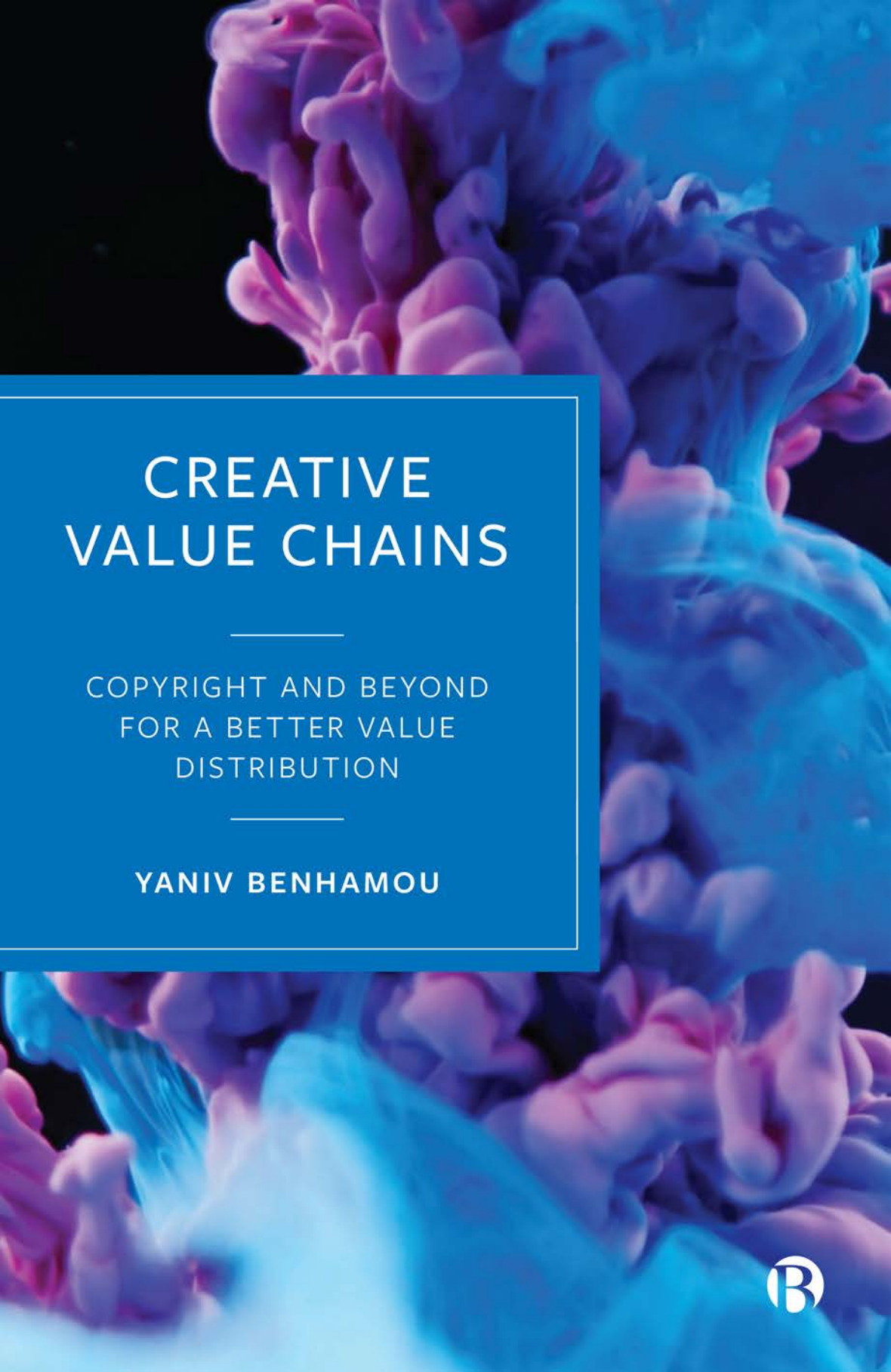


CREATIVE VALUE CHAINS

COPYRIGHT AND BEYOND FOR A BETTER VALUE DISTRIBUTION

YANIV BENHAMOU

CREATIVE VALUE CHAINS

Copyright and Beyond for a Better Value Distribution

Yaniv Benhamou

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Yiddish expression

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This book also follows an international congress entitled the World Knowledge Dialogue (WKD), organized by the author in July 2022 on 'The Future of Culture: Financing and Governance in the Digital Age', which brought together 50 experts from various disciplines, including the moderators and rapporteurs (Yves Bauer, Valérie-Laure Bénabou, Amélie Favreau, Honor Felisberto, Thomas Gauffroy-Naudin, Loïc Riom, Marc Perrenoud and Frédéric Young). The book also follows a national conference organized by the author in October 2023 and October 2024, in conjunction with Anne-Sylvie Dupont and Ariane Morin, on 'Status and Remuneration of Artists and Cultural Actors', which brought together multiple Swiss artists and cultural actors. This book also follows the submission of a research project co-authored with Anthony Masure and Jamie Allen, whose exchanges and references have contributed to the reflection presented here. This book also benefited from fruitful discussions with Pierre-Alain Hug (to whom the author owes an enlightening discussion around a thematic fondue in the mountain), Virginie Keller, Guillaume Helleu, Micheline Louis-Courvoisier, Maurice Magnoni, Jacques de Werra, Chris Bavitz, Sergio Branco, Loïc Riom, Cédric Durand, Margot Voisin and Ammihud Joseph. The finalization of the book also benefited from the rich comments and help of Céleste Berta, Frédéric Young, Robert Sauté, Agnès Maffre Baugé, as well as Laura Schmid. This book was also made possible thanks to the support of Carine Jaccoud, Avigael Benhamou, and Guillaume Massard. Finally, this book came to fruition thanks to the interest and support of the publisher, Bristol University Press, in particular Paul Stevens, who saw the theme as a promising subject for their collection.

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Introduction: Contextualization

This book analyses how human creativity is being transformed in the digital age, particularly within the value chains of the cultural and creative sectors (CCS), including music, visual arts, and video games. More specifically, it analyses the impact of digital technology on creativity and on the sharing of value, for example, the remuneration of artists on streaming and Artificial Intelligence (AI) platforms, new financing models through blockchain technologies, including non-fungible tokens (NFTs) and, the remuneration of digital workers on sharing platforms. It asks how these changes can take place in a sustainable manner.

There are *several reasons for choosing* this subject. *First*, in the digital age, the value derived from human creativity is captured by a few large platforms that exploit content shared by users or by scraping artistic works from the web to train AI models without authorization or remuneration. This leads to a transfer of value from users/artists to the platforms. The transfer represents a threat to human creativity and cultural diversity. However, a better creativity-derived distribution in the form of creative value chains (CVC) enables a virtuous system. CVCs take into account all value-generating actors, including artists and other participants in the creative process. They also consider all dimensions of value, not only economic but also cultural and social. *Second*, creativity plays a major role in CCS and has multiple economic and cultural spin-offs for society. *Third*, CCSs are often a societal catalyst, anticipating the transformation of other sectors.

In *Part I*, this book examines creativity in the form of a value chain within CCS in three creative sectors: music, visual arts, and video games. In *Part II*, the book proposes a better distribution of value through legal, political, and individual solutions, which go beyond copyright alone, often invoked as the ultimate solution for remunerating creators. In fact, copyright does not provide remuneration for all CVC players. Its function is not to guarantee a 'salary' to creators but to enable them to extract value from their creations, thereby encouraging the production of new works. We therefore need to consider avenues beyond copyright if we are to guarantee a share for all players in the chain, including artists and participants in the creative process.

The book entails multiple *methodologies*. In addition to a literature review, I carried out field observations, thanks to my academic activities and artistic practice over the last 20 years. I also conducted qualitative interviews with players in the field (sound engineers, musicians, visual artists, designers, festival directors, and executives in cultural authorities and in museums). These interviews are not reproduced but have enriched my thinking throughout the work and are mentioned in the acknowledgements.

The book also benefitted from data collection and data analysis of Spotify data, as part of a research project at the University of Geneva combining methods of participatory science and law. We brought together a pool of students. In a first phase, a group of students submitted individual data access requests to Spotify in order to receive their user data (data collection). In a second phase, we pooled the user data in order to analyse how these personal data were used and monetized (data analysis). Generative AI (ChatGPT-4o, then GTP-5) was occasionally used as a writing aid, to provide some language editing and feedback on clarity – in accordance with the publisher's guidelines and the COPE position statement on AI and authorship (COPE, 2023).

The book has several *limitations*, though. First, despite the relatively concise nature of the book, I treated the subject interdisciplinarily, relying on legal and copyright theory, complemented by insights from economics, media studies, and cultural policy. This approach has necessitated choices in the themes addressed. Certain jurisdictions will be covered more than others, in particular Europe, the United States, and Canada, although other jurisdictions will be mentioned from time to time. Some sectors like music get more substantial treatment than the visual arts and video games. This is due to the specific characteristics of music – one of the most radically sector transformed by digital technology – and the author's knowledge in this field. Conversely, some issues – such as digital-related ecological concerns, which are nonetheless crucial – could not be addressed here due to space constraints. Second, the book is aimed at different audiences: professionals and non-professionals in the creative professions, artists and amateurs, as well as experts and neophytes in law, economics, and sociology. As a result, the book summarizes subjects at the risk of oversimplifying them or even sounding banal to some readers. Part I is intended to be accessible to non-experts, while Part II aims more at experts and professionals in the CCS. Third, the reader should bear in mind that the subject evolves quickly in line with technologies and debates. This book should be seen as a consciously imperfect and non-exhaustive essay on a moving theme, a sort of an exploratory path of selected issues.

This book is a continuation of previous work and reflections (OECD, 2005; European Commission, 2017; Connect, 2025), while proposing an original way of understanding the value chain in the CCS. It proposes taking into account all the actors in the chain (artists, intermediaries, invisibilized

workers) and all the dimensions of value (economic, symbolic, social). It also proposes using all the tools for better sharing value, beyond copyright, including contracts as a governance tool, novel cultural policies and radical technological solutions. Finally, it postulates that the CCS is a catalyst for future change, and so it is important to dwell on it, even if many myths need to be qualified, or even demystified.

PART I

Evolution of the Creative Value Chains

1

Creative Value Chains

Definition of the creative value chains

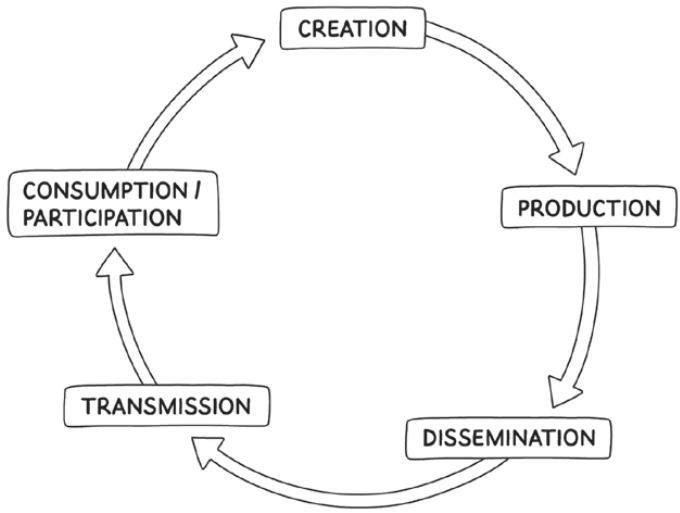
A value chain is a sequence of actions during which value is added to a new good or service during its life cycle: design, creation, production, distribution, use, reuse (Kaplinsky and Morris, 2000; Surana et al, 2005; Fearne et al, 2012).

The creative value chain (CVC) can be defined as the entire process of creativity within the cultural and creative sector (Candy and Edmonds, 2018; Romainville J.-F., 2019; Towse, 2019). This process goes through a series of stages and actors. In terms of *stages*, it encompasses creation, production, distribution, and valorization (UNESCO Institute for Statistics, 2009; European Commission, 2017; Lacourt, Radel-Cormann, and Valais, 2023).

To put it simply, at the creation stage, a creator conceives and proposes an idea, an original work (films, music, books, works of art). At the production stage, this idea is transformed into exploitable goods, services or experiences (a creative 'work', or 'content'). At the distribution and valorization stages, the public receives and appreciates the work (Towse, 2019). In some cases, the public participates in turn actively in the creative process, for instance by adapting, remixing, and sharing the work, becoming both consumers and creators (Lessig, 2008, distinguishing between Read-Only [RO] where people passively consume cultural products like watching TV and Read/Write [RW] where people pro-actively participates in the creative process like YouTube videos, remixed songs, fanfictions). So these stages and actors act as a virtuous circle, rather than a series of linear steps (see Figure 1.1).

In terms of *players*, several people generate value within the chain. The main players include the individual creator and any other person involved in the CVC. This includes '*creative workers*', namely people exercising a cultural profession in the cultural sector (a musician), people exercising a non-cultural profession in the cultural sector (an accountant in a theatre), and people exercising a cultural profession outside the cultural sector (a photographer in a chemical laboratory) (Furrer and Moeschler, 2020).

Figure 1.1: CVC stages



Players also include the *intermediaries* who represent creative workers, individuals, organizations, or businesses active in the cultural and creative sectors (CCS) (European Commission, 2017; Furrer and Moeschler, 2020; Benhamou et al, 2024). Then there are the companies that are not specific to the CCS but which participate in the CVC (sharing platforms, AI developers), as well as authorities and various publics. Finally, there are 'platform workers' and machines, with their human-like creative abilities. '*Platform workers*' (or 'click workers') generally refers to the professions that 'hide' behind platforms to make algorithms work. Their tasks can be more or less creative and repetitive, ranging from content moderators (also known as 'web cleaners') who validate or delete content posted by Internet users, to data trainers and annotators who check, label, and improve training data and output for an AI model. They are to be distinguished from '*digital workers*' who are all platform users who generate value by their interaction with the service (for example, with their UGC or usage data) (see Chapter 3).

Each player adds value to the work within the CVC through its contribution, which may be more or less creative and protected by copyright. The scope of copyright protection varies according to the jurisdiction. For example, when the work consists of a sufficiently original piece, the author of the work is protected by copyright. When the contribution is not the product of the author of the work but of other actors involved in the dissemination of the work – for instance, performers and producers – in many jurisdictions, the exploitation of their contribution is protected by neighbouring rights

(for example, civil law) or by other protection mechanisms (for example, the United States). This contribution can also be less creative and devoid of copyright protection, for example, when it consists of digital workers supplying their personal data or consists of execution tasks by invisibilized 'click workers' such as data labellers or content moderators (Mantegna, 2024).

Holistic approach to value

Value is understood differently depending on the discipline and the socio-cultural context. In the economic and social sciences, a distinction is made between economic value, on the one hand, and social and cultural value, on the other (Stark, 2009; Piraud, 2017; Riom, 2023). Economic value refers to the capacity of a good or service to generate commercial value, and the contribution of the good or service to the economy and employment. Social value refers to the capacity a good or service has to reach an audience, to produce an echo in social experience, which may also have an educational and cultural dimension (Frith, 2015; Hesmondhalgh, 2018). In economics, value is understood more as the utility or benefit offered by a good or service to a customer, to a producer, or more generally to the economy and employment. In the fields of aesthetics and media theory, value refers to dynamics of attention (Falkinger, 2007; Crogan and Kinsley, 2012; Bueno, 2016; Srnicek, 2017; Zuboff, 2019) and ecological reconfigurations, such as cooperation or the exchange value of a good (Walton and Nayak, 2021).

It should be noted that cultural goods and services have evolved with time and dematerialization. Traditionally, they were understood as original creations protected by copyright. They have subsequently been dematerialized into digital 'information goods', or even investment assets, often controlled by technology companies or funds (Lizardi, 2012; Birch and Muniesa, 2020; Adkins, Cooper, and Konigs, 2020; Bernevega and Gekker, 2022). While some see a commodification of creation, this overlooks the fact that, since the inception of copyright, it was aimed at protecting the investments of certain players, in particular, printers, against rivals in the printing industry and their production of illicit copies (see Chapter 4). It also ignores that copyright covers any original creation, regardless of its artistic or cultural value; for instance, a practical work such as a geographical map can be protected (Cherpillod, 2022). It has also gradually been extended to other practices and investments, such as performances and the services of phonogram producers and broadcasters (Strowel, 1990). In some jurisdictions, protection has even been extended to databases (Benhamou, Y., 2020a). We have therefore moved on from a classic concept of original creations with an artistic and cultural vocation to investment protection for the players in the chain. That said, we recognize that artistic investment through investment funds that transform artworks into asset classes seems to

be moving away from the initial objective of copyright, namely to protect the investments of certain players and to stimulate creation. Examples include the Masterworks funds in visual art (USD 900 million in assets) and Sony music that bought the copyrights of Bruce Springsteen's catalogue (for USD 550 million) (Sisario, 2021).

Value has also evolved from a concept rooted in ethics and morality to a strictly economic vision. Originally, value was linked to notions of the common good and justice. Aristote and other ancient philosophers saw the economy and trade as a means of sustaining community life and promoting social harmony, while excessive accumulation of wealth or speculation were unethical, as they diverted the economy from its original purpose. With the Industrial Revolution and the emergence of classical economics in the 18th century, value became associated with labour, then in the 19th century with marginal utility (neoclassical economics). Over time, the notion of value became detached from moral principles and focused solely on financial and monetary measures. According to some, this detachment from moral principles has contributed to financial crises (for example, the great recession of 2008) and social inequalities, with the assessment of value too focused on short-term objectives, price, and financial profits (Carney, 2021). Even the most recent projects highlighting technologies such as blockchain for the common good, focus on market values (Fines et al, 2020; Clarke and Boersma, 2017; Croxson, Sharma, and Wingreen, 2019). AI risks accentuating this trend with its pursuit of efficiency and profit.

Carney proposes a more holistic approach to value that balances economic imperatives with social and environmental needs to build a more sustainable and just future (Carney, 2021). Massumi proposes moving away from the economic dimension of value and objects to defining value in its creative potential dimension, that is to say, the capacity of individuals and communities to generate new forms of life, thought, or organization that stimulate transformations and open new possibilities (Massumi, 2018). This move from economic value allows us to view the processes of change, imagination, and human interaction more than the object in which the value is incorporated, thus opening the way to more ethical and creative forms of life. Piraud, in connection with the notion of contemporary or 'creative' cities, which he finds overly associated with 'creative capitalism', calls for creativity to be freed from the constraints of productivity so that artistic practices can play a subversive and emancipatory role in the city (Piraud, 2017).

In the same vein as Carney and Massumi, we define value here broadly and in its multiple dimensions, including economic or commercial, functional and scientific, emotional, social, cultural, and educational (Benhamou, F., 2019). It can be functional or scientific, when the good satisfies a need, solves a specific problem, or experiments with new inferences. It can be economic or

commercial, when the good offers a utility or advantage to a customer, such as value for money. Note here that the economic value is dynamic, continually evolving and expanding the overall 'size of the pie', as discussed later (see below under Cultural and creative sector, the multiple facets of economic value). It can be emotional, when the good generates feelings. It can be social and cultural, when it produces meaning, emotions, thoughts, or innovative visions, or when it has aesthetic, social, experiential, symbolic, spiritual, or historical qualities (Belfiore, 2020; Faber, 2024). It can be educational, when the good has a capacity to instruct or transmit knowledge, skills, values, or important thoughts (Benhamou, F., 2019). We can also think of normative, moral, and political dimensions, when the good conveys or is used for political or moral messages. In the value chain, each added activity, from the supply of raw materials to the distribution of the good or service, contributes to reinforcing one or more of these value dimensions perceived by the recipient.

Tye is not necessarily correlation between the different values. Similarly, there is no hierarchy between them. No value prevails over another. For example, a creative work with a strong commercial value does not necessarily have an important artistic, educational or social value. Think pay-to-win mobile games (for example, Candy Crush), fast fashion (Shein, Zara, H&M), or speculative NFTs (see Chapter 2). They generate massive revenues but have limited educational and social value. Conversely, a creative work with strong artistic, educational and/or social impact does not necessarily have a high commercial value. Think traditional heritage (for example, Inuit or Aboriginal storytelling; Quechua or Maori indigenous textile patterns, Tuvan or Mongolian singing). They sometimes generate no or limited revenues to the indigenous community ('insiders') or third parties ('outsiders') (Dalindyebo, 2023), but they may have a strong social or educational value, worthy of preservation. Lastly, the difficulty of studying any correlation between different values is that non-economic dimensions are difficult to quantify, unlike commercial value that is quantifiable through common metrics. Therefore, it should be necessary to develop quantifiable metrics for the other values, which is beyond the scope of this book. That said, in our view, these multiple dimensions of value can be traced and better distributed by using contract as a governance tool, coupled with tracking technologies (see Chapter 4).

