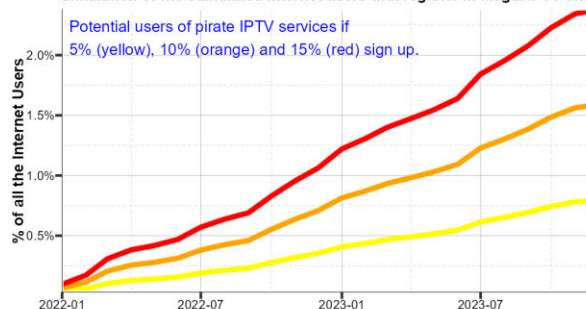
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites

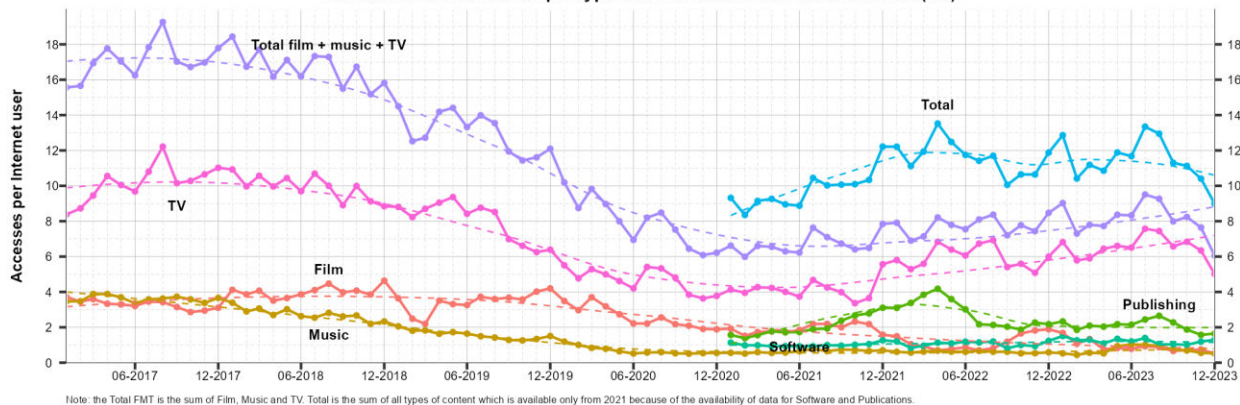


Simulation of the cumulated internet users that register in illegal IPTV sites

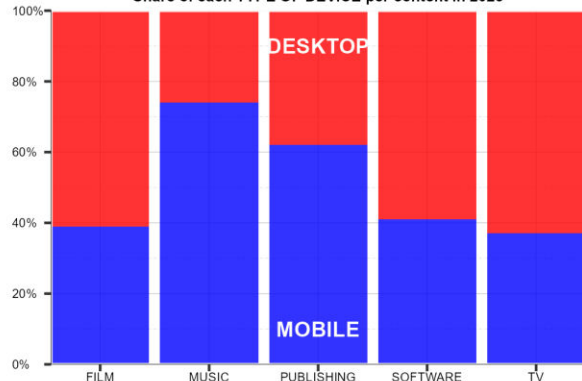


SLOVAKIA

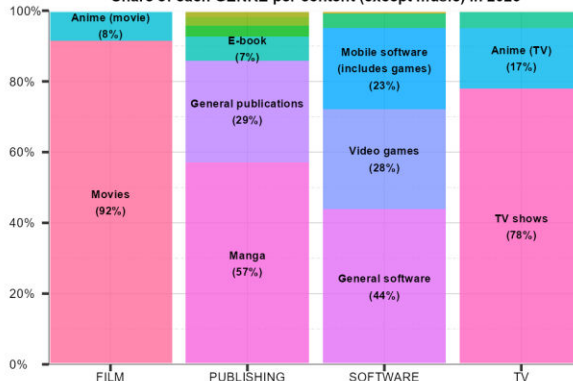
Evolution of the accesses per type of content and totals for SLOVAKIA (SK)



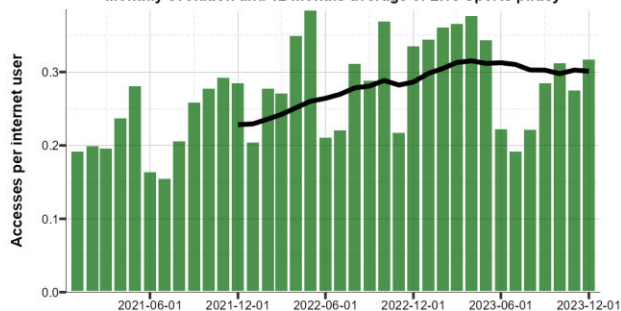
Share of each TYPE OF DEVICE per content in 2023



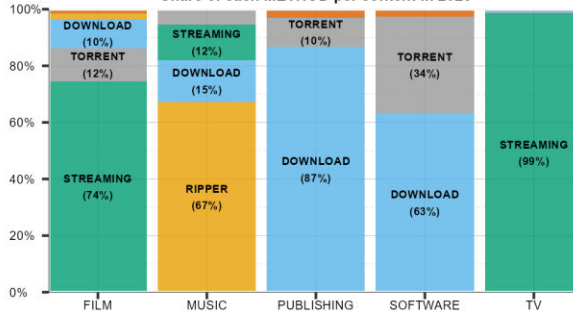
Share of each GENRE per content (except music) in 2023



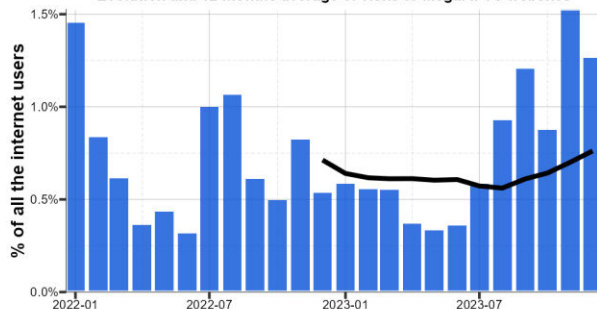
Monthly evolution and 12 months average of Live Sports piracy



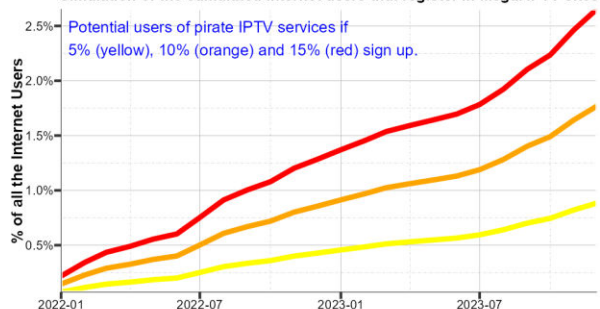
Share of each METHOD per content in 2023



Evolution and 12 months average of visits to illegal IPTV websites



Simulation of the cumulated internet users that register in illegal IPTV sites



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