Creativity is everywhere

Creativity can be defined as the ability to generate new, original, and useful ideas for solving problems or expressing ideas (Throsby, 2008a; Boden, 2009). Creativity also has artistic or cultural, scientific, economic, and social dimensions (Throsby, 2008b), all of which are different aspects of value (see above). Also, rather than being binary, creativity lies along a spectrum through which

processes can be more or less imaginative (Mantegna, 2024). A wide variety of activities and practices can be creative, from the inspired throw of a painter to the technical know-how of a software programmer, stand-up comedy, recipes, and magic, each expressing their own ingenuity (McDonagh, 2022; Rachum-Twaig, 2022). All these activities produce value, whether economic, social, or cultural.

Creativity plays an essential role in the CCS as a source of innovation and differentiation for cultural goods and services that are produced, exchanged between chain players (like a producer or a platform) and perceived by their recipients (like an audience, a listener, or an Internet user) (UNESCO Institute for Statistics, 2009; Flew, 2013). These goods generate economic value (sale of media, access to cultural content, or copyright licences) and technological innovation (Rifkin, 2000; Martin and Koutchouk, 2020). They also influence personal, cultural, and social identity, raising public awareness of important social and environmental causes, inclusion, and cultural diversity.

With the digital age, a much-debated question is whether creativity must necessarily be human, or can it also be artificial? Can generative art be creative, namely forms of digital expression with autonomous systems such as algorithms or AI models that produce content (Pôle de création numérique, 2023)? Some argue that creativity can only be human, and that AI models do not create, they just reassemble fragments of existing works, mimicking existing works (kind of 'algorithmic mimicry') with no intention, emotion, or unique style. Others argue that anything can be creative, including AI-generated works (Guadamuz, 2024b; Mammen et al, 2024; Mantegna, 2024).

First, it's worth remembering that, while conventional AI models focus on prediction and classification carried out by recommendation algorithms that infer our preferences, such as Netflix's algorithm that recommends the next series to watch, generative AI enables new productions (Mantegna, 2024). If machines only create within the parameters and information they are given, it is possible to teach a generative AI model to produce surprising outputs by, for example, teaching it all the breakthrough movements in the history of art and innovation. Moreover, large language models (LLM) such as GPT5 (on which ChatGPT is based) are designed to avoid generating outputs similar to the inputs (except in cases of memorization; see Chapter 3). Conversely, other models such as the Next Rembrandt project are designed to generate creations similar to the style of the paintings of the painter Rembrandt on which the model is trained (Cherpillod, 2022; Matulionyte, 2025).

Margaret Boden, a leading researcher in the field of creativity and AI, defines 'creativity' as 'the ability to produce new, surprising and valuable ideas or artifacts'. She recognizes *three types of creativity*: combinatorial creativity, creating new combinations of familiar ideas; exploratory creativity or

exploring the limits of conceptual spaces; and transformational creativity or bringing about paradigm shifts that transcend what was previously known. She explains that these three types seem accessible to an AI model because it can explore and combine the vast amounts of data provided to it. It can also perform inductive correlations or the act of determining previously undiscovered correlations. AI models also enable to produce realistic outputs based on random inputs with AI models using generative adversarial networks (GAN) (Benhamou and Andrijevic, 2022). Finally, AI models enable deviations from the norm (reinforcement learning of AlphaGo, an AI program that plays the game Go), error, or accident (algorithmic dreams) (Boden, 2009). In this context, what AI does could easily be considered creative, either as combinatorial, exploratory, or transformational creativity (Mantegna, 2024).

Debates regarding machine versus human creativity have led to a distinction being drawn between different categories of creation, in particular between '*AI-generated works*' and '*AI-assisted works*' discussed later (see Chapter 4). This dichotomy between autonomous creation versus tool relates to the threshold of human intervention required. Is an AI model a mere assistant, a tool, or is it an autonomous creator? Rather than a binary answer, creativity seems to lie on a spectrum, a magnitude that is also contextual and subject to the observer's interpretation (Mantegna, 2024).

Negative reactions to artificial creativity are reminiscent of the historical AI debate about whether a machine can think. Alan Turing evoked the 'consciousness argument' in 1950 in 'Computing Machinery and Intelligence'. As Mantegna said, asking whether a machine can think like a human is as futile as asking whether an aircraft can fly like a bird. In both cases, they are in the air (Mantegna, 2024).

This debate is also reminiscent of the classic art and copyright debate about determining what is a work of art. Is anything made by an artist with the intention of being artistic art? Do peers have to recognize it as art, or does it have to be pleasing to the eye for most of the public (Guadamuz A., 2024b)? Or is it art what makes life more interesting than art (Filliou, 2003)? On the one hand, if everyone is an artist, everything is art, then nothing is art. And what is the limit between a banana taped to a wall and an AI work. That said, those who push the boundaries always face gatekeepers. It is hard to know who should have the authority to determine what art is. Today, with AI models, we must admit that some productions are new and surprising, awakening the same pleasure as raw or primitive art (Guadamuz, 2024b). As AI models improve, the outputs become even more refined and pleasing. We may never agree on whether a machine can be creative, and perhaps it's too early to decide. However, artists are using these tools and producing interesting outputs (Mantegna, 2024). Those interesting outputs are a form of exploration and creativity. So, we have to conclude that

artificial creativity does exist (Guadamuz, 2024b). Finally, instead of focusing on the tool itself and on the degree of human authorship, true authorship in the AI era perhaps lies in assuming responsibility for one's work, as only the human who signs and stands by a work can be recognized as its author – much like when Duchamp decided that a urinal was a fountain (Vial, 2025).

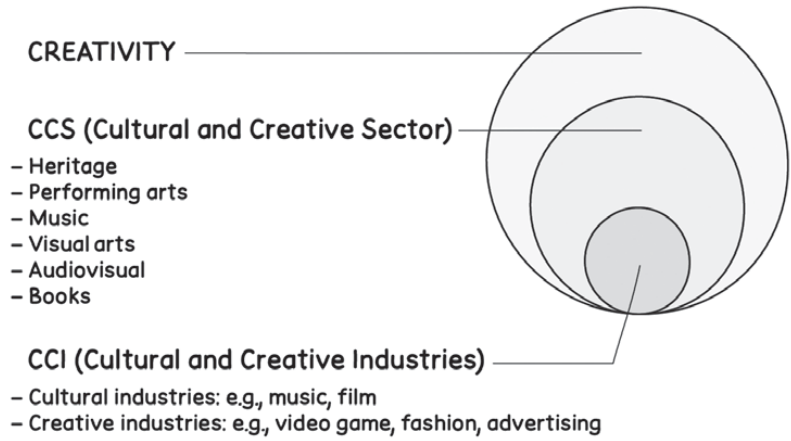
Cultural and creative sector

CCS is a sector of activity in which creativity plays a major role. It usually refers to all types of activities based on cultural values and/or artistic expressions, including market or non-market orientated activities, with or without a commercial meaning (Eurostat, 2018). *CCS* usually includes *six main cultural fields* (Cooke and De Propris, 2011; Furrer and Moeschler, 2020): heritage (fine arts, museums, archives, libraries), performing arts (theatre, dance), music, visual arts (painting, design, graphic and fashion design, architecture, crafts), books, audio-visual, and multimedia (radio, TV, cinema, podcast). CCS encompasses a wide range of companies and other cultural structures, active in the six cultural fields, as well as 'creative workers' (discussed previously).

Beyond purely artistic sectors, CCS broadly covers not only so-called cultural heritage worthy of preservation (Benhamou, 2017) but also everyday practices that are sometimes local and anchored in restricted social circles and experienced as cultural by those who practise them rather than experts (Art. 5 Fribourg Declaration 2007; UNESCO, United Nations). Similarly, there is no such thing as a universal art form. Individuals develop their own cultural practices that are beneficial to them, ignoring works decreed as universal (Raffin, 2020).

The term CCS coexists with a number of associated terms – cultural and creative industries (CCI), copyright industries, cultural economy, experience economy (Cunningham, 2002; Markusen et al, 2008). There is, however, no single definition but mostly taxonomic attempts at categorization (DCMS, 1998; Caves, 2000; Throsby, 2008a; Arora and Vermeylen, 2013). *CCI* is usually understood as a category within the CCS with a *more economic focus*. More specifically, within CCI, 'cultural industries' can be defined as a variety of sectors and art forms, often with an institutional and identity-based dimension (for example, fine arts, music, film). 'Creative industries' can be defined as a variety of sectors linked to creativity and innovation, mainly with economic value (for example, video games, fashion, advertising). CCI are at the heart of the creative economy, due to their growing economic importance (3–7 per cent of world GDP, 5–12 per cent of the labour force and businesses in many countries) (Weckerle, Gerig, and Söndermann, 2007; Hug, 2017; Ramirez and Joelle, 2017; Furrer and Moeschler, 2020).

Figure 1.2: Cultural and creative sectors (CCS) and cultural and creative industries (CCI)



Therefore, the creative professions strengthen the potential for creativity and innovation (see Figure 1.2).

Yet, cultural professions are often characterized by atypical employment (fixed-term employment, multiple jobs), limited social protection, and below-average incomes (International Labor Organization, 2023). In Switzerland, 59 per cent of artists earned less than CHF 40,000 in 2019, while in Belgium cultural workers earned an average of EUR 28,244 in 2020, well below the national average of EUR 35,127 (for Belgium), EUR 72,000 (for Switzerland) (Levaux and de Brabandère, 2025).

This situation reflects the persistent problem of the '*size of the pie*', namely the creative work generates economic value, while its creative worker receives a fraction of it, situated at the end of the chain. Such *economic value* is multifaceted. The most visible part consists of copyright royalties, particularly for replicable works in CCIs (music, film, video games), which are fragmented among multiple players. Added to this are salaries for cultural employees, or fees paid to freelancers at various stages of the CVC, from creation to production and distribution (for example, by performing the work). A second dimension is visibility often invoked by intermediaries (platforms, galleries, museums) to justify underpayment of artists. A third, less-discussed dimension is the market value of companies like streaming and sharing platforms, whose capitalization and turnover are fuelled by creative works, user data, and metadata (Benhamou et al, 2024) (see Chapter 3). A good example is the AI licensing deal between Walt Disney and OpenAI. In 2025, Disney agreed to license more than 200 of its iconic characters (from Disney, Pixar, Marvel, and Star Wars) and to invest USD1 billion for an equity stake in OpenAI,

betting that licensing its iconic content libraries will increase the long-term value of Disney's catalogues as well as the capitalization of OpenAI (see also value-generating layers, Chapter 3). There is also a broader *societal value*, as creative works fuel creativity and innovation beneficial for cities and entire countries, as well as generate multiple layers of value discussed previously. Thus, beyond narrow economic measures, creative works generate multiple layers of value – economic, cultural, educational, and societal. Finally, the value is dynamic. The creative economy continually expands new opportunities and resources for creative workers, intermediaries, and publics – for instance thanks to digital tools, innovation and investments. Legal and political measures should therefore not only reallocate existing value but also account for the evolving and growing nature of this 'pie' (see Chapters 4 and 5).

Importance of culture

CCS plays a central role in culture, a society's ability to make the world habitable, in what makes a society (Carney, 2021). The term culture derives from the Latin *colere*. In early Roman antiquity (3rd century BC), it expressed the act of cultivating or caring for the earth and the gods. It evolved to express spiritual development through study during the Age of Enlightenment (18th century), civilization in the Industrial Revolution (19th century), and, more recently, human distance from the animal world (Romainville, C., 2014; Walter, 1969). Today, the term culture is polysemous. It covers a variety of meanings, all of which are broadly linked to the construction of individual and collective meaning, ranging from human ways of life to work on the subjectivity of creative and aesthetic works (Benhamou, F., 2017; Romainville, C., 2014).

Culture has an individual dimension as a vector of identity and a collective dimension as a vector of social cohesion within a community (Office Fédéral de la Culture (OFC, 2024) As a vector of identity, culture develops the individual aesthetic sense as well as the personal ability to communicate, express oneself, and judge (Faber, 2024). It enables personal identity to evolve in phase with the nature of the population that makes it up. We can talk about narrative identity, that is to say, that the individual or community builds its identity on the basis of its own history as well as on narratives, fictional and real, that may be in dialogue. As a vector of social cohesion within a community, culture creates social bonds and fosters dialogue and collective adherence to shared cultural referents (Benhamou, F., 2019). In this way, cultural goods play a part in working out the meanings of society, fuelling discussion of individual and collective values, and promoting personal fulfilment and social cohesion (Romainville, C., 2014).

It should be noted that sectors other than CCS also contribute to the development and promotion of culture. This is the case of science and

education with universities, schools, or public institutions with public funds allocated to socio-cultural projects and authorities in charge of culture. This is also the case of associative sectors and non-governmental organizations like cultural associations and specialized NGOs. This also includes the technology sector like platforms, social media, technology companies developing AI tools, VR/AR, and video games, offering new cultural, educational and interactive experiences (Martin and Koutchouk, 2020) (Masure, 2023d). This is finally the case of tourism, developing cultural tourism, or themed tours, and of religion and spirituality with religious institutions involved in preserving cultural traditions and rituals.

2

Digital Transformation of the Creative Value Chains

Generalities

Digital is transforming the creative value chain (CVC). Digital is understood here as digital technologies including streaming and sharing platforms, AI, non-fungible tokens (NFTs), and blockchain (hereinafter AI+Web3), as well as other technological innovations such as virtual reality and augmented reality (hereinafter VR/AR).

Digital technology adds new means of creation and production, in particular new tools enabling creators to create and produce works in new formats, more autonomously, more quickly and at lower cost (Arora and Vermeylen, 2013; European Commission, 2017; Benhamou et al, 2024). It also adds new means of distribution and consumption, enabling creators and audiences to interact directly, new means of collaboration and monetization that open the way to new markets (European Commission, 2017; Redlich, Moritz, and Wulfsberg, 2019; European Commission, 2022b). This brings with it new stages and new players in the chain. We have moved from a linear value chain with a few players controlling its value to a *non-linear* value chain with multiple players in which established platforms and players occupy a dominant role. There is also a broadening of the notion of players, with human players like rights holders, intermediaries, authorities, and the public as well as non-human players like algorithms and interfaces (see Chapter 3).

Our analysis focuses mainly on *three sectors*: *music*, because it is one of the first sectors to be most radically transformed by digital technology, with the domination of streaming (IFPI, 2024). Music also straddles the cultural sector (performing arts with live music) and the creative sector (streaming with recorded music); *visual arts* because it is the sector most resistant to change, with public information assets, unique and irreplaceable experience (Prendergast, 2014); and *video game* because it is an economically dominant

sector within the cultural and creative sectors (CCS), generating greater revenues than those of the film and music industries combined (Clément, 2024). For the purposes of analysis and implementation within the CCS, we will refer from time to time to other sectors, such as books and audiovisual.

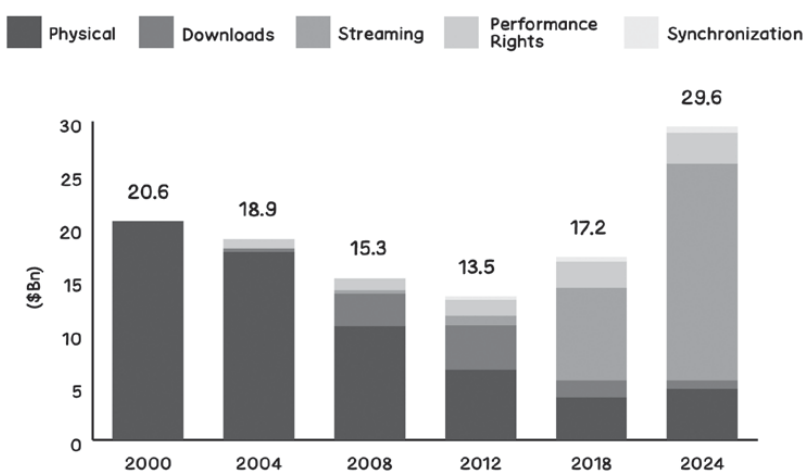
Music

Typical routes and players in the chain

Music was one of the first sectors to be most radically transformed by digital technology, with streaming disrupting music distribution, transferring monopoly from labels to streaming platforms (Krim, 2025a). Today, streaming dominates the music value chains, accounting for 70 per cent of global recorded music revenues in 2024 compared to other revenue sources like physical, downloads, performance rights, and synchronization (Dolata, 2020; IFPI, 2024) (see Figure 2.1).

A musical work is above all an experience good. Originally, it was a collective, living, immaterial experience based entirely on orality and live performance, whether on rudimentary bone flutes from 40,000 years ago or melodies and rhythms based on the memory of musicians and transmitted from generation to generation without recording. Subsequently, it gradually materialized through tangible formats, first with the appearance of musical notations and scores (Middle Ages, Renaissance), then in recordings on the phonogram and the record (19th and 20th centuries, respectively). This materialization of music supports (scores, recordings) led to the development of the written music industry and later of the recorded music industry. Music again became dematerialized in the form of digital files (MP3, or on

Figure 2.1: Global recorded music industry revenues



a streaming platform) independently of any tangible support (Sterne, 2012; Hui, 2016). This transition from the tangible to the intangible has earned it the title of 'information good'. Later in the chapter, we will focus on the recorded music chain, given its economic weight and its importance in the daily lives of the entire population, not forgetting here and there other sources of revenue, including live performances and synchronization.

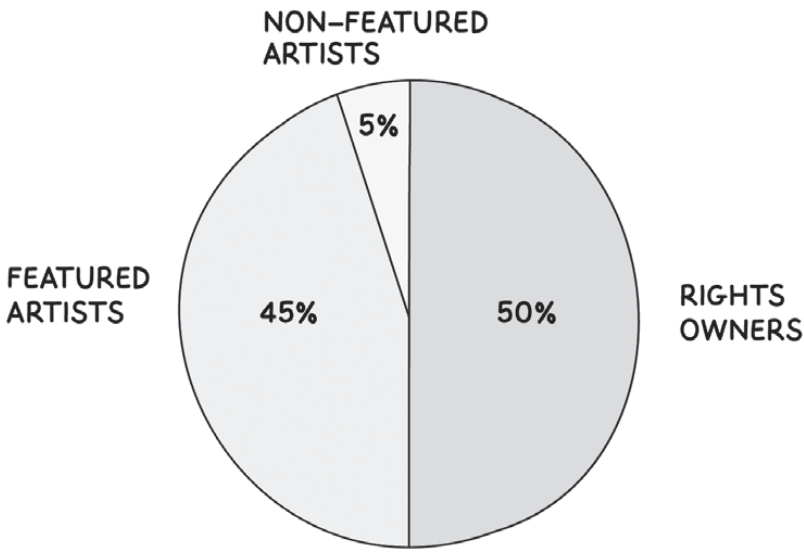
The music chain usually comprises *several stages*, from creation to reception, with each stage highly dependent on digital technologies and new business models (European Commission, 2017; Dolata, 2020). The *creation stage* involves several players. Songwriters who create the music, often organically with several musicians and other artists without clearly defining the roles from the outset, through jam sessions or residencies lasting a few hours, days, or weeks. These roles, which are often ill-defined from the outset, become clearer as money becomes involved. Arrangers and artistic producers adapt a work for recording and public performance, and performers rehearse the work, record it, or play it in public. The accessibility of digital tools sometimes makes creation faster with sound banks and creation tools. This accessibility leads to overproduction and the need to stand out in the crowd as explained below.

A distinction is often made between different types of musicians: authors and performers (hereinafter collectively referred to as 'artists') (Castle and Feijóo, 2021). Authors include artists who write music and/or lyrics (songwriters) and artists who also perform their own music (singer–songwriters). They generally hold copyright in the form of publishing rights, jointly with the publisher, often managed via collective management organizations (CMOs). Authors therefore have a source of income, in particular via their publishing rights managed by CMOs. By 2024, their growing activity will account for 30 per cent of the recorded music market (Page, 2021b).

'Performers' includes featured artists and non-featured artists (or session musicians). Featured artists record or perform live and are credited as such. They generally hold master rights, the distribution of which is agreed upon with their labels, and receive royalties on the exploitation of the recording (streaming and synchronization rights) (sometimes around 45 per cent of the royalties).

Non-featured artists (or, session musicians) participate in live recordings or performances by playing musical parts assigned by the producer/songwriter (Vanherpe, 2025). They are sometimes credited, for example on physical media or on certain streaming platforms, such as Tidal, and sometimes in live performances (Vanherpe, 2025; Commission, 2025). They are often paid only once, in the form of buy-out, a lump-sum payment, or salary at the time of recording, and they receive no or few royalties (for example, in case of certain collective agreements like those of the American Federation of Musicians in the United States) (sometimes around 5 per cent of the royalties). As an outcome, for instance in the US for digital performance, the royalty

Figure 2.2: Royalty sharing for digital performance set by the US CRB



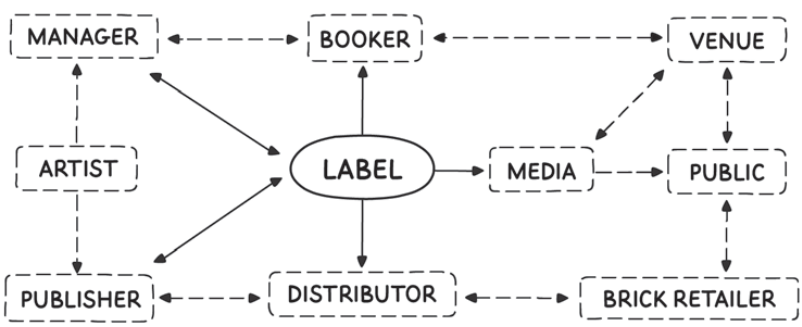
sharing between authors (holders of the recording master rights) and featured interpreters (recording artists) is 50/50, whereas sometimes non-featured interpreters receive 5 per cent. Figure 2.2 is inspired by SoundExchange and allows for the visual representation of royalty sharing between rights owners, and performers, both non-featured and featured artists.

Within these two types, there is great diversity, from singers to multi-instrumentalists. Musicians featured as lead artists on one record may be session musicians on another, and vice versa. The process of creating music varies considerably between genres. In classical music, musicians are generally easy to categorize because they either perform or compose music. In contemporary music or jazz, musicians often do both. In today's music, the artistic process ranges from singer–songwriters and independent folk bands who write their own music to pop stars who perform melodies entirely composed by a team of songwriters working together. A final category of musicians is made up of DJs, whose status as musical creators and/or performers is the subject of debate (Vanherpe, 2025).

The *production stage* involves several players. Record companies known as 'labels' ('majors': Universal, Sony, Warner; and independent labels), distributors ('majors': the Orchard, Virgin, AWAL; and independent distributors) who finance, register and manage the rights and develop artistic projects (A&R, artists & repertoire). Producers invest in recording and supervise artistic creation and commercial production. Sound engineers and mixers provide recording studios and their know-how to capture and produce the music (European Commission, 2017).

The concept of a label covers different realities. Traditionally, the label finances and monitors all stages of the disc (recording, mixing, mastering, and pressing). Sometimes, the label limits itself to the production of the disc (mastering and pressing, leaving the recording costs to the artist) or to the distribution of the artist (Bing, 2024). In these two cases, it takes on the role of distributor with distribution contracts rather than that of a label (Mulligan and Cirisano, 2024). It should also be noted that the label's role is central to the career and value of an artist. It generally takes on a financial risk that the artist is unable or unwilling to assume, especially in cases where the label finances the entire project. It protects itself, given the uncertainty of success, especially for emerging artists, by claiming a large share of the revenue generated over the long term. The label also often allocates an advance to the artist so that they can make a living from their art before the project becomes profitable. The label generally provides the artist with its network and with money to produce the album, gain access to performance spaces, key media, and effective distribution. An artist who is represented by a label (or a manager or tour manager) is worth more on the market. Recent reports conclude that artists signed to labels earn significantly higher incomes than those who work independently, highlighting the value that labels bring and explaining the demand for their services (CMA, 2022). In addition to investments, labels identify talent, produce recordings, run marketing campaigns, analyse market data, support touring, and develop revenue streams. They also invest in legal teams to actively monitor markets and prevent unauthorized use and copyright infringement (IFPI, 2024). Thus, despite the myth of the independent artist who can do without an intermediary thanks to digital technology, the role of the labels remains central and impacts the artist's value and income. This echoes the notion of non-linearity mentioned previously, where established platforms and established players play a decisive role in value. Figure 2.3 allows for the visual representation of label roles and interactions (Bing, 2024).

Figure 2.3: Label roles and interactions

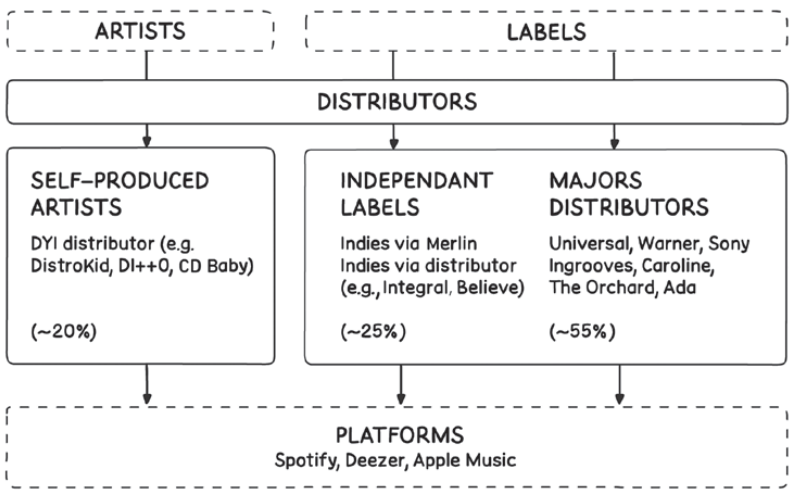


That said, with today's AI tools and social media platforms, artists can directly manage both marketing and fan engagement (often called fandom management) without relying entirely on labels or traditional public relation teams. This forces labels to wonder what value they are really providing here, to adapt and reinvent themselves. For instance, labels launched multiplatform campaigns and formats to maximize the artist's reach across social media, streaming services, and live events. Others target market segments such as the middle tail to avoid to compete with majors and superstars.

The *distribution stage* involves several players: distributors who supply the physical media to shops (CDs, vinyl), streaming platforms, social media and radiocasters that ensure online distribution (Spotify, Apple Music, Amazon, Deezer, YouTube, Bandcamp, Quobuz). Then, there are distributors and digital aggregators who place music on online platforms and ensure that it is available on platforms (DistroKid, TuneCore, CD Baby) (Mulligan and Cirisano, 2024). Labels generally have their own distributors, while independent artists generally go through an aggregator. Independent labels often negotiate their distribution contracts through Merlin, a kind of licensing centre for independent labels, enabling artists to access the same commercial opportunities as the majors and maximize their digital revenues (see Figure 2.4).

The *promotion stage* involves several players: radio programmers and consultants who select the artists and songs to be broadcast (curators), identify new talent through labels, platforms, showcases and recommendations from other professionals (talent scouts); digital marketing consultants and data analysts who monitor audience statistics, rankings and listener feedback to

Figure 2.4: Music distributors



adjust playlists; press attachés who promote artists to traditional and digital media; communications agencies that create advertising campaigns, video clips, and promotional content; social media and influencers who amplify the visibility of artists to a wide audience; public relations agents who manage an artist's image in the media (European Commission, 2017). The global nature of the music channel and its dependence on algorithms requires a continuous strategy to stand out and not fall back into the crowd. It will be a question of deciding on the marketing strategy, either to orient it globally in order to reach a global audience and avoid bubbles of too local confinement or to orient it locally in order to reinforce the value of the artist in local bubbles (Page, 2021b).

The *live performance stage* involves several players (European Commission, 2017): authors and performers who play music at concerts, showcases, and jams, occasionally or as part of tours; sound engineers, lighting technicians, interactive designers, dancers and other performers who are increasingly involved in the creative process not only during live performances but also beforehand during rehearsals and residencies to create an experience that is coherent, interactive, lively, and innovative; tour operators and agents who organize concerts and tours by negotiating with venues and festivals; and concert promoters who handle the logistics and promotion of live events. In addition, there are concert halls, shows, and festivals that host performances or even provide a direct platform for artists, and sell merchandise during concerts (t-shirts, posters). Today, festivals are adapting to the new paradigms of the music industry. The Montreux Jazz Festival defines itself as a musical ecosystem that offers experiences for artists and music lovers through innovation, for example using musical NFTs and enabling artists to sell limited editions of their music and festival-goers to resell their tickets, all while eliminating scalpers (Jaton, 2023).

The *reception stage* involves several players: the public, which listens by streaming, downloading, connecting with artists via platforms, or experiencing live concerts; critics (media, music blogs, radio, specialist magazines) and influencers who play a role in discovery and appreciation.

The *valorization stage* involves several players: anyone aiming for secondary operations, that is to say, any derivative operations generating additional income outside traditional methods such as record sales or streaming. This includes the re-release of music catalogues, derivative products, and immersive experiences (merchandising, exhibitions and virtual concerts). Valorization also includes the placement of music in media – synchronization – for use on visual media (films, series, advertising, video games), for which the rights and remuneration are set out in user licence agreements and vary according to factors such as the popularity of the artist or title, the duration of use, the geographical scope (Lacourt, Radel-Cormann, and Valais, 2023). We can also include fundraising activities,

through consultants who activate their own networks or through platforms, such as GoFundMe, which allow artists and labels to raise funds directly from their audience. Finally, this stage includes archive management (preservation and exploitation of historical records), which not only can increase an artist's value (see Chapter 2 for visual arts and Chapter 1 for cultural heritage).

The *rights management stage* involves several players (European Commission, 2017): CMOs (for example, SACEM, GEMA, BMI, ASCAP), which collect and redistribute copyright and neighbouring rights such as reproduction and communication rights linked to streaming and synchronization rights linked to the use of music in films, series or commercials. It also includes the state and cultural bodies that provide subsidies, production aid and support for creation and the trade associations that support and structure the sector (SNEP, CNM). Recently, this stage of rights management has undergone significant change and become more complex, on the one hand with a concentration of digital rights towards large CMOs like SACEM (France) and GEMA (Germany) as well as ICE (Europe) and, on the other hand, with the emergence of new players such as Kobalt Music Group, disrupting the value chain and increasing the value paid to authors and publishers (see Chapter 2).

Kobalt is a music rights management company for songwriters and publishers, using a proprietary technology platform (Amra) to track music usage worldwide (streaming, TV, radio, concerts). It acts as a service provider to in exchange for a commission of 10–15 per cent of the revenue collected, while artists retain ownership of their copyrights. It collects the fees directly towards streaming platforms via Amra and worldwide licences and enable artists to track all income and music usage via a transparent dashboard. Kobalt enables to bypass traditional CMOs that are mostly limited geographically and to licence copyrights for not yet occupied market like AI licensing. For instance, it made a licensing deal with ElevenLabs for an AI text-to-music tool. The deal is opt-in only. The deal also contains an MFN clause, guaranteeing that Kobalt's representatives receive the same favourable terms as any other labels and publishers of ElevenLabs. The payment model considers how many songs an artist elects to put in the dataset, then determines how popular a song is by referring to 'proxies' (like streaming numbers, sales) (Robinson, 2025a).

Music is characterized by a wide variety of fields and styles, each with its own realities (classical/contemporary music, recorded/live music, local/export). In classical music, a concert pays all the musicians for several rehearsals and a performance, while in jazz musicians play often to make a name for themselves and earn an income, with the risk of saturating the stage (sometimes called the 'music paradox', or the 'jam session syndrome'). However, these fields are permeable. Think the metal band Gojira, winner

of the 2025 Grammy Awards, which performed with the opera singer Marina Viotti. Music chains are also characterized by players' fluid roles – a manager can take on several roles, including that of booker, artist, composer, arranger, distributor, or producer – and hybrid teams of professionals/non-professionals and musicians/technicians. It is often advisable to emphasize the artist's originality, its ability to stand out from the crowd. Some musicians have a huge community but do not perform concerts, while others have a strong local community from frequent live performances (Mulligan and Cirisano, 2024).

Digital technology impacts every stage of the music CVC (European Commission, 2022b). Music was one of the first creative sectors to be radically transformed by digitization, with file sharing (1990), streaming (2000), generative AI (2020), and Web3 (2022). Streaming dominates how the general public listens to music on streaming platforms (Spotify, Deezer) and on social media (TikTok, Instagram). Behind these business models (Kusek and Leonhard, 2005) lies an unequal distribution of income (so-value 'value gap' developed below) and the exploitation of personal data via algorithms to improve the services or to monetarize targeted advertising (Bensamoun and Farchy, 2020; Eriksson et al, 2019; Centorrino, Naciti, and Rupo, 2022) (see Chapter 3).

In addition to streaming, AI tools are transforming the value chain (Anderson et al, 2020; Goldmedia, 2024) with composition applications, making it possible to draw inspiration or imitate the style of living or deceased artists at the creation stage (O'Connor, 2022), mastering at the production stage, and personalizing or identifying tracks during the reception stage (Bensamoun and Farchy, 2020; Hernandez-Oliva and Beltran, 2022).

Web3 is also transforming the chain, by enabling automated and decentralized revenue management or facilitating the involvement of communities around an artistic project (Potts and Rennie, 2019; Favreau, 2020; Ohlhaver, Weyl, and Buterin, 2022).

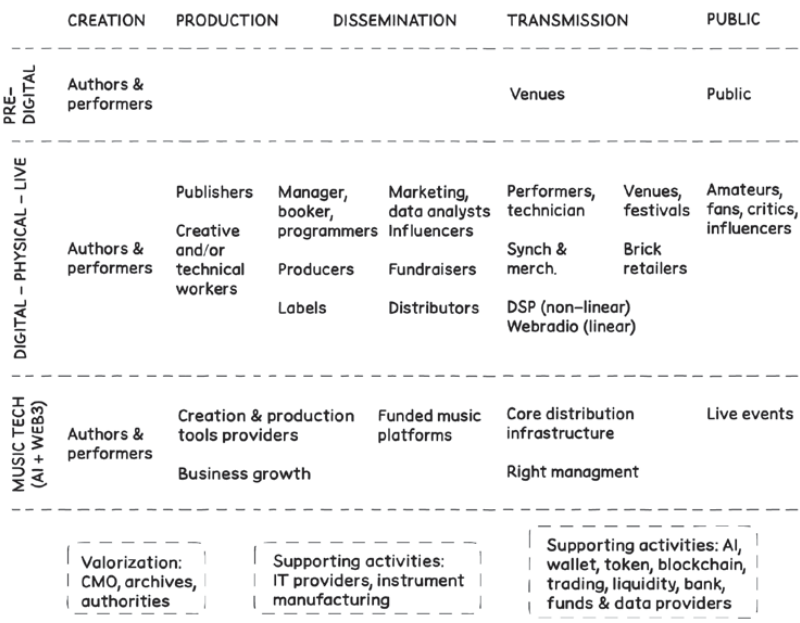
Digital technology also reinforces artists' dependence on intermediaries such as record labels, distributors, and aggregators, who place music online and collect the revenue (see Figure 2.5).

The domination of music streaming

Transformation of the music industry

The music industry has undergone a radical transformation over the last few decades, moving from the era of the record to a diversification of revenues – streaming, synchronization, performance rights – and the domination of streaming, which emerged as a response to the crisis in the record industry as a result of file-sharing and piracy (Dolata, 2020; Page, 2021a). It has

Figure 2.5: Music CVC



developed rapidly to become the music industry's largest source of revenue. Today, streaming accounts for 70 per cent of the global recorded music industry's revenues (Page, 2021a; IFPI, 2024).

Streaming platforms (Spotify, Apple Music, Amazon Music, Deezer, YouTube Music, SoundCloud, Bandcamp, Quobuz, Tidal, Tencent Music) have disrupted music distribution, becoming the main distribution channels for recorded music, offering users unlimited access to millions of songs (Rifkin, 2000; Dolata, 2020). Hence there is a transfer of monopoly of music distribution, from labels to streaming platforms (Krim, 2025a). In addition to streaming platforms, sharing platforms – TikTok, Facebook, Instagram, Snapchat – enable internet users to share their content, often involving music.

In the *streaming economy*, Spotify dominates the market with over 650 million users worldwide, giving access to a gigantic global jukebox with 100 million tracks in 2024 (Rifkin, 2000). The streaming business model is based on subscriptions and advertising, which involves the collection and use of personal data via algorithms to improve the services or to monetarize targeted advertising (Eriksson et al, 2018). A stream on Spotify only triggers payment after 30 seconds of listening, which influences the conception of tracks and encourages musicians to compose catchy songs from the outset (see Chapter 3). Spotify provides a revenue sharing model with a royalty split of 30/70, where Spotify retains 30 per

cent and distributes 70 per cent to rights holders (to be redistributed among multiple rights holders).

In the *sharing economy*, YouTube has long dominated the market, with over 2.5 billion users in 2024, focusing on long-form and short-form videos with strong search/discovery tools. YouTube's business model is based on targeted advertising, monetization of videos and music partnerships. It pays creators through ad revenue sharing – with a royalty split of 55/45 for long-form videos and 45/55 for shorts plus 70/30 for fan-funding features. More recently, TikTok has gained important market share, with over 1.5 billion users in 2024, focusing on short videos, often accompanied by music. The platform acts as a springboard for music promotion, influencing trends and streams on other platforms. TikTok influences the way in which Internet users design their videos and associated music, in particular by limiting music imported from the TikTok library to 60 seconds (personal music brought in by the Internet user, on the other hand, is limited to the duration of the video, which is currently ten minutes). Most successful videos on the platform are 15–60 seconds long. Like YouTube, TikTok's business model is also based on targeted advertising, monetization of videos, and music partnerships. It pays creators through its ad program (TikTok Pulse), and it offers a royalty split of 50/50 and its Creator Rewards pay per view rather than a percentage of ad revenue (around USD 0.40 to USD 1.00 per 1,000 views).

The two types of platforms influence each other through multiple links (Mulligan and Cirisano, 2024). TikTok includes a music catalogue that Internet users can associate with their videos. It not only monetizes the music associated with the video with remuneration based on the number of videos created (approximately USD 0.003 for each new video using music), but it also links to the catalogue on Spotify, which influences the number of streams on this platform. According to a recent Luminate report in which TikTok participated, TikTok has announced that 84 per cent of the songs that made it onto the Billboard Global 200 in 2024 first achieved viral success on TikTok and that 74 per cent of TikTok users discover or share music. Spotify collects audience data, not only to use it internally to improve and develop its services but also to share it externally in order to monetize it with advertising agencies such as Facebook. Spotify also allows short videos in the same format as TikTok to be associated with its catalogue. In this way, Spotify is transforming itself into a social platform that exploits user data, going far beyond the simple role of streaming music content (Eriksson et al, 2019). The research project at the University of Geneva with a group of students who made access requests towards Spotify, then pooled their Spotify user data confirmed the extent to which user data are shared with third parties (over 20 businesses, including social media, advertising agencies, advertisers, audience measurement companies) (Clinics, 2024). TikTok is transforming

itself into a streaming platform with music content associated with videos and a link to the Spotify catalogue, influencing trends and streams on it.

In terms of profitability, until 2024, Spotify always reported no net profit despite a significant turnover until 2023 (EUR 13.2 billion in 2023). Similarly, TikTok seems to make no net profit despite a significant turnover (USD 16.1 billion in 2023). This is due to massive investments in R&D and marketing, while continuously attracting numerous investors and enabling global expansion (Clinics, 2024). As a result, Spotify and TikTok remain loss-making despite substantial revenues. This lack of profits enables them to level down royalties paid to the artists. In the case of Spotify, majors are offered a stake in their capital with a guarantee of income in the form of dividends (Krim, 2025a). In the case sharing platforms like TikTok and YouTube, platforms hide behind the no-liability argument ('safe harbour' regime), according to which sharing platforms are not liable for content shared by their users (Pessach, 2016, see Chapter 4). These strategies and legal framework enabled streaming and sharing platform to become and to maintain a dominant position.

Streaming economy

The streaming economy is segmented by revenue. Revenue from subscriptions or advertising is shared among multiple players, with artists and labels receiving a fraction per stream, which is very low even though the volume of streams has exploded, benefiting large platforms and repertoires already established in a saturated market (Dolata, 2020; Benhamou, Y., 2024). This *segmentation of revenues* was already present in the era of the record. In the traditional record model, revenues came mainly from physical sales (vinyl, cassettes, CDs) in the form of royalties shared among a few players (artists, labels, distributors, retailers). This led to potentially high earnings if the record was successful but also to financial risk if sales did not follow (Mazziotti, 2019). According to a study on Swiss artists, contrary to popular belief, most artists did not live off physical sales or royalties but mainly from live performances and merchandizing (Bataille and Perrenoud, 2016). Artists, especially the less established ones, often received small royalties after deducting advances and production costs advanced by the labels. More than royalties or record sales, income from live performances was the main source of income. Thus, only a minority of very popular artists managed to generate significant income from physical sales, while the majority continued to depend on income from live performances (Bataille and Perrenoud, 2016).

Streaming has only reinforced this dynamic. Artists continue to rely on live music to supplement the low revenues from streaming. But live opportunities vary from country to country, and even from zone to zone. In countries such as France (CNM, 2021), live seems to be doing well. Conversely, in countries

like UK, live seems to be in crisis (Meyrick, 2024) to the point where we might wonder whether we're entering a new era in which live music leaves the heart of the business model and artists have to find other sources of income. For instance, instead of earning from live or royalties, certain musician generate revenue by selling sheet music arrangements on platforms like MusicNotes and Sheet Music Plus. These sites allow independent composers to upload and monetize their scores globally. As for streaming, artists must accumulate a large number of streams to earn the same income as in the record era. This model has benefited the major platforms and established catalogues, while emerging artists face increased competition for attention in a saturated market. It should be noted that, unlike records, which follow a fleeting success curve, streaming generates recurring income that can be spread over the long term but in small amounts with low royalty rates and complex agreements on the distribution of income between artists, labels, and platforms (Passman, 2023). This is especially true since streaming has given recorded music a remarkable boost; people listening to music daily (excluding radio) increased from 34 per cent in 2008 to 57 per cent in 2022 (Ministère de la Culture, 2022). It would be interesting to analyse the link between live music and streaming. As streaming makes access to and listening to music commonplace, it could be seen as a factor in the rise in ticket prices to attend live shows. This avenue, barely explored, is beyond the scope of this work.

From the artist's point of view, streaming brings in little. The sums paid out for listening to a work are increasingly divided between numerous players. Streaming is more a promotional tool, enabling artists to forge links with their fanbase. But it does not enable artists to earn a living; only one per cent of musicians have significant income from streaming (Benhamou, Y., 2022). As a result, artists cannot rely on streaming and must diversify their income. Often, they draw their income from concert fees and artistic or food jobs. That said, this situation was present in the recording era, when few artists lived from record sales and had to diversify their income-generating activities (Bataille and Perrenoud, 2016). What is different today is that it can be difficult to earn income from live performance in regions where live performance is in crisis because, for instance, there are few concert halls or markets are saturated. Equally difficult is capturing the public's attention in an oversupplied, oversaturated market (see Chapter 2).

From the consumer's point of view, music becomes a service, a constant stream (Music like water) (Kusek, 2005) to which consumers can connect at any time. This reinforces the idea of unlimited access to music, where consumers pay for a service, access to an unlimited music library, rather than for each individual track or album (Rifkin, 2000). This approach emphasizes the musical experience rather than ownership, reflecting the evolution of consumer behaviour in the digital age. The value of music no longer lies in the sale of physical products, but in the experiences associated with listening

to concerts, interacting with artists and, where appropriate, and attending virtual or face-to-face events such as live concerts on Facebook or TikTok (Kusek and Leonhard, 2005). On the other hand, this constant flow tends to devalue music, turning it into mere background noise ('backgroundization'). This calls for alternative platforms centered on artists, on specific musical genres, or on forms of 'slow listening' that are less dependent on algorithms (see Chapter 6). Once again, it would be interesting to study the link between streaming and the price of live tickets (see above).

Unequal distribution of income (value gap): multiplication of intermediaries and fragmentation of royalties

In streaming, there is an unequal distribution of income, that is, the revenues resulting from digital exploitation are not being returned fairly to those who create, own, and invest in the music (so-called 'value gap') (Castle and Feijóo, 2021; Cherpillod, 2022).

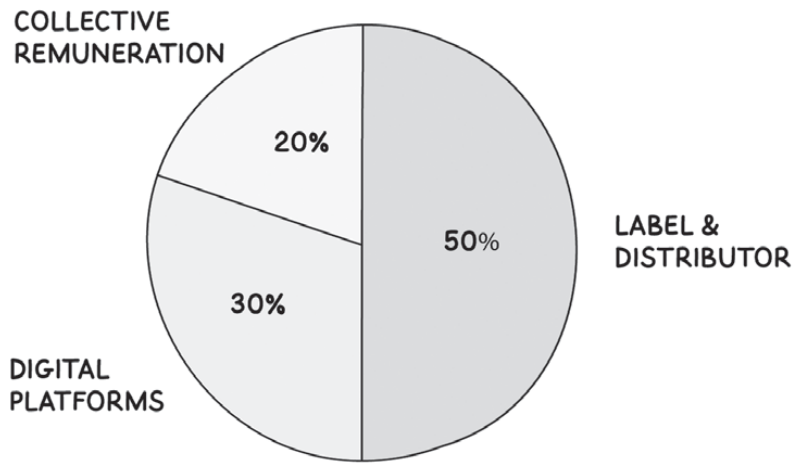
Streaming, now the music industry's largest source of revenue (see above), distributes income from subscriptions and advertising between artists, streaming platforms, labels and distributor-aggregators (Priest, 2021; Lacourt, Radel-Cormann, and Valais, 2023).

The distribution of revenue between rights holders varies according to the type of streaming, which we can divide into two categories: on-demand streaming (interactive) and radio streaming (non-interactive).

On-demand streaming (also called *interactive* streaming) (Spotify, Apple Music, Deezer, YouTube Music, Tidal) consists of a music library that users choose to listen to on demand. It triggers the communication right (and the reproduction right for storing the track on the database of the platform), whose neighbouring rights are generally subject to optional collective management and freedom of contract. The platforms share their revenues to the rights holders (after deducing their commission of approximately 30 per cent): 20 per cent in copyright to the CMOs for authors and publishers (holders of the editorial licence) and 50 per cent in neighbouring rights to the labels and producers (holders of the recording master rights), who redistribute to the artists the amounts stipulated in their contracts, from 50 per cent to zero when the performers have assigned their rights upstream at the time of recording (Castle and Feijóo, 2021; Lacourt, Radel-Cormann, and Valais, 2023; Benhamou, Y., 2024; EUIPO, 2025) (see Figures 2.6 and 2.8).

Radio streaming (Pandora, iHeartRadio, Deezer Flow, online radio stations such as Radio.fr) consists of a linear stream of tracks programmed in the same way as traditional radio. It triggers the distribution right, often subject to mandatory collective management. The platforms share their revenues according to a rate per listen determined by the collecting societies: approximately 80 per cent to the rights holders. Their distribution

Figure 2.6: Distribution of streaming revenues



is made up of about 50 per cent for the labels and producers (directly via the radio), 45 per cent for the performers, and 5 per cent for the songwriters and publishers (indirectly via the CMO) (Castle and Feijóo, 2021) (see Figure 2.8).

With on-demand streaming, labels and producers earn more because they keep a larger share of neighbouring rights, and songwriters are better remunerated because their share of copyright is higher. Conversely, with radio streaming, performers earn more because they receive a share of neighbouring rights directly, without going through a label. Consequently, an independent artist might prefer radio streaming, while an artist signed to a label might prefer interactive streaming.

We can add a third category of streaming: *semi-interactive streaming*, which allows the user to choose to listen to tracks from the catalogue on demand and/or to have content recommended via pre-programmed playlists ('Discovery mode' or 'Go to song radio').

Yet streaming generates almost no income for artists, even for those with large audiences. This is due to the low level of remuneration per listen. On Spotify, the average income per stream varies according to several factors (type of subscription, country, agreements with labels), but it is generally estimated that a stream earns between USD 0.002 and 0.005 according to the royalty calculator. It therefore takes 1 million streams to generate USD 2,000 to 5,000. And when income is paid out, it must be shared with several stakeholders, including the labels (Benhamou, Y., 2023). At the same time, social media have continued to develop to the point of becoming an alternative to music consumption (TikTok and YouTube Music in 2016), contributing to level down royalties: first, by refusing to contract licences with rights holders (for synchronization

rights) on the grounds that the platform is merely an intermediary between content creators and Internet users (no-liability 'safe-harbour' argument) and, second, by negotiating down royalties on the grounds that music is merely incidental to short videos. This was well reflected in the standoff between TikTok and Universal in 2024, which finally led to a licensing agreement for the 7 million songs in Universal's catalogue in the TikTok database (Rahman, 2024).

This situation has prompted artists, like Taylor Swift in 2013, Thom Yorke in 2013, and the association UMAW (Union of Musicians and Allied Workers) with its Justice campaign at Spotify in 2021, to complain about insufficient revenue. After years of complaints and pressure, these reactions have finally led the sharing platforms to accept better agreements with the industry. They have also led some streaming platforms to propose other sharing models, moving from market-centric to user- or artist-centric methods (CNM, 2021; CMA, 2022). The *market-centric method* of Spotify, Apple Music, Deezer, and YouTube Music is the dominant model. Revenues are put into a 'common pot' which is distributed according to the popularity of the artists. In this way, artists are paid in proportion to the number of total monthly listens, giving the biggest slice of the cake to the most popular and leaving crumbs for lesser-knowns (CNM, 2021a; CMA, 2022). For example, if a track is listened to 10 times out of 100 by one person, it will receive 10 per cent of the total revenue. So, a subscriber who pays EUR 10 will see most of their money go to the most popular artists. If Universal has 50 per cent of the total listens on Spotify in September, Universal will receive 50 per cent of Spotify's revenue in September in the country concerned, after deduction of the platform's commission (30 per cent) and the royalties deducted by the collecting society (10–15 per cent).

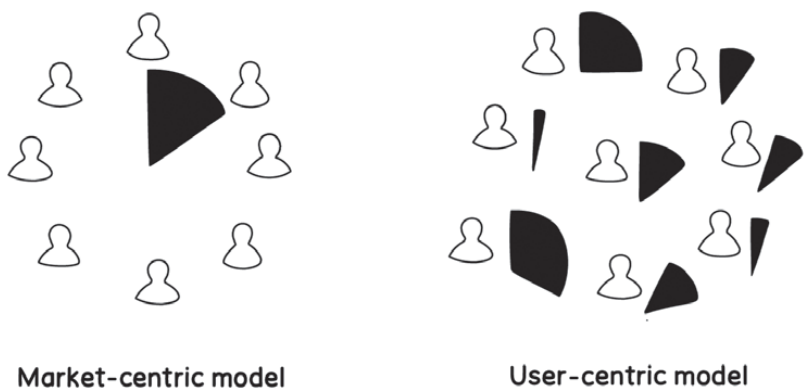
The market-centric method has been called into question, notably by Deezer and the Musicians' Union (UMAW, Justice at Spotify), on the grounds that it favours the most popular artists to the detriment of emerging artists. Other methods have been tested, such as the user-centric (Deezer in 2019, Soundcloud in 2021) and artist-centric (Deezer in 2023, Spotify in 2024) methods (CNM, 2021). The *user-centric method* remunerates the artist according to the number of actual plays per user. The subscription paid by a user goes to the artists they have listened to. For example, if a track is listened to 10 times out of 100 times by one person, the artist will receive CHF 10 from the listener and not 10 per cent. However, this other method has also been criticized. It favours less-listened-to artists and puts successful artists at a disadvantage (rap artists, whose income would fall by around 20 per cent). Some of these successful artists, rap in particular, are complaining that they were stigmatized in the pre-streaming era and that they are now driving the streaming industry. The *artist-centric method* (Deezer, 2023, Spotify, 2024) focuses on professional artists, artists

with a minimum of 1,000 streams per month and a minimum of 500 unique listeners, and provides for double remuneration (a kind of bonus) from 7.5 million streams. However, this other artist-centric method has also been criticized on the grounds that it has little tangible impact on artists' incomes because of the multiplicity of contracts and the associated segmentation of revenues (Moreau et al, 2024). *Other methods* have also been envisaged, such as paying differently according to the length of listening and the track (a 30-minute symphony would pay more than a 30-second track) and according to whether listening is 'active' or 'passive'. For example, an active search or saving to a playlist would pay more than listening according to algorithmic recommendation. Figure 2.7 is inspired by CNM (CNM, 2021) and shows visually the two main payment models on streaming platforms.

Beyond the methods of calculation, the rise of free streaming has levelled down the amounts paid (sometimes 100 times lower than linear radio) (Flew, 2013; Loignon, 2024), leading rights holders and collecting societies to try to renegotiate royalty rates upwards (Priest, 2021).

In addition to copyright issues and the distribution of royalties, there are other problems, such as the explosion of new content on platforms to capture a share of revenues. These problems include *market manipulation fraud* that artificially inflates the number of listens and capture a share of the revenue, for instance, tracks generated by 'fake' artists and streamed by 'fake' listeners (click farms, which appeared on Spotify since 2016) in order to capture a share of the revenue (Le Figaro, 2022; Pagesy, 2025; Pelly, 2025). In 2025, 20 per cent of online content is generated entirely by AI on Deezer (more than 20,000 titles per day) (Camus, 2025). Streaming platforms have claimed to start fighting against market manipulations, for instance by requiring users to declare if an AI tool was used in the creation of a track and by

Figure 2.7: Main payment models on streaming platforms



demonetizing these contents. However, these announcements of streaming platforms to fight market manipulations does not clarify how thousands of AI-generated tracks, attributed to 'fake' artists, have impacted royalties dilution. Yet, streaming platforms have amassed thousands of plays, reducing real royalty payouts.

In addition are ambient tracks or sound noises (for example, waves, wind), often generated by AI models, which are inserted surreptitiously into playlists. We are also seeing records that becomes public domain after the expiration of copyright protection (classics like early jazz albums), leading sometimes obscure labels to put multiple tracks on streaming platforms, adding to the stack of songs and increasing market congestion (Richard, 2025). We are also seeing the return of a form of payola (payment to the platform for priority airplay of one's artist) in how songs are placed in playlists using discovery mode, in exchange for a partial waiver of royalties (Milmo, 2025). The streaming platform Tidal was actually accused of this payola in 2018, for manipulating streams by artificially inflating listens to albums by Beyoncé and Kanye West, which led to an investigation in Norway for copyright fraud and data falsification (Eriksson et al, 2019). There are also cases of original tracks being modified to avoid the copyright detection system, which compares recordings with originals on streaming and sharing platforms (YouTube, Spotify, TikTok). This is achieved through speeding up or slowing down the song, pitch shifting, or adding audio effects (reverb, echo, distortion, lo-fi or vintage effects). It also involves cutting up or rearranging a track, such as changing the structure of a song by cutting out parts, reversing certain sections or mixing several tracks (mash-up), often with the help of AI tools to generate a fluid transition between tracks. This also involves the AI generation of similar tracks to create a song; it is akin to copying existing music inexactly and thus benefiting from a popular style without any direct legal risk. For instance, Boomy or Suno generate songs that imitate an artist's style without directly reproducing their work. Faced with this phenomenon and fighting against fraud to protect remuneration, platforms are organizing and proposing demonetizing content generated by AI tools (Moreau et al, 2024).

That said, these cat and dog techniques between platforms and upstreamers seeking to circumvent copyright protection, lead to interesting results, such as rearrangements or mash-ups of existing tracks. This is reminiscent, in jazz, of the official and unofficial versions of Real Books and Fake Books. Unofficial versions were published without the permission of the publishers, notably Hal Leonard and Warner Bros (from around 1940 to 1970), before being compiled into more accurate and academic official versions (as of 1970). Unofficial versions have left their mark on the history of jazz, because for a long time they gave musicians access to a wide repertoire

at lower cost, with new chord schemes and melodies that differed from the original. Thus, both the Fake Books and the cat and dog techniques on platform allow artists to participate in the creative process despite the boundaries of copyright.

There is also the question of *subscription prices*. Platforms offer advantageous rates to make consumers captive before increasing the price in successive stages (for example, Spotify in 2023, Netflix since 2011). They also often offer bundles, for example with telephone operators, notably Amazon, 'the king of bundling', which offers bundles of books, audiobooks and music, with attractive fees where applicable. These issues are part of an attractive offer, they do not increase the size of the pie (see Chapter 1), which remains the same, but to accumulate large numbers of consumers along with their personal data.

Generally speaking, discussions are becoming more complex because the multiplication of remunerated rights holders and the opacity of contractual agreements make calculation methods difficult to master; there are now more than 20 calculation methods, to the point that Spotify has dedicated a web page to explaining them (CNM, 2021b; CMA, 2022). This leads to a value gap analyzed below.

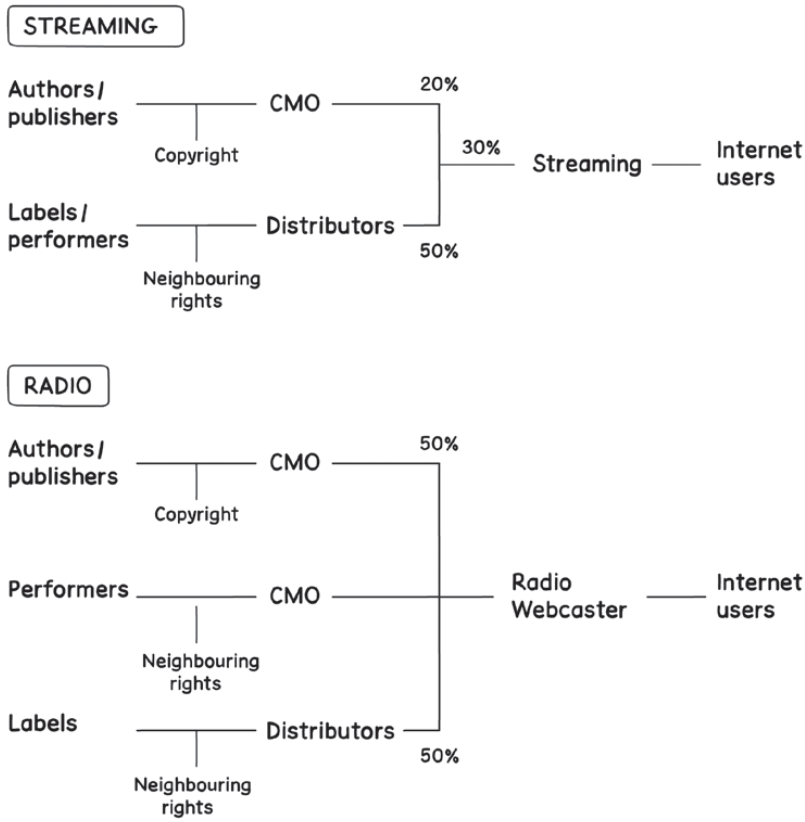
Several approaches can counter the value gap (see Chapter 4). Legislators may act in this area, laying down mandatory remuneration rules for artists. Legislators can also lay down transparency obligations in contractual agreements by making public contracts with labels and distributors, particularly all sources of income (subscriptions, advertising, capital, data monetarization) and the advantages platforms give to certain commercial partners, such as the majors (placement of playlists and unsold advertising space offered to the majors instead of music revenue to promote their artists). Legislators can also tax streaming platforms to support cultural diversity and emerging artists. Lastly, contract and technology can be implemented to support remuneration like blockchain or other proprietary solutions to trace and manage music rights.

Figure 2.8 summarizes visually the royalty sharing in music value chains.

Oversupply and the long tail

The streaming economy is characterized by *oversupply*. Today, streaming means 120,000 new songs added every day, which means more music released per day than in the entire 1989 calendar year and 50 million per year. This also means four out of five songs sent to music services (80 per cent) are never played (Rosenblatt, 2025). These figures will rise over the years as digital tools, including AI-powered tools, facilitate creation and production (see Chapter 2). It should be noted that it would take a person 571 years to listen to all of these 50 million new songs. While these figures may seem

Figure 2.8: Royalty sharing in music CVC



absurd, they reflect the overproduction and the difficulty for artists to stand out from the crowd.

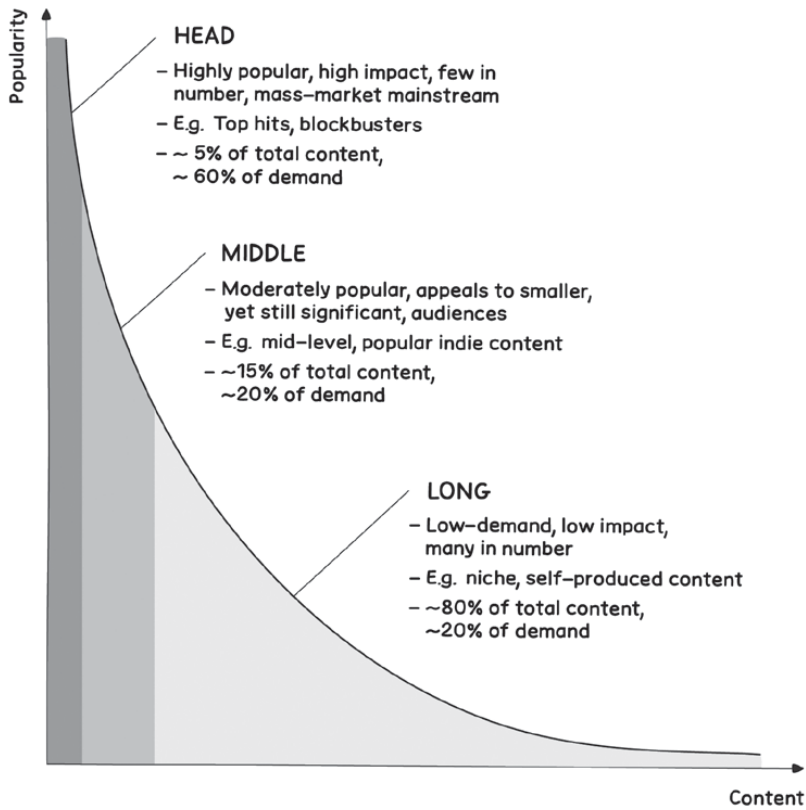
In 2024, Spotify claims to have paid USD 10 billion to the music industry (ten times more than in 2014); and that 1,500 artists have generated more than USD 1 million in royalties (Spotify, 2025). However, according to critics, artists remain unfairly paid because they find themselves at the end of the chain after right holders with priority such as labels and publishers (Aswad, 2020; see Figure 3.5, showing the challenge for creative workers to bring value back down the chain). This system, which relegates artists to the end of the chain, is part of what is known as the 'long tail' (Mulligan and Cirisano, 2024).

According to the *long tail* theory, a very small fraction of artists is at the head with huge popularity ('superstars') and absorbs most of the revenue, while the rest, middle and long tail, achieve less success or none at all (the 'winner take all' principle). The head consists of mass-market, blockbuster content (top movies, bestselling books, chart-topping songs), the *middle tail* consists of moderately popular content that appeals to smaller, yet still

significant, audiences (indie films, mid-tier books, local artists) and the long tail compasses all the rest, like niche content with small, often highly specific audiences (experimental art, micro-genres, self-published zines). Figure 2.9 shows visually the head, middle, and long tail.

The long tail has only grown longer in the digital and AI age. Digital technologies enable users to create and produce more and more efficiently, even though they also enable the promotion of diverse cultural content like niche products. (see Chapter 3). They create an ever-growing oversupply, where only a few artists achieve popular success and the vast majority find themselves in the long tail without finding an audience. Referring to Pareto's law, we even see that 20 per cent of products account for 80 per cent of sales. This theory seeks to explain why, despite a wide variety of products available online, consumption is concentrated on a very small number of them, namely the superstars (Anderson, 2006; Ranaivoson, 2010). The long tail becomes even longer with 'fake artists' releasing thousands of songs automatically with no effort and no limit. To show that human creativity

Figure 2.9: Long tail



cannot compete with algorithmic brute force, Damien Riehl and Noah Rubin, two musicians and programmers, generated and saved all possible melodic combinations to a hard drive. They also claimed the copyright, and released it again to creative commons, a provocation to enable artists to play melodies without worrying about copyright. In the same vein, Valentin Hansen created a Neverending album, by releasing a track every two minutes (so far 107,000 tracks over 163 days), showing that technologies enable one to create a continuous, limitless music.

The figures show the extent of the competition (also called sometimes the 'market congestion' or 'market saturation'). On Spotify, 12 million artists upload music regularly ('uploaders'). Only 0.2 per cent of them (24,000 people) generate USD 50,000 in annual royalties (Spotify, 2025). If we consider that USD 50,000 is a fair income in many countries (comparable to median salaries in countries such as the United States, Canada, and the United Kingdom), about 11.9 million uploaders generate less than USD 50,000. It is therefore not surprising that so many musicians feel that their work does not earn them enough. It is also likely that the 11.9 million people do not produce music that attracts a large enough audience. Assuming that not 0.2 per cent but 10 per cent of artists (1,200,000 people) manage to generate USD 50,000, this would be equivalent to an additional USD 60 billion. Spotify's annual revenue is USD 15.7 billion from which 13.8 billion comes from paid subscriptions (see Chapter 3). So, even if the price of a Spotify subscription were to be quadrupled, there would not be enough funds to cover this additional amount (not to mention the loss of earnings that would result from people abandoning their now more expensive subscriptions). Furthermore, the remaining 90 per cent of uploaders, whose music is unable to find an audience, would continue to complain about the system (Rosenblatt, 2025). The streaming offer has therefore increased 100-fold since the record era, while the time and money spent on music have remained more or less stable. Also, in 2023, there were nearly 76 million music creators, with that number predicted to climb to more than 198 million by 2030 (Mulligan, 2023).

In short, digital technology exacerbates oversupply and the long tail. While access to music is fantastic for both artists and the public, it creates unrealistic financial expectations. While the difficulty of making a living from one's art already existed in the record era, streaming has created new expectations in terms of income since anyone can enter the streaming economy. However, public attention is a limited resource. In such a competitive field, few people will manage to capture enough public attention to depend on recorded music as a means of subsistence. This dynamic can be compared to sport, where only a few elite teams and athletes manage to make a living from it. Thus, the rapid increase in the number of artists and labels publishing music on platforms outstrips the growth of royalty pools, making the landscape even more competitive. This

does not necessarily mean, however, that the remuneration paid to individual performers is unfair or inappropriate. It simply reflects the real interest that recordings generate among the public (Hesmondhalgh, 2018; Peoples, 2024).

This oversupply justifies proposing new models, as suggested by Mulligan and Cirisano and which is precisely the intent of this book (see Chapter 6). To take into account the long tail, some new models tend (Mulligan and Cirisano, 2024):

- to *demonetize* content in the long tail. For example, some streaming platforms propose to demonetize tracks with fewer than 1,000 plays in the last 12 months. On YouTube, 1,000 subscribers are required to share advertising revenues (Mulligan and Cirisano, 2024). This reduces content saturation and increases revenue per artist. It also reduces the operational costs of the service. However, this leads to an imbalance between artists, where only the big names would prosper, leaving smaller musicians at a disadvantage. This leads to a two-tier system, with popular artists (often signed to major labels) being monetized and 'small' artists or independent labels being demonetized; as other solutions
- we could consider *new calculation methods*, like replacing pro rata payments with a more progressive system (rather than user-centric models). The first 10,000 feeds would pay five cents, the next 100,000 would pay one cent, and so on, a bit like the progressive tax system. This system of ongoing progressive payments would reduce income inequality and resolve the tension between middle and upper strata artists;
- we could also support the streaming economy, by focusing on *other sources of income* like synchronization, placing music in other media, for which songwriters earn far more than streaming. Songwriters earn half of the synchronization royalties, instead of receiving crumbs from communication rights;
- we could create *alternative streaming models for the middle and the long*, where minor players don't have to compete on unequal terms with the major players. Indeed, targeting the middle tail can be a smart commercial strategy: it allows creators and platforms to avoid saturated competition at the top while still tapping into broader audiences than those available in the long tail.

AI and MusicTech

Beyond streaming, other digital technologies such as AI+Web3 have transformed the music industry in a wide range of sectors, from AI-assisted creation and production (for example, tools to separate stems) and live events (for example, for ticketing and booking) to fandom technologies (for example, funded music creation platforms) and rights management (for example, for a better traceability via blockchain).

Fandom technologies are technologies designed to create, engage, and monetize fan communities around artists. They turn casual listeners into active supporters. Funded music creation platforms are platforms whose idea is to bypass traditional label circuits and give more power to artists (also called direct-to-fan platforms, or fan-driven economies). They offer artists the chance to finance their music directly with their audience, even if successful funding campaigns on these platforms are still rare. Examples include for crowdfunding: Kickstarter, Patreon, GoFundMe, Indiegogo; integrated funding: Amuse, UnitedMasters, TuneCore, DistroKid; NFTs: Sound.xyz, Royal.io, Catalog, Audius, Beatbread, Bolero Music (Hu, 2024).

Rights management via blockchain quickly became of interest to the music industry. It is seen by CMOs as a mean of rights management, traceability, and payment automation (Favreau, 2020). Recently, rights management has seen the emergence of new players such as Open Music Initiative, or AMRA and Kobalt, which are disrupting the value chain and increasing the value paid to authors and publishers. These new players use technology and transparency to optimize the collection and redistribution of royalties to authors and publishers. Unlike traditional CMOs (SACEM, GEMA, BMI, ASCAP), which go through several intermediaries (for example, an American artist whose music is streamed in Europe goes through BMI, then SACEM and Spotify, with each player taking a commission), these new players simplify the process by managing licence agreements directly with platforms (Spotify, Apple Music, YouTube). This reduces revenue dilution and increases the share paid to authors and publishers. It speeds up payments with a single point for global licences in exchange for a clear percentage and complete transparency. This means fewer intermediaries and more revenue for creators.

Recently, MusicTech has been investing more in the traditional issues of rights management and live events than in generative AI models. In 2024, these issues overtook generative AI models in terms of capital raised, for example, Hellman and Friedman's takeover of Global Music Rights and Universal's acquisition of Downtown Music. This change demonstrates a willingness to invest in and control essential critical infrastructures, which are sometimes neglected in favour of new technologies such as generative AI (Hu, 2024). So while Suno and Udio have made headlines for their fundraising in 2024, the real story seems to be targeted solutions for industry workflows, from track separation (AudioShake) to mastering (RoEx) and to rights assignment (Human Native AI) (Hu, 2024).

That said, MusicTech wishes to distance itself from criticisms of the 'commodification of culture', according to which companies are financial institutions or content aggregators treating music as an 'asset'. It says it proposes to enhance the value of music for both audiences and artists. For

the audience, MusicTech offers new ways of engaging the public with deeper links to artists. For example, Universal and Spotify have announced a new licence, called 'Streaming 2.0', or 'ArtistCentric', under which 'artists, songwriters and consumers will benefit from new and evolving offerings, new tiers of paid subscriptions, a bundled offering of music and non-music content, and a richer catalogue of audio and visual content' (Billboard, 2024). For artists, MusicTech intends to improve the average revenue per user and to support the musical entrepreneurs of the future (Hu, 2024). For platforms and major labels, this would represent new markets. Platforms would see it as a new form of audience segmentation. Major labels would see it as new categories of merchandising, with collectibles and experiences for superfans.

That said, MusicTech further increase the number of players who have different, often competing interests. Private equity invests in MusicTech, whose incentive is about maximizing efficiency. That is different from majors, which is to maximize the value of their catalogue, to keep signing artists, and signing hits. That is also different from streaming platforms like Spotify, whose incentive is to deliver value to shareholders, to get the most subscribers. That is different from artists, whose incentive is mostly about their livelihoods, to spend as much time making music as possible (Smits, Koens, and Broekstra, 2025).

Dependence on labels, majors, and platforms

The power games between artists and intermediaries are identical to those that existed before the recording crisis. First, power remains in the *hands of the labels*. Although artists have direct access to global distribution channels, labels determine the value and monetization of the artist, since an artist represented by a label (and a manager or tour manager) is worth more on the market. The label also strengthens the artist's attractiveness on the international market through its network, such as access to stages, key media, and effective distribution. This access to the international market is also beneficial for other emerging artists: it leaves room for local artists, or even gives them a power of attraction who benefit from this draught and from the aura of the signed artist.

The labels invest in talent by giving advances to artists so that they can make a living from their art before the project becomes profitable. These advances play a crucial role in the development of artists, especially new talent, with an investment of up to USD 2 million to launch an artist on a major market. However, these investments are risky, as financial success depends entirely on the public. Only 30 to 40 per cent of artists signed by the majors are profitable, and in the industry as a whole, barely 10 per cent of recording projects generate profits. Despite this, all artists under contract

with a label receive financial and non-financial support, regardless of the commercial success of their recording (IFPI, 2024).

Second, power remains in the *hands of the majors*. The majors often buy out independent labels – PIAS was bought out by Universal in 2024 – because of the cost pressure on independent labels, which find it difficult to compete with the majors. The majors, meanwhile, see buy-outs as a way to gain market share by increasing the number of streams for their catalogues. There is an asymmetry of power between independent labels and major labels. The majors generally negotiate better deals with platforms than independent labels. For example, Universal, Sony, and Warner negotiate better royalties (Smith Burton, 2021). As a result, independent artists or artists signed to small labels are likely to earn less than artists signed to major labels. So, while many predicted the decrease of the majors with the rise of streaming and the fall in physical sales, these years have been the most profitable for the big three thanks to streaming (IFPI, 2024). Even with equivalent deals with the platforms, independent artists would not get more streams because they often do not have the same marketing resources as the majors and because the dominant model remains market share.

Finally, power has *shifted to the platforms*. Although streaming is not the artist's only source of income, it makes a major contribution to the artist's value on the market. It establishes their reputation, influences the negotiation of fees, their follow-up, the interest of the media and sponsors, as well as venue and festival organizers, who increasingly evaluate artists based on streaming numbers and follower counts.

This platform dependency is accompanied by an algorithmic dependency. The value of artists is determined mainly by the algorithms at the heart of the platforms (Benabou and Farchy, 2021; Benhamou et al, 2024). Algorithms determine the placement of a particular track on the most popular playlists. Playlists are also often created by algorithms, when they are not by human curators working for Spotify, giving the platform enormous decision-making power. For example, *Today's Top Hits* or *Top 50 Global*, the most popular playlists with millions of subscribers, contain only artists signed to major labels. Algorithms also contribute to overproduction. In addition to access to production and distribution technologies that enable massive creation on a global scale, artists are encouraged to post content regularly in order to get caught in the algorithm's net and improve their visibility. In addition, certain artists tend to create works that are more likely to appeal to the algorithm, particularly thanks to AI tools (so-called works that meet 'algorithmic favouritism') (see Chapter 3). However, this dependence on algorithms must be qualified. Only 30 per cent of streams appear to be based on algorithmic recommendations (Félin, 2025), and many fans are willing to spend more than a streaming subscription (for example, for live performances, merchandising). Streaming generates so little revenue for artists that one wonders whether we

are entering a new era in which streaming is no longer at the heart of the economic model and artists must find other sources of income.

Building a creator economy with greater independence

The creator economy uses digital tools to develop a parallel music ecosystem with greater independence and versatility. Artists produce at lower cost and bypass traditional labels and streaming services for distributing their creations and building engaged fan bases (Mulligan and Cirisano, 2024). New music distribution platforms start to emerge like *Subvert*, a co-op Bandcamp alternative, a music marketplace collectively owned by musicians, labels, and individual supporters who purchase memberships (see Chapter 6). Access to music software and AI tools foster new creative workflows. Mobile access and creative applications (BandLab, GarageBand, Koala Sampler, FL Studio Mobile) enable creation and production without studio, equipment, or training. They provide access to social media and to share creations instantly at low cost and worldwide. These tools are unleashing creative potential in regions such as Latin America, Africa, and Asia and are reshaping the creative economy (Mulligan and Cirisano, 2024).

Visual arts

Typical routes and players in the chain

Works of visual art have specific characteristics: they are goods of information (Zorloni, 2013), of experience (Arora and Vermeylen, 2013), and of trust (Prendergast, 2014; Zorloni, 2013), generally durable (Prendergast, 2014), and most often unique (Frey, 1988; Gérard-Varet, 1995). Works of visual art can materialize as a physical work – artwork materialized into physical copy, whether unique pieces or printed in a limited edition – or as a digital work – any established digitized practice or new born-digital practice. Unlike other sectors, the digitization of visual arts has had less of an impact on their value chain. That said, in parallel with traditional market dynamics, digitization has enabled the massive creation and distribution of digital images, to the extent that we may speak of a veritable deluge of images (Thompson et al, 2022). In 2024, an estimated 5 billion images are taken daily (61,400 per second) with platforms like WhatsApp (6.9 billion) and Instagram (95 million) (Photutorial, 2024).

The visual arts chain usually comprises several stages, from creation and production to distribution, reception and valorization.

The *creation stage* generally comprises a conception phase, such as reflection and artistic research and a production phase, such as the materialization of the conception (Borgdorff, 2010). The creation stage involves several players. First there are the main players: painters, sculptors, photographers, illustrators, designers, and multimedia creators, who conceive and produce

the idea or artistic project (European Commission, 2017). They may do this alone or in collaboration with third parties. These third parties may be other artists, organized or not, for example in the form of artist collectives, artist studios, collaborative structures, or hubs for creating and sharing resources. These third parties can also be technical collaborators, such as photographers, graphic designers, 3D engineers, digital animators, printers, organized or not, for example, in the form of technical or digital workshops for the production of limited editions in different formats (high quality or 3D printing). Actors often use digital tools for creation or production assistance, such as AI models (DALL·E, MidJourney), image editing (Photoshop), digital drawing (Procreate), and 3D animation (Blender) (European Commission, 2017).

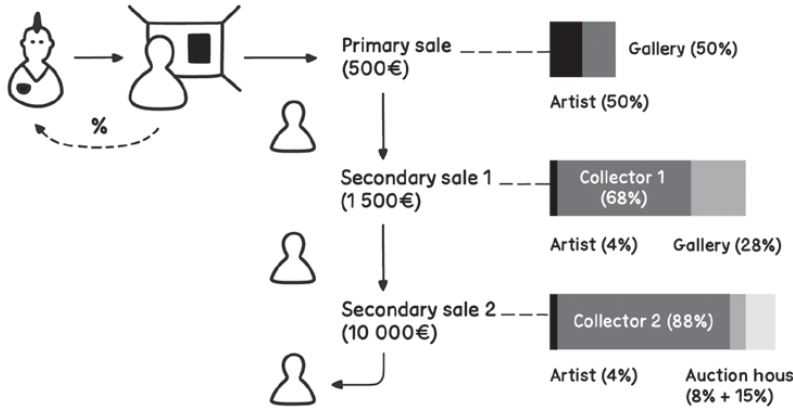
The *distribution stage* consists of circulating a work on the primary market, either to enhance its value and/or to sell it to an interested public, such as private or public collectors. This circulation often takes place through promotional galleries which take a commission on the sale to share with the artist (often 50/50). The work – or copies of it when it is produced in multiples – is often resold on the secondary market, through auction houses, galleries, art dealers, or private or public collectors who take a commission on the resale to be shared between collectors and auction houses (often 70/30 for the first resale).

Beyond commissions, visual arts differ from music or games through the resale right (*droit de suite*), recognized in some jurisdictions (for example, Directive 2001/84/EC). This right grants artists or their heirs a percentage of the price when a work is resold on the secondary market (de Pierredon, 1991; Benhamou, Y., 2017; Farchy, 2017; Tchun and Seo, 2025). Its rationale is to rebalance bargaining power by ensuring artists benefit when their works increase in value. In practice, however, its impact is limited: it applies only to tangible copies, is circumvented by sales outside jurisdictions providing it, and often fails to cover private transactions. The resale right thus illustrates both the specificity of visual arts and the limits of copyright law in addressing unequal bargaining power in practice.

Figure 2.10, inspired by the EU study on mapping creative value chains (European Commission, 2017), shows visually the revenue sharing in visual arts chains.

The *circulation stage* involves several intermediaries: galleries and museums in the form of physical venues or digital platforms to exhibit or sell the work (Artsy, Saatchi Art), auction houses that sell tangible or digital works or organize online exhibitions or sales (Sotheby's, Christie's), experts and appraisers who value works according to their scarcity and authenticity, influencers and social media which play a key role in the visibility of artists (Instagram, TikTok, Pinterest), monetization platforms that enable artists to generate recurring incomes (Patreon, Ko-fi), and specialized platforms and marketplaces that enable the distribution and sale of physical or digital works

Figure 2.10: Revenue sharing in visual arts CVC



(Etsy, Artfinder, OpenSea for the sale of NFT and digital art) (European Commission, 2017; Liddell, 2022).

The *reception stage* consists of getting the work to the interested audiences so that they can get a user experience from it (consumption), or value it, or re-use it in turn (re-use). It mainly involves: collectors such as private investors or institutions buying physical or digital works; the public such as occasional or regular visitors or buyers at exhibitions, art fairs, or on platforms (Etsy or Saatchi Art); technology enthusiasts such as users of VR/AR, and galleries who interact with art (European Commission, 2017; Martin and Koutchouk, 2020).

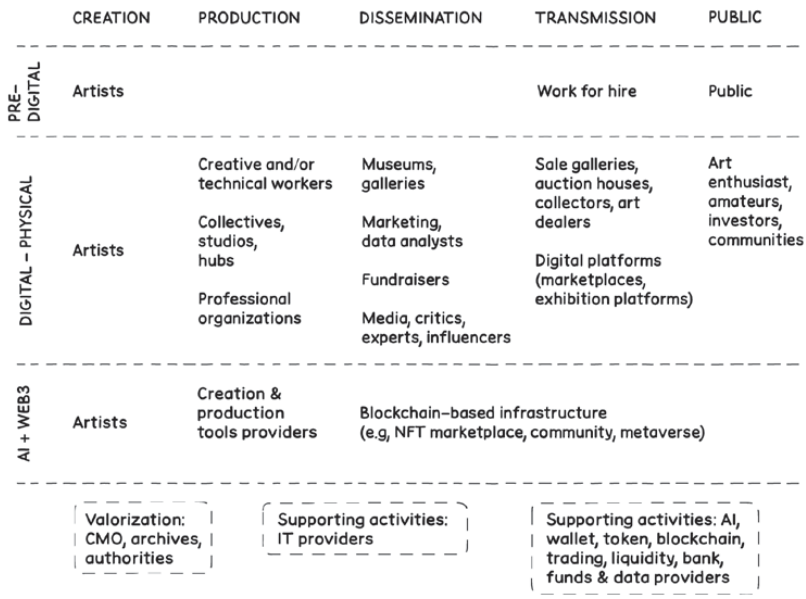
The *promotion stage* is decisive in visual art, since it directly influences an artist's rating (more so than in music and video game). Museums, art fairs, galleries, and auction houses choose artists to exhibit or represent them, which increases their profile and market value. When the work is copied, lawfully or unlawfully, this can increase an artist's visibility and value (Benhamou, Y., 2020b). It can also contribute to the uniqueness of the original. In photography for instance, vintage prints and the first and last prints are often more valuable than other prints because of their uniqueness (Benhamou, Y., 2020b). At the same time, widespread copying can engage the moral rights of artists, particularly the rights of attribution and integrity under civil law jurisdictions (Davies and Garnett, 2010; Benhamou, Y., 2017). This raises tensions in global markets where works circulate widely without control – whether in meme culture, digital remixes, or AI-generated variations. While unauthorized copies can paradoxically increase an artist's profile and market value, they may simultaneously infringe integrity rights, underscoring the fragile balance between visibility, and legal protection.

Digital technology has begun reshaping every stage of the visual arts chain – from creation and distribution to reception and valorization – introducing new forms of collaboration, formats, and modes of circulation (European Commission, 2022b). At the *creation stage*, digital technology enables new collaborations and formats. In terms of collaboration, it enables collaborative projects on an unprecedented scale (Wikipedia, free software) (Chen, 2011; Redlich, Moritz, and Wulfsberg, 2019). These collaborations are a long way from the Romantic artist guided by individual and solitary expression (19th century), but nonetheless close to the Renaissance artist, such as da Vinci or Michelangelo, who worked in a workshop and in collaboration with their apprentice-assistants (15th–16th century). In terms of new formats, digital technology enables everyone to create digital copies at almost zero costs (see above 'deluge of images'). It also enables to digitize established arts for conservation, exhibition or marketing purposes (Bayrou, 2022). It also enables new born-digital cultural practices, that is, created directly in digital form, such as net art, collectibles, and generative art. *Net art* can be defined as any art form created in and with the Internet (for example, work interacting with the web) and *collectibles* as any object produced in series, often of small size, intended to be collected (Cryptopunks in 2017, Bored Ape Yacht Club in 2021, both associated with an NFT, as explained below). *Generative art* is any artistic creation that uses automated or generative artificial intelligence processes; examples include Jasen Allen's 2022 *Space Opera Theater* and Boris Eldagsen's 2022 *Pseudomnesia*: *The Electrician* (see below).

At the *distribution stage*, digital technology enables artists to bypass traditional intermediaries and gain almost instant global visibility. At the same time, it reduces production costs, thereby increasing competition, while also facilitating illegal copying and redistribution. Digital technology further allows works, whether digitized established art or born-digital (collectively referred to as 'digital works'), to be represented and distributed in new formats (for example, NFTs, immersive media such as VR/AR) (Martin and Koutchouk, 2020), transforming them into speculative digital assets (European Commission, 2022b). *Digital works* represented by an NFT, for example, can be traded on online marketplaces such as eBay with the same claims to uniqueness as physical artworks traded on auction houses and art fairs. Such digital works differ from '*crypto-art*' (or 'blockchain artwork'), which uses blockchain not necessarily in order to create scarcity but to encourage new practices and experiences via decentralized technologies and licensing mechanisms (see below).

At the *reception stage*, digital technology makes it possible to personalize the experience, such as visits to galleries in VR/AR, and the creation of

Figure 2.11: Visual arts CVC



online communities such as forums and social media to discuss artistic works and support artists.

In short, digital technology not only reshapes creative processes and consumer experiences but also reconfigures value distribution – by enabling disintermediation, and new monetization models (European Commission, 2022b).

Figure 2.11 shows visually the visual arts creative value chains.

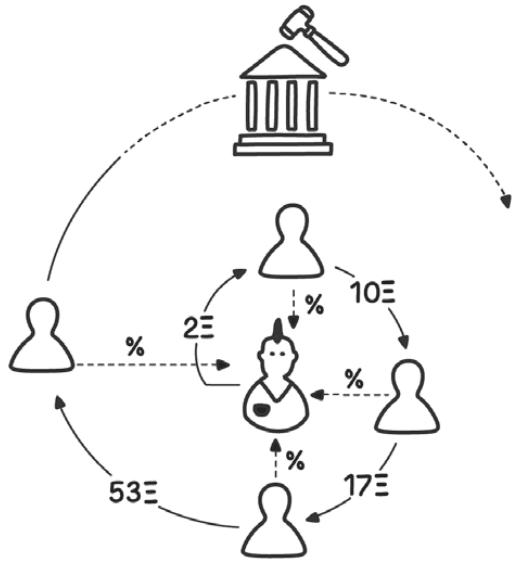
NFTs: replicating the dynamics of the traditional art market

The promise of NFTs: towards a paradigm shift and a creator economy

With digital technologies, works of art, whether digitized or born-digital, can be copied *ad infinitum*. Therefore, it has struggled to establish itself in the conventional art market. NFTs were presented as a solution: unique digital tokens, hosted on a blockchain, certifying authenticity and ownership of the associated file (for example, jpeg, MP3, MP4) or object (for example, painting) (Benhamou, Y., 2020b; Lee, 2023a; Martin and Hot, 2022). NFTs introduced what scholars describe as '*technical scarcity*', complementing the *legal scarcity* of copyright and the *physical scarcity* of tangible works (Martin and Hot, 2022).

Crypto-artists initially celebrated NFTs as a technological utopia: fewer intermediaries, automated royalties through smart contracts and more

Figure 2.12: Web3 royalties in visual arts CVC



direct income for creators (Sharma et al, 2022). This echoed Cypherpunk ideals of decentralization and recalls the 18th-century emancipation of artists from merchant control (Martin and Hot, 2022; Ohlhaver, Weyl, and Buterin, 2022; Lee, 2023b) For visual artists, NFTs seemed to offer empowerment: unique digital copies sold on artists' own terms (for example, Teia.art, Botto) (see Chapter 6).

Figure 2.12 shows visually how analogue resale rights can be automated through Web3.

Yet in practice, enforcement has proved fragile. Under competitive pressure, leading marketplaces (OpenSea, Blur) disabled or circumvented *NFT royalties*, making them optional and undermining artists' expectations. This highlights a legal vacuum: unlike streaming royalties in music, NFT royalties lack statutory or collective management backstops. Without regulatory intervention or collective governance, decentralization risks devolving into new asymmetries, with platforms recentralizing value capture (see Chapter 3).

NFT market dynamics: boom, collapse, stabilization

The art market saw NFTs as an opportunity to diversify. Initial use cases appeared in 2017 (CryptoKitties, Cryptopunks), culminating in Beeple's landmark sale of *Everydays: The First 5,000 Days* in 2021. This marked the start of the NFT frenzy ('Summer of jpeg') and anchored NFT in the art

and museum and auction houses markets (LACMA, MoMA, Pompidou, Louvre, British Museum, Christie's-Gucci, Sotheby's-Véra Molnar) (Martin and Hot, 2022; Serada, Sihvonen, and Harviainen, 2022).

The 2022 collapse of cryptocurrencies and platforms such as FTX led to falling investor confidence and a recentralization of marketplaces, replicating traditional dynamics (for example, refusal of NFT royalties).

Since 2023, the market has stabilized: online sales remain strong, with new, younger 'digital-first' collectors, and brands experimenting NFT with Direct-to-Avatar (Nike's Nikeland, Gucci Garden). NFTs increasingly converge with AI and AR, extending into immersive and hybrid experiences (for example, Tiffany's NFTiff pendants).

Beyond visual art, NFTs are used in music for collectibles and fractional royalties, and in gaming for tradable assets (Jaton, 2023). These parallels underscore that NFTs are not confined to visual art but part of a wider experiment in digital scarcity and monetization.

Are NFTs art or assets?

Debates continue over whether NFTs should be considered artworks or financial assets. Critics argue that collectibles (Bored Apes, CryptoPunks) lack originality, while others see them as reflections of digital culture and consumption. History reminds us that recognition takes time: Brancusi's *Bird in Space* was only recognized as art in 1927. Similarly, Warhol's serial works once provoked similar debates. NFTs may follow this trajectory, with artistic value judged retrospectively (Sharma et al, 2022).

Replication of existing market dynamics or paradigm shift towards a creator-driven economy?

While NFTs have altered the creative value chain – enabling new forms of creation, governance, and consumption – they risk replicating rather than transforming traditional dynamics. Their long-term relevance will depend less on the technology than on how communities and institutions use it (Aton, 2025). For NFTs to drive a genuine creator economy, frameworks must ensure royalties are enforceable, collective governance is possible, and value flows upstream to artists rather than downstream to marketplaces (see Chapter 6).

Generative art

In the visual arts, it is becoming increasingly common to use AI models to generate or co-generate creative works. To take a few examples, in 2016, *The Next Rembrandt*, an AI-composed painting based on an analysis of 346

authenticated works by the Dutch master, was presented in Amsterdam. Auction houses, festivals and museums were quick to open their doors to generative art. In 2018, Christie's sold *Edmond de Belamy*, an AI-created portrait by the Obvious artist collective, for USD 432,000, nearly 45 times its initial estimate. Six years later in 2024, Christie's organised the first auction devoted solely to AI works in New York (Ferrand, 2025). In terms of museums and festivals, the artist Jasen Allen won a prize in 2022 for his painting *Théâtre d'Opéra Spatial on Midjourney* in the Colorado State Fair's 'digital arts/digitally manipulated photography' competition. In 2023, the German photographer Boris Eldagsen received the Sony World Photography Award for *Pseudomnesia: The Electrician*, a portrait of two women generated by AI (before recognizing the use of AI and renouncing his award for this reason). In 2024, the visual artist Justine Emard used AI tools, trained on scientific data from the Chauvet-Pont d'Arc cave (Ardèche), to produce new images of prehistory called *Hyperphantasia*, which were exhibited at the Grand Palais. In 2024, the Getty Museum acquires its first AI photograph. The first art museum designed by artificial intelligence, Dataland, will open its doors in 2026 in Los Angeles (Ferrand, 2025).

AI technologies are now embedded across CCS processes, from simple tools (image ideation, editing, post-production) to genuine *human–machine hybridizations*, where artists curate data and concepts while AI generates the work (for example, Refik Anadol's *Unsupervised*). Technology has always been central to artistic media. Photography, for instance, has relied on technical mediation since its invention, raising the old question: does it merely reproduce or does it create something new (Oertli, 2024; Walter, 1969)? The question comes up again with AI; is it a creative tool for taking things further or for imitating the past? With Midjourney and Dall-E, we often imitate past styles; but imitation is not art.

Like Photoshop, AI can also serve as a creative tool to push boundaries. Between the photographer using a camera and the artist generating prompts lies a spectrum of activities: genuine dialogues with machines, remixing vast datasets into new syntheses, or feeding algorithms with personal data to generate novel forms and experiences (Masure, 2023c).

As Man Ray once moved photography beyond imitation toward new realities, today we await the 'new Man Rays' who will use AI not for pastiche but to invent new artistic forms (Masure, 2023c). In painting, AI models are also used in the creative process. Practically, AI assists at both ends of the creative process – early on as a 'technological muse' against the blank page (suggesting shapes, colours, concepts, characters, styles), and later in post-production (cropping, quality, pre-print preparation). Far from diminishing creativity, these uses situate the artist in hybrid dialogue with the tool, often expanding rather than constraining artistic possibilities.

The increased use of AI technology can also be observed in other CCSs, for example in music and video games (as explained above and below). In literature, hundreds of books generated or co-generated by algorithms are flooding the Internet. In AV, AI tools produced the screenplay for Oscar Shar's short film *Sunspring* (2016), as well as *The Safe Zone* (2022), written and directed by ChatGPT (Ferrand, 2025).

Yet as AI becomes embedded across CCSs, from visual arts to music, video games, literature, and AV, it also generates risks of *overproduction*, low-quality synthetic content, disputes over authorship, and even fraudulent practices. For instance, in books, Amazon has faced the phenomenon of ghostwriters – AI-generated works flooding the market. For example, Alan Trevor, a fictional author, is said to have published more than 1,200 books on his own. It seems possible to create and publish an AI-generated book in just a few minutes, without any human intervention in the writing process. This overproduction and proliferation of synthetic content raises concerns about content quality and authorial transparency (see Chapter 4).

These debates ultimately highlight a core copyright challenge: authorship. Who is the 'author' of an AI-assisted or AI-generated work? Current copyright law generally requires human authorship, meaning works created without sufficient human input fall outside protection. This leaves generative art in a grey zone, with uncertainty over whether rights vest in the human prompter, the AI developer, or no one at all, as discussed later (see Chapter 4).

Strengthening major players and the traditional model

Despite promising change, digital technology has had little impact on the visual arts chain, as the structure and players in the market have remained unchanged. There are several possible explanations for this. This is due to the characteristics of visual creations. They are unique, non-interchangeable, non-substitutable goods, except for certain reproducible visual works such as photography and collectibles (Oertli, 2024). They are experiential goods, whose success is difficult to assess for a public with no historical or artistic skills and is determined at the moment of reception. They are durable goods that do not physically deteriorate over time (Prendergast, 2014). They are heterogeneous goods, segmented according to the type of work (avant-garde, contemporary, classic). They are also investment goods, which implies the presence of intermediaries, with consultants and specialized databases, one of the effects of which is that only a few listed artists are successful (the 'winner take all' principle). These characteristics explain why, from the point of view of artist and public, digital technology has not yet impacted the visual art chain.

For artists, there are many artists, especially on the primary market, with few buyers and a concentration of large galleries, what is called an '*oligopsoly*'. This gives little negotiating power to upstream players (artists, sellers) and strong negotiating power to players downstream (major galleries, auction houses). From the public's point of view, individual relationships with the artist or art dealer remains important, especially as an abundance of digital information increases the need for a point of reference and personalized advice, which strengthens the role of traditional players.

As a result, the business model remains unchanged. Traditional players can replicate traditional practices for selling and monetizing art (auction houses via online auctions). These practices are characterized by a primary sale, often following the promotional efforts of third parties, and secondary sales, often carried out through auction houses. Sales mainly take place via traditional players, despite the emergence of new players like e-commerce platforms (for example, Artfinder, OpenSea). Some consider online sales as a potential threat to traditional players, others as a complementary process.

The structure of the market also remains unchanged. It is highly fragmented, segmented according to types of work (avant-garde market, contemporary classics) but coupled with a concentration of traditional players (major galleries and auction houses). This segmentation makes it difficult to analyse the overall structure of the market and reduces competitive dynamics and bargaining power. The structure of the market on a global scale is characterized by heterogeneous and experienced goods, with a concentration of transactions on major marketplaces (Young, 2014).

On the supply side, there are many competing artists, with little bargaining power (Throsby, 2008a) (as mentioned above).

On the demand side, the primary market is characterized by intense competition between small galleries, while the secondary market is more concentrated, with large galleries and international auction houses having significant bargaining power. This is reflected in contractual agreements and revenue-sharing mechanisms. While there are many promotional galleries, the major international galleries have a visibility and reputation that gives them a competitive advantage. Only 3 per cent of all galleries account for up to 75 per cent of total gallery sales by value. This dynamic creates a market resembling an oligopsony (as mentioned above), where many sellers (artists) face few buyers (large galleries). Income distribution and contractual agreements are often opaque. Galleries generally receive 50 per cent of the sale price, which can vary from 20–80 per cent depending on the risks involved, on the primary market and 30 per cent of the sale price on the secondary market. The auction houses take a commission of 12–25 per cent of the sale price on the buyer's side and 10 per cent on the seller's side. The distribution of income generally favours CVC's downstream players (large galleries, art dealers, auction houses), who have more negotiating power and

take fewer risks, while artists and small galleries occupy a more vulnerable position, characterized by low margins and high uncertainty.

In short, the market structure is therefore characterized by oligopsony, revenue distribution characterized by opacity, and weak bargaining power for artists. The main challenge is fair remuneration for online exploitation. Unlike in music, where statutory mechanisms such as performer rights and equitable remuneration schemes provide baseline protections, visual artists often rely solely on contract law in negotiating with galleries and dealers. Commission splits (50/50, 70/30, and so on) are rarely subject to statutory intervention and remain largely opaque. This contractual dependency accentuates the unequal bargaining power of artists vis-à-vis dominant intermediaries. The contrast underscores a structural gap: copyright law provides only limited economic support in visual arts, leaving much of the revenue distribution to private ordering, with little collective oversight.

Diversion of value and community reappropriation

In parallel with traditional economic models, communities of artists are exploring artistic and conceptual practices to emancipate themselves from traditional circuits, freeing themselves from the commercial, spatial and symbolic constraints of the traditional art market.

One thinks of *Land Art*, which challenges the commodification of art by inscribing artworks in nature, often in inaccessible places. Emblematic examples include Robert Smithson's *Spiral de Jetty* (1970), a monumental work made of earth and stones in Utah's Great Salt Lake, or Walter De Maria's *The Lightning Field* (1977), an alignment of metal poles in the New Mexico desert. These works are accessible only on site, requiring a physical and temporal immersion far removed from the fast-paced commercial circuit. They elude galleries and are often ephemeral or subject to natural erosion, making market appropriation difficult (Beardsley, 1989).

Another example is *Dada Art*, which questions the traditional criteria of art (beauty, craftsmanship, uniqueness). Emblematic examples include Marcel Duchamp's *Fountain* (1917), a urinal signed 'R. Mutt' presented as a work of art. He turns the notion of the work of art on its head, showing that context and intention are more important than the object itself (Camfield, 1989).

Another example is *Conceptual Art*, questioning the market's submission to the artist's signature rather than to the object. Yves Klein's *Zones de sensibilité picturale immatérielle* (1959) 'sold' immaterial zones for gold, demanding that the buyer burn the receipt and throw the gold into the Seine, a critique of dematerialization and the value attributed to invisible art (Klein, 2006). Then there is Piero Manzoni's *Artist's Shit* (1961), which boxed up his excrement (or supposed excrement) in numbered boxes, sold for its weight in gold, USD 37 each in 1961 and for EUR 275,000 in 2016. It's a scathing critique

of art speculation. The work becomes absurd, grotesque but continues to sell for its weight in gold (Celant, 2009).

More recently, there is Banksy's *Girl with Balloon* (*Love Is in the Bin* is the name of the artwork post-self-destruction) (2018), a work sold at auction that partially self-destructed after its sale. The artist denounced the extreme commodification of art. Ironically, the destruction has further increased its value, illustrating the contradiction of the market. These practices also highlight the paradoxes of the system. Sometimes, the more a work rejects the market, the more it gains in value. This critical game then becomes part of the market itself.

There is also *Appropriation Art*, which reuses existing works (photographs, advertisements, works by other artists), recontextualizing them to question meaning, authorship, and value. The artist does not create from nothing but displaces, copies, and transforms an artwork to criticize notions of originality and the cultural or commercial mechanisms of art (Owens, 1980; Wallis, 1984). Emblematic examples include Sherrie Levine's *After Walker Evans* (1981), in which she literally photographs the works of Depression photographer Walker Evans, presenting them as her own. This questions copyright, reproducibility, and the very idea of creation (Crimp, 1980). The artistic act lies in choice and recontextualization, not in material production. More recently, there is the 2014 Richard Prince Instagram project, which takes Instagram photos (often of young women, models, or influencers), which he recontextualizes with his own comments underneath the photos and prints in large format on canvas. His artistic approach is not to ask permission from the people concerned but to claim that the act of choosing and cropping constitutes a new work of art. While his approach has provoked fierce controversy on the grounds that it amounts to theft and parasitism, it is a critique of digital culture, of hyper-exposure of the self, and of the dissolution of the notion of the author in the age of social media (Saltz, 2014).

In parallel with these movements, other artists have sought ways to control the value derived from their works. Seth Siegelaub (gallerist, theorist) and Bob Projansky (lawyer) intended to implement a reseale right through a contract template. They proposed *The Artist's Reserved Rights Transfer and Sale Agreement* (1971), enabling artists to control the work even after it has been sold, for example, through a 15 per cent resale right on any future resale of the work, and a right of review any use of the work. This approach was promoted by Herman J. Daled (a committed collector), who actively disseminated and used this contract in his collecting practice, notably with artists such as Daniel Buren, Lawrence Weiner, and Sol LeWitt (Alberro, 1999). At the time of conceptual art, the dematerialization of the material work into ideas, instructions, or gestures made the traditional market model unsuitable. The idea to use such contracts is to protect the artist in an often-unbalanced market, where collectors and dealers can make a fortune from

works without the artist benefiting. The contract thus becomes an integral part of the work, linking the artist and the collector in an equitable, ethical, and lasting relationship. It goes beyond the legal framework, becoming a political, artistic, and conceptual gesture, giving power back to the artist in the face of the market and inscribing the contractual relationship as part of the work (Alberro, 1999). This contract inspired a number of *droit de suite* systems now found in several countries. It has been rediscovered with the emergence of NFTs, where artists can also set automatic royalties.

Another example is the 'New Commissioners' initiative, which calls for rethinking the commissioning process, enabling non-specialist citizens to commission contemporary artists to meet social, cultural, or symbolic needs in the public arena. This approach restores an active role for civil society in artistic creation, going beyond the traditional circuits of the market and institutions.

Video games

Typical routes and players in the chain

Video games represent a sector of intense cultural (Payne, 2019), academic (Consalvo, 2013), and innovative creativity (Chaminade and McKeever, 2021). Natively digital (based on code) video games share with music a transition from the tangible (cartridges then DVDs) to the intangible with, in the early 2000s, the appearance of the Steam distribution platform (imitated by Epic Games, Microsoft, Sony, Apple). More recently, there has been a domination of online and mobile games, representing 50 per cent of the global market. This digitization has enabled the video game industry to move from a purchase-model to a *subscription-based model* (also known as the 'subscription economy') (see Chapter 3). As a side note, the term 'video game' will be used here for clarity, as it remains the dominant term in policy, industry, and academic discourse, although it seems somehow outdated and could be converted into a 'gaming sector' instead – since many contemporary games extend far beyond video displays with technologies like VR/AR, interactive fiction, AI-generated environments.

Video games are characterized by a wide *variety of genres*, shooting games, role-playing games, casual or social games, sports games, battle royale games (Greenspan and Dimita, 2021). Games are also categorized according to their budgets and popularity. AAA games are characterized by high production and marketing costs, often compared to blockbusters in the cinema, with the publisher spending sometimes tens or even hundreds of millions of euros, and employing hundreds of creative workers over several years. Examples of AAA games include, *The Last of Us* by Sony or *Grand Theft Auto V* by Rockstar Games. One consequence of this investment is that if the game is popular, the game publisher can limit itself to providing services over time

and/or to franchising its games to recoup its investments. In addition, there are also AA games (average budget) like *Plague Tale: Requiem* from Asobo Studio and independent (indie) games like *Hollow Knight* from Team Cherry, with low budgets but high creativity (Greenspan and Dimita, 2021).

The video game industry is also characterized by *global distribution* and *low marginal costs* (Chaminade and McKeever, 2021). Once a game has been developed, the cost of producing an additional copy is low, if not zero. It is also characterized by a strong commitment from the public (Consalvo, 2013). In terms of geographical distribution, the industry has historically been dominated by the US (for example, Atari for *Asteroids*, Activision Blizzard for *Call of Duty*, *World of Warcraft* (*WoW*), *Diablo*; Electronic Arts for *FIFA*/*EA Sports FC*; Epic Games for *Fortnite*), Japan (for example, Sony, Nintendo, Capcom, Square Enix), and the United Kingdom, Germany, and France (for example, Ubisoft) (Greenspan and Dimita, 2021). The industry is currently changing with the rise of *mobile games*, making games more accessible; China, Japan, and South Korea now account for 50 per cent of global market revenue, and India has significant potential. In terms of demographic distribution, the industry is characterized by great diversification (3.5 billion players of varying age, gender, and skill levels). This is explained by easier access via mobile phones and publisher and distributor web portals (EA Play, Steam, Discord) (Lin et al, 2019; Thorauge, 2022). It is also explained by a diversity of prices, from casual mobile games to big-budget console games (Dimita, 2023).

The industry is also composed of *multiple players*. Creative workers in the gaming sector include gaming developers, screenwriters, designers, illustrators, musicians, whether independent or affiliated with publishers, who design, program, and create the game's content, mechanics, and visuals, turning concepts into playable products. Creative workers have a central activity that generates value and are irreplaceable, contributing to the diversity and growth of the market (Dimita, 2023). They however generally transfer their intellectual property rights (IPR) to publishers. Publishers finance, market, and distribute games, often providing resources, promotion, and platform access, so creative workers can bring their titles to market (Tencent, Sony, Nintendo, Microsoft, NetEase, Activision Blizzard, Electronic Arts [EA], Ubisoft, Epic Games, Sega, Take-Two, Square Enix, Bandai Namco). Distributors provide access to games via their own web portals or via the publishers' portals and via various devices (EA Play, Steam, Discord).

The video games industry stands out for its economic impact, generating more revenue than the film and music industries combined, particularly with the rise of mobile games and e-sports (Betzler and Leuschen, 2021; Greenspan and Dimita, 2021). By 2022, global video game revenues exceeded USD 200 billion, compared with around USD 50 billion for the music industry and USD 100 billion for the film industry (Newzoo, 2023).

Figure 2.13: Gaming revenues vs other CCIs

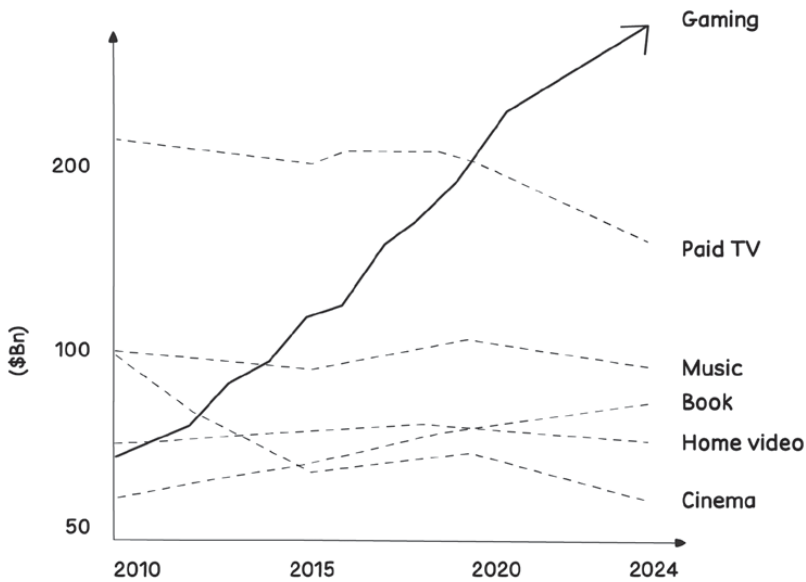


Figure 2.13 shows visually the gaming revenues versus other sectors of the Cultural and Creative Industries (CCI).

The mobile market continues to grow, supported by increased access to games, technological advances, multiplatform gaming, and the rise of e-sports and in-game revenues (Dimita, 2023). The future of the video game industry is predicted to be a combination of all these access points: hardware that houses the computing and graphics power needed to access games and software that can be hosted partly online, giving rise to gaming as a service (GaaS). However, the recent commercial failure of publishers of a multitude of AAA games based on the GaaS model (*Anthem*, *Avengers*, *Concord*, *Suicide Squad: Kill the Justice League*, *Multiversus*), followed by publishers abandoning these games, leads to qualify this statement (Dimita, 2023).

The video game value chain consists of six main stages, creation, production, distribution, reception, follow-up, and valorization, each led by specialized players (European Commission, 2017).

The *creation stage* consists of developing a game internally (publishers, or development studios like Electronic Arts) or externally (independent creative workers). Digital technology redefines the traditional role of creative workers with new tasks of network management and continuous game updates. It also enables disintermediation, that is, independent creative workers gathering to create games in a limited time (Nordic Game Jam), to finance games via digital platforms (crowdfunding), and to distribute games. A single actor can thus become both creator and publisher. Digital technology has also led

to strong competition between creative workers, lowering barriers to entry thanks to tools that no longer require coding skills. It has also strengthened the bargaining power of creative workers thanks to tools that enable them to self-publish and distribute video games. The caveat, however, is that independent creative workers often struggle to perform the typical tasks of publishers (marketing, business knowledge) and often accept unfavourable agreements (transfer of intellectual property rights IPR) or, without publishers, fail due to a lack of marketing and financial expertise (Greenspan and Dimita, 2021).

The *production stage* consists of the core development of the game, from programming and testing to marketing (Lin et al, 2019). This stage is often financed and managed by internal or external publishers. For example, the *Call of Duty* franchise was developed by *Infinity Ward*, *Treyarch*, and *Sledgehammer Games*. Digital has increased competition with over a hundred new games added every day by a few large publishers and multiple small publishers (oligopoly, like in visual arts explained above).

The *distribution stage* includes the distribution and sale of online and offline games (physical games: packaging, transport, visibility in stores; digital games: distribution via digital platforms). Indeed, games can be distributed through various devices: consoles (PlayStation, Switch, Xbox), PCs (Steam, Epic Game Store, GOG), and mobile phones (iOS, Apple, Android) (Lin et al, 2019). Historically, distributors were mainly hardware manufacturers. They developed, published, and distributed video games for their own consoles (Atari, Nintendo for Switch, Sega for Dreamcast, Microsoft for Xboxes, Sony for PlayStations) or for their online services (Valve for Steam, Electronic Arts for EA Play). With the rise of online and mobile distribution, however, new players have entered the distribution stage: smartphones (Android and iOS), digital distributors (Google and Apple), marketplaces (Amazon). This has led to a proliferation of distribution channels but also to a concentration of large distributors who are dominant in their respective segments (Steam for PC, App Store and Google Store for mobile distribution, Nintendo Eshop for Switch, Sony for PlayStation). This dominance allows the platforms to limit interoperability. The dominance is reinforced by vertical integration, as the major console manufacturers are also publishers and decide which games to promote on their platform. The platforms also use player behaviour tracking and targeted advertising. Digital technology has finally strengthened links with other sectors (Tom Clancy books adapted into videos; VR/AR used in fashion or health) (Greenspan and Dimita, 2021).

The *reception stage* includes many publics. This includes casual and professional gamers, who play recreationally or professionally. This also includes influencers and streamers, who actively participate in the creation and distribution of games. For example, social media users contribute to the promotion of video games, such as YouTubers or Twitch players rating

or playing games in front of their audience. This also includes communities that interact with gamers, and the audience that watches streamed games without interacting with the player.

Today, unlike games in physical forms (cartridges, DVD), games can be corrected as they are being regularly 'patched up' to correct their flaws, meet players expectations, or add new game elements. This is particularly true for GaaS-type games, which are continuously updated to evolve their content. One example is *Genshin Impact*, which has been expanded to seven regions since its release in 2020, each containing its own scenarios. Another example is *No Man's Sky*, which was negatively received in 2016 and which led its developer to publish significant additional content for free so that the game as it exists today is fundamentally different from the one offered when it was released. The follow-up stage usually involves the creative workers and publishers of the game in question, although it is also possible that the follow-up is entrusted to teams other than those that developed the initial game. Users, players, and influencers are also heavily involved in this stage, as their comments and opinions influence future versions of a particular game. This perpetuation of games through regular updates allows some of them to remain commercially viable long after their initial release.

The *valorization stage* involves several players. These include festivals and museums, which determine which games are included in their collections and exhibitions. This stage seems less decisive than for the visual arts, since it does not generate as much value on the market (see Chapter 2).

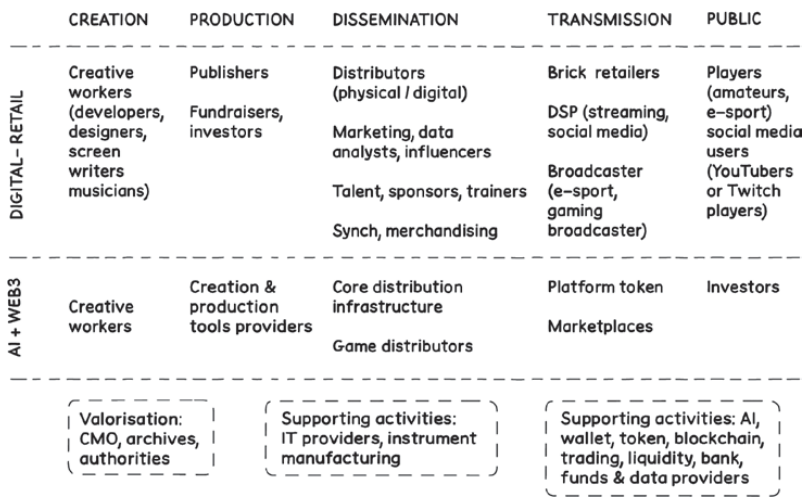
In sum, digital technology is leading to the domination of online and mobile video games and the decline of physical distribution (McAllister and West, 2013). We are also seeing a verticalization and redefinition of roles. Major publishers are integrating relevant commercial activities – pre-financing, risk-taking, and acquiring development studios – giving them immense negotiating power in the value chain. As an outcome, there is a strong concentration of players: a strengthening of the position of traditional publishers in the face of multiple small publishers in a saturated market ('*oligopoly*'). In the face of this concentration, we are also seeing disintermediation and a reduction in barriers to entry, with accessible tools enabling creative workers to come together and enter the chain.

Figure 2.14 shows visually the video game creative value chains.

Digital technology is also leading to the emergence of new business models (Plumer, 2012; Greenspan and Dimita, 2021).

Traditionally, there are two main economic models, which can be described as a 'subscription economy'. The *first model* is *pay-to-play*, where players must purchase the game once or subscribe to play it, often in common currencies (especially for Massive Multiplayer Online MMOs), such as

Figure 2.14: Video game CVC



World of Warcraft; this model can be coupled with microtransactions for the purchase of virtual goods (cosmetics, even pay-To-win-type equipment), game extensions, or additional content (Raneri et al, 2022). The *second model* is *freemium*, where access to the game is 'free' by means of advertising-based registration, often combined with premium access, where access is a paid subscription offering additional features (additional games, bonuses). There are also related offers, bundles, where games are linked to other services, such as an Internet subscription (Greenspan and Dimita, 2021; Dubois and Weststar, 2022).

Beyond this traditional subscription-based models, new economic models have emerged. A *third model* is *free-to-play* combined with in-game revenue or peripheral revenue. *In-game revenue* refers to microtransactions within the game associated with virtual goods (costumes, weapons, skins, bonuses, virtual terrains, often in the form of loot boxes, which are random loot to obtain skins) (Evers, Van de Ven, and Weeda, 2015; Raneri et al, 2022). *Peripheral revenue* is generated by merchandizing and brand franchises, tournaments, and advertising on the platform hosting the game, the page where the game takes place or in the game ('integrated advertising' or 'in-game advertising'). Examples include *Fortnite* (Epic Games) and *Counter Strike* (Blizzard), which combine the free-to-play business model with in-game revenue via V-Bucks (virtual currency to buy skins and battle passes). Similarly, *Genshin Impact* combines the free-to-play model with in-game revenue based mainly on the loot box model for acquiring new characters (virtual container that players can buy or earn, which gives randomized in-game items like cosmetics, gear,

or bonus). Another example is *Battle Pass*, which is based on subscription but offers a progression system with cosmetic rewards and franchises (*Marvel, Star Wars, Naruto*) (Greenspan and Dimita, 2021). The *fourth model* is *live streaming* (Twitch, YouTube Gaming, Facebook Gaming, Kick, Trovo explained below), especially for e-sports, where video games are played professionally, comparable to a sports career, such as competitions around *Warcraft* or *League of Legends* (Greenspan and Dimita, 2021). The *fifth model* is *play-to-earn (P2E)* (explained below), where players can earn or acquire virtual goods – mostly in the form of NFTs or tokens representing virtual objects. These crypto-assets grant privileged access like more features, tournaments (price pool), bigger game boards (rooms) and which players can then resell, exchange, or withdraw in currency (so-called 'Tokenomics', described later).

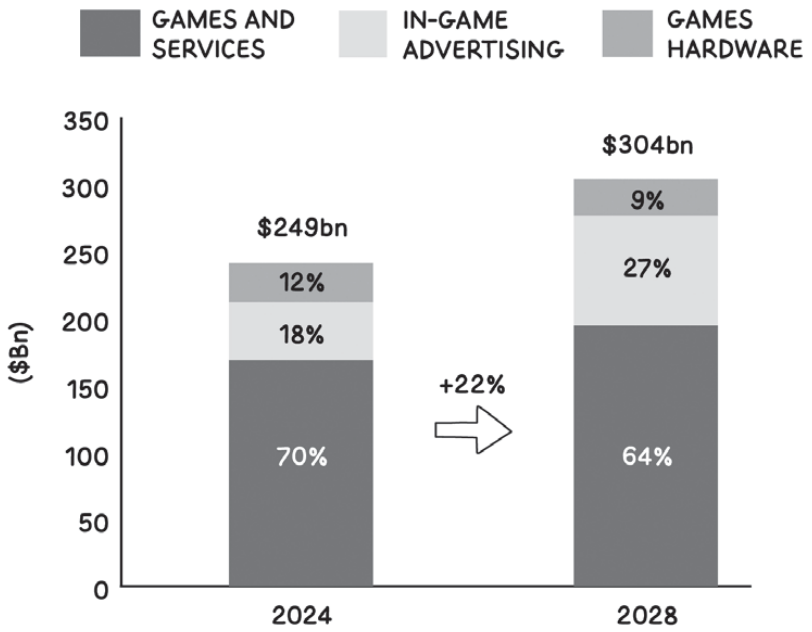
For much of the short history of video games, the model was based on the pay-to-play model. This situation began to change with new monetization models, first with monthly subscriptions to play the game (*EverQuest*, *WoW*) and then digital distribution (on PC with Steam, then mobile devices and consoles) (Lin et al, 2019; Greenspan and Dimita, 2021). These models have not only influenced the way consumers play and pay for games but also affected the way games are developed and distributed. Large publishers focus on lifetime services for their successful games, while smaller publishers release multiple games in the hope that they can be monetized for many years (Greenspan and Dimita, 2021). The free-to-play model then revolutionized the sector, generating 80 per cent of the total turnover of digital games in 2024 (*Honor of Kings* generating USD 2.45 billion and *Fortnite* USD 1.8 billion in 2021 alone). Mobile games account for 50 per cent of the total revenue of the video game industry in 2024, thanks in particular to microtransactions and in-app purchases (Greenspan and Dimita, 2021).

In sum, publishers are exploring new ways to monetize their games, retail and digital sales, advertising, subscriptions, game libraries. Their main revenue model, however, remains based on live service, similar to what has been introduced in the software industry. The development and marketing costs of all types of games continue to increase, with many rivalling the costs of Hollywood blockbusters. At the same time, the high price of many games has remained relatively stable. The future of business models seems to be moving toward more in-game and peripheral revenue and fewer physical console sales (see Figure 2.15).

The rise of game streaming

Among emerging economic models, streaming has become increasingly prominent. Streaming in video games consists of players and content creators broadcasting their gaming sessions on platforms (Twitch, YouTube Gaming, Kick, Facebook Gaming, Trovo, TikTok live, or Discord), often interacting

Figure 2.15: Global gaming industry revenues



with their audience in real time via an integrated chat. There are generally *three types of streamers and streaming*: e-sports, liveplay, and speedrunning. E-sports are professional video game competitions, such as *Fortnite*, *Valorant*, *League of Legends*, *Street Fighter*, *Tekken*, often organized in tournaments or leagues, with sponsored players or teams. They aim to earn money through donations, subscriptions, advertising, and partnerships. They are usually broadcast live on Twitch, YouTube, or dedicated platforms (ESL, Blast). Liveplay consists of playing a game live, usually solo, without a competitive objective, but rather for entertainment. It is one of the most popular content formats on Twitch and YouTube Live. Speedrunning consists of finishing a game as quickly as possible, focusing more on the player's technical ability, fun, and interaction with the community. This can include casual streamers as well as retro-gamers who stream old or classic games.

The streaming economy in video game generates value for many players at several levels. From the streamers' point of view, they are not paid by the publishers but by the platform (Twitch, YouTube Gaming, Facebook Gaming). Streamer income depends on several revenue streams like advertising revenue and subscriptions. Earnings can range from a few dollars a month for small channels to hundred thousand or millions of dollars for top-tier creators. So, streamer income is performance based. The more and the better they play, the more they increase their market

value as a successful player. Streamers also increase their social capital. From the publishers' point of view, they are not necessarily remunerated as such, but streaming increases their visibility and their community. From the platform's point of view, they generate revenue through subscriptions, advertising and other sources of monetization. The revenue split differs from one platform to another. It is generally: Kick 95/5 (Kick takes 5 per cent, the streamer keeps 95 per cent), Twitch 50/50, YouTube Gaming 70/30. Beyond this income, from the platform's point of view, streaming increases its audience and thus its sources of monetization. The streaming economy has grown to such an extent and generates such a large audience that Amazon bought Twitch (the main platform for video game streaming) in 2024 for about USD 1 billion.

Streaming is a legal challenge for platforms and publishers because the content streamed generally contains several IPRs at the same time (for example, copyright and trademarks) which are held by multiple rights holders. The question therefore arises as to who holds these rights when the game is streamed. Generally, the publisher concentrates and holds all IPR, including third-party rights to elements of the game like in-game music (Aswad, 2020; Greenspan and Dimita, 2021). The publisher thus decides to what extent the game can be streamed via its terms of service (ToS). The ToS often limits the possibility of streaming, in particular when the publisher does not want to reveal certain parts of the game to potential consumers, or does not have the rights of all third parties on the elements used in the game, such as in-game music (Aswad, 2020). In the case of unauthorized streaming, the streamer and the platform can be prosecuted for copyright infringement (Greenspan and Dimita, 2021). For instance, Twitch received a cease and desist letter from the music majors for unauthorized broadcasting of music on Twitch (Greenspan and Dimita, 2021). At the same time, streamers can offer creative workers and publishers tremendous marketing opportunities. When publishers authorize streaming, they request that the streamer grant them back a worldwide, royalty-free licence for its use (Greenspan and Dimita, 2021). This is reminiscent of general social media (for example, YouTube, Instagram, TikTok), whose ToS grant the platforms a royalty-free licence for *all content* posted by the users on the platform, and not just game-related.

AI and tokenomics

Video games are constantly being challenged by digital progress, particularly with the arrival of Web3 and AI technologies.

Web3 has mainly enabled the advent of the *play-to-earn (P2E)* business model based on the blockchain, where players can earn rewards in tokens. Players earn tokens by completing tasks or progressing through the game, or they can purchase non-fungible tokens (NFTs) representing goods,

weapons, skins, or terrains that can then be resold or traded between players, or converted into fiat currency (Scholten et al, 2019). In other words, the decentralized economy of Web3 allows players to control their assets, exchange them or sell them for fiat currency (Gao and Ying, 2021; He, 2022; Serada, Sihvonen, and Harviainen, 2022). Web3 therefore introduces digital ownership and a decentralized economy to gaming, which in theory would allow for better margins for creative workers and better control for players (Harwood and Garry, 2010; De Filippi and Wright, 2018; Scholten et al, 2019).

That being said, since their advent in 2017, video games based on Web3 and the P2E model have not had a major impact on video game creation. The most popular games in this category, such as *Axie Infinity* (combat between NFT creatures with crypto rewards), *Gods Unchained* (card game where the cards are tradable NFTs) or *Decentraland* (token-based metaverse), have not achieved mass success and remain mainly played by cryptocurrency enthusiasts. Similarly, the initiatives of AAA publishers to implement Web3 in their games have not been successful, such as the NFT platform Ubisoft Quartz, launched in 2021, which, although still accessible today, has only been integrated into a single game by the publisher (Ghost Recon Breakpoint). So, it remains to be seen whether these business models will continue to grow as such or will give way to other existing or new models.

As for AI, it can easily interact in the video games environment, which is digital by nature, where all objects are pre-labelled to be managed by the game engine. This classification overcomes real-world problems related to computer vision and object recognition. In a digital learning environment, an object labelled a 'car' can be easily spotted and identified as distinct from a road or a pedestrian. Thus, the virtual world is a privileged playground for AI technologies. The relationship between AI and video games works both ways: game development uses AI tools to generate content, and video games serve as a testing ground for AI learning. For example, Rockstar's *Grand Theft Auto V* was used to teach autonomous vehicles how to drive in the safe environment of a virtual world (Greenspan and Dimita, 2021).

AI technologies can open up new possibilities for game development. It has the potential to accelerate development and reduce the cost and time to market games by eliminating the need to work on repetitive or tedious tasks that could be entrusted to AI models. The possibilities of AI seem endless: it can enable graphical rendering of level design, generate musical scenarios, develop believable non-player characters, and create personalized narratives (Greenspan and Dimita, 2021; Nelson and Mateas, nd). That said, their use is controversial due to the attachment of players to human creativity expressed in video games. To this end, Nintendo, Sony, and Mojang (the creators of *Minecraft*) have stated that they will refrain from using generative AI to preserve their artistic vision. Of course, this stance is largely symbolic and

limited to gameplay, as these studios certainly employ AI technologies across all stages of the creative value chain (for example, pathfinding, animation, player analytics).

Strengthening major publishers and distributors

In the video game sector, power is increasingly concentrated in the hands of publishers and distributors (Chia, 2020). This recalls the music industry, where musicians are dependent on labels, majors, and platform (see Chapter 2).

Publishers have immense bargaining power in the value chain, as they often integrate all stages and skills, from financing and risk-taking to production and distribution. That said, this is particularly true for traditional video games (consoles, PCs), less for mobile games, where publishers must deal with a complex and fragmented ecosystem, including with payment, data and advertisement service providers (Greenspan and Dimita, 2021).

Publishers strengthen their *economic power* by capitalizing on successful games, in particular on their ongoing evolution in the form of paid services, on their underlying technologies and game variations (Chia, 2020). Indeed, modern video games allow publishers to provide continuous updates to a game or franchise, through the automatic addition of additional content, whether paid or free. Their technologies can also be often used for other games and variations without starting from scratch, making R&D expenses profitable (graphics engines, compression and networking technologies, performance, reusable assets).

One example of a game variation is *Street Fighter* (Capcom). Initially released in 1987, it expanded to multiple products and games variations with the same gameplay (from *Street Fighter I* in 1991 to *Street Fighter 6* in 2023). *Street Fighter 6* is also continually updated to capture the attention of its audience (for example, new characters, revised game balance). Another example is *Warcraft (WoW)* (Blizzard). Initially released in 1994, it expanded to game variations (from *Warcraft II and III* in 1995–2002 to the multiplayer game *World of Warcraft* in 2004). In parallel, Blizzard developed *Diablo.* Initially released in 1996, it expanded to multiple game variations (from *Diablo II* in 2000 to *Diablo IV* in 2023). *WoW* and *Diablo* remain distinct universes and separate franchises, but share artistic references, gameplay (loot, acquisition of rare and legendary equipment) and cross-references (objects and creatures like Mini Diablo appear in *WoW*). Blizzard could also test its on-board camera, a free third person camera to boost the gaming experience, unlike competitors where the camera is in first person view (*First-Person Shooter, FPS*). Blizzard could thus explore technologies and designs in Diablo before integrating into WoW, which led the studio to generate USD 15–20 billion for the *Warcraft* franchise.

Beyond economic dynamics, the consolidation of publishers' power also stems from *legal mechanisms*, notably copyright rules and contractual practices that ensure the transfer of rights to publishers. Most creative workers, programmers, designers, illustrators, and even scriptwriters, are employed under work-for-hire contracts or required to transfer their rights to the publisher. As a result, publishers concentrate all copyrights, while individual contributors rarely retain rights or receive royalties from ongoing exploitation (Dimita, 2023; Connect, 2025). The exception is music, where composers of video game soundtracks may receive royalties through CMOs. For the majority of contributors, remuneration is limited to salaries or lump-sum payments. This makes the video game industry a striking case of value concentration publishers controlling IPR and capturing most of the surplus. And given the high entry costs (for example, R&D expenses), technologies usually belong to large publishers. The 25 largest publishers generate 80 per cent of the global market (USD 100 billion dollars, see above and Figure 2.15) (Newzoo, 2023).

Unlike in music, where CMOs or statutory remuneration rights can secure ongoing income, no equivalent mechanisms exist in video games. Royalty structures are primarily negotiated between publishers and distributors (Steam, App Store, PlayStation Store), with revenues split between them, leaving little room for upstream redistribution. This contractual imbalance can been be as rendering game developers 'invisible authors' (Chee, 2019). While their creative input is essential, their participation in the economic value chain is limited, raising questions of fairness in value distribution and prompting calls for alternative models, such as co-operatives or collective bargaining (Greenspan and Dimita, 2021) (see Part II).

As for distributors, they dominate distribution channels in their respective segments (for example, Steam for PC, App Store and Google Store for mobile distribution). This dominance allows the platforms to limit interoperability.

Diversion of value and community reappropriation

Alongside traditional economic models, collectives of artists and creative workers are exploring ways of diverting the value captured by publishers and distributors. One avenue is disintermediation. Technologies enable *self-managed communities*, artists, and creative workers to get together to avoid major distributors and publishers, by organizing themselves around cooperative models and shared codes, tools, and revenues. For example, the Itch.io platform, often used for distributing independent games, allows artists and creative workers to set their share of revenue (up to 100 per cent). The aim was to free oneself from the economic and creative constraints imposed by traditional video game models (Berge, 2025). Technologies also enable creative workers to test preliminary versions of

their creations (via platforms like Steam Early Access) and adapt them according to community feedback.

Another avenue is the idea of *open-source video games*, that is, games whose code is public and freely modifiable, for example, *0 A.D.*, a historical strategy game, or *Battle for Wesnoth*. These projects are often community-based, collaborative, and free of charge, updated by volunteers. They avoid intrusive monetization, promote learning and creativity, and avoid the logic of value capture by a single company.

There is also *'retrogaming', 'perma-gaming'*, and *cross-disciplinary practices*. Retrogaming consists of developing new games on old consoles like the NES or Atari 2600. For example, *Micro Mages* has been developed in 2019 for the NES and distributed via cartridge. This approach is part of a logic of technological resistance and a desire to appropriate a playful heritage outside the dominant circuits. It is also a way of refusing the race for technology and planned obsolescence. Perma-gaming consists of exploring the game, modifying it, and having new experiences, sometimes over several years or even decades, even after the 'end' of traditional gameplay. Cross-disciplinary practices include games within the game (machinima, mods, map editors), or games as a medium, such as films shot in GTA V (a famous action-adventure game in a fictional city) via the director mode, or artistic works created in *Minecraft* or *Dreams*. The game becomes an artistic medium, a medium for creation or narration, diverted from its initial commercial use. These are forms of creative appropriation, where the value lies in the community, the shared imagination, and not in the economic model of the game.

Creative appropriation also involves *retro and emulation movements*, where communities recreate or preserve old games, often illegally at first, but today increasingly legitimized or integrated by the big companies themselves. For example, Nintendo has integrated emulation into its consoles, and consoles such as Analogue Pocket or Steam Deck are used to play old games via emulation. This movement was initially alternative and archival, but it is becoming a commercial branch, reintegrated into market logic.

These avenues illustrate a form of resistance and show how creators and communities are trying to undermine the dominant models imposed by publishers and platforms so that they can reclaim the value.

3

Common Characteristics

The creative value chain (CVC) has some common characteristics across the sectors, from music to visual art and gaming. In the age of the platform and AI economy, value is captured mainly by the platforms. Yet, there are many players involved in the creative process in CVC. All these players should receive a share of the income generated by one of the stages of the creative process, so solutions need to be found.

The question arises as to whether a distinction should be made between sectors and their specific characteristics, as not all sectors are affected in the same way. Sectors within cultural and creative sectors (CCS) face different challenges when it comes to digitization, so generalist discourse and solutions are difficult to apply (Benhamou et al, 2024). In sectors where creativity has been transformed into an information good – music, video games, audio visual, and, in some cases, digital art (Webster, 2019) – access to user data is important for understanding the success of a work and adapting creation and distribution strategies. Copyright also appears to be an appropriate solution for guaranteeing a return on investment for works with high production costs and low marginal costs. In contrast, in sectors where creativity remains a unique asset – visual arts – the digitization process is slower than in the aforementioned sectors. These sectors mostly do not have an aggregated repertoire of copies unlike music and audio visual available with streaming subscription services (Benhamou et al, 2024). Copyright appears to be a less suitable solution than for information goods, so that these sectors need to be supplemented by other measures (Chapters 5 and 6).

Copyright's role in creators' total income varies from one sector to another. Most artists diversify their income-generating activities (for example, teaching, residency, public grants, subsidies) (Bataille and Perrenoud, 2016). In music, for performers, copyright could well represent less than 10 per cent of their income-generating activities. Performers are often paid as a fee for their performance with limited or no copyright in the form of

buy-out clauses. In audio visual, for directors and comedians, copyright could well represent less than 3 per cent (sometimes they receive a little by the producer, melted into the amounts paid upstream in the form of buy-out), the rest in the form of fee, kind of salary of director-technician. In visual arts, artists receive a share by their intermediaries (for example, galleries, auction houses, art dealers or the secondary market) for the first sale and, sometimes, for the second share in the form of a resale right, which is minimal.

That said, we adopt here a *cross-disciplinary approach*, both to describe CVC's common characteristics and to propose common solutions to the various sectors. We have identified and selected ten main characteristics common to the CCS. These characteristics have been chosen for their importance in influencing CVC, without claiming to be exhaustive. They reflect an arbitrary choice by the author.

The platform economy

Streaming and sharing platforms

Platforms (also called digital service provider or DSP) have transformed the value chain, capturing a significant share of it. Platforms refer to the intermediation of commercial relationships, whether for the sale of tangible goods (Amazon, eBay) access to intangible goods (Spotify), sharing services (sharing economy, collaborative economy) (YouTube, TikTok), social media (Facebook, Twitter/X, Instagram), or connecting consumers and professionals (Uber) (International Labor Organization, 2021).

Platforms generally offer a service in the form of access to the platform, ranging from the purchase of goods (books, records, games, films) to temporary access to services or content via a licence, often paid for in the form of a subscription (Spotify, Netflix, Xbox, Microsoft 365). This *subscription economy* is found not only in the digital (software, social media) and CCS (video games, music) but also in other more tangible sectors (car or household appliance leasing or rental). This allows platforms to spread economic risks through regular cash inflows. It also enables capital growth as well as subscriber acquisition through low, predatory prices, which in turn strengthen customer dependence on their services while weakening competition (Khan, 2017) (see Chapter 3).

In exchange for these services, platforms collect *user data* in order to monetize it for targeted advertising, especially for platforms whose business model is primarily based on targeted advertising, transforming social interactions into online quantified data ('datafication') (Mayer-Schönberger and Cukier, 2013). For example, Google, Meta, Amazon, Alibaba, and ByteDance ('advertising giants') capture more than 50 per cent of global advertising revenue, which amounts to USD 1 trillion (McNally, 2024).

This data collection also enables platforms to innovate in new technologies (for example, in music streaming, Spotify is conducting research in audio intelligence, human–computer interaction, and language technologies). This data collection leads to power asymmetry, as platforms collect vast amounts of user data for their own use, while users blindly agree to terms and conditions that they do not read or understand. According to several studies, 99 per cent of privacy policies are not understandable to a high school student, and it would take the average user 250 hours to read the privacy policies of the websites they visit annually (McDonald and Cranor, 2008; Obar and Oeldorf-Hirsch, 2022).

Beyond this data collection, some platforms have strategies aimed at *capturing the entire supply chain*, that is, not only internal activities (see Chapter 1) but also all external activities with external service providers (logistics, cloud providers, distributors). This capture of all chains occurs even if the company is initially operating at a loss (see Chapter 2) in order to make other market players dependent on their services and weaken or eliminate competition at a later stage (Khan, 2017).

Platforms exercise quasi-state power over their ecosystems, reminiscent of state sovereignty. Just as a state imposes its laws, platforms impose rules on content moderation, visibility of algorithms, and access to services. Some even compare this power of platforms to digital feudalism: platforms act like lords over their users and workers (Uber drivers, content creators), who are subject to their conditions without any real negotiating power. Others speak of modern slavery, denouncing the precarious working conditions in the platform economy (overexploited content moderators, underpaid click workers) (Durand and Milberg, 2020). Platforms seize and exploit user data and workers, just as European colonies once seized land in Africa, Asia, and the Americas for substantial economic gain (Couldry and Meijas, 2024).

DSPs that impact CCS are mainly: streaming platforms (Spotify, Deezer, Twitch), social media (Facebook, Twitter/X, Instagram) and video-sharing platforms (YouTube, TikTok, Twitch), as well as marketplaces (OpenSea). Indeed, these platforms are massively used by creators to disseminate their creations, and by the public to discover and reuse them (see Chapter 2). Their role has become inescapable in a globalized market saturated by overproduction (as explained below).

Platform value chain

From a value chain perspective, platforms employ and involve a multitude of actors and trades. They employ *platform workers* (also called click workers) who perform a variety of activities, ranging from micro-tasks – simple, repetitive tasks like home services and image classification – to more skilled

services like programming and design. These tasks are generally managed by algorithms in competitive environments, with no social protection for the worker or physical offices (Srnicek, 2017; Vallas, 2019).

Platforms also operate on a global scale, often employing workers in precarious and outsourced jobs in countries in the Global South, which reinforces the North/South divide. Developing and emerging countries are vulnerable to the social upheavals caused by platforms, due to the pressure they exert on low-skilled, low-value-added jobs. These countries also account for a large proportion of the 'click workers' who are essential for training algorithms.

Yet the precarious living conditions of click workers contrast with the profits generated by this industry. The asymmetry in data collection, combined with the inequitable distribution of costs and benefits, is fuelling a sense of injustice. As a result, calls for regulation to avoid exacerbating the divisions are becoming increasingly urgent, including at the international level. Among the avenues being explored is the introduction of a dedicated tax to offset the social impacts of platforms and ensure a fair distribution of their externalities on a global scale (De Roucy-Rochegonde, 2025).

Platforms also exploit *users* to share data and content. Users are no longer mere consumers but generators of value through the provision of their personal data and their user-generated content (UGC) (15 per cent out of 4.2 billion of social media users are creating UGC, thus considered part of the creator economy) (CISAC, 2024). Platforms transform data and interactions into economic value, by exploiting free personal data as well as UGC in the form of underpaid labour (Howson et al, 2021; Terranova, 2000). This means transforming data into value through invisible, unconventional mechanisms and blurring the boundaries between production and consumption (Fuchs and Fischer, 2015). By consuming platforms, the Internet user becomes a data provider, or even an auxiliary in the production of value, while the platform transforms this raw material into exploitable value (Broca, 2017). As an outcome, users become 'digital labourers' (Vallas, 2019; Terranova, 2000).

It should be noted that this approach to describe online interactions as 'work' is being questioned on the grounds that it amounts to an infinite broadening of the concept of work. This calls into question the traditional notion of work. Traditionally, work is understood as the conscious and voluntary effort made by an individual to transform resources, ideas, or skills into goods or services that meet a social need (Broca, 2017). However, extending the category of work to the simple provision of data would be linked to a situation in which human labour now occupies a relatively subordinate function in the process of creating and capturing value (Broca, 2017). It is in any case surprising to consider work the act

of leaving traces on the Internet, of unknowingly providing the raw data for a process of value creation in which algorithms, and the work of those who write them, play a central role. These data emissions are in fact only a corollary, often unintentional and unconscious, of the Internet user (Broca, 2017). It also calls into question the economic foundations of the wage-earning and social security systems, as every Internet user becomes a worker. Salaried employment and social security are based on a model of interprofessional and intergenerational solidarity and redistribution of wealth (employer–worker financial contributions via social security contributions to finance collective protections, pensions), which makes it possible to mutualize the risks linked to the hazards of life (illness, old age, unemployment) by redistributing resources to protect the most vulnerable and ensure economic and social stability at the national level.

Attention economy

We are also witnessing the *capture of attention* without compensation (Bueno, 2016; Falkinger, 2007). Human attention is a rare resource, which platforms exploit as a 'commodification of attention' to capture, retain, and monetize user engagement (Crogan and Kinsley, 2012; Citton, 2014; Birch and Muniesa, 2020). The attention economy emerged in the 19th century with a mass press and sensational journalism, which competed for the attention of the public and the interest of advertisers. The difference from today is that the digital technology allows our attention to be captured everywhere and all the time for the benefit of digital advertising giants (Bueno, 2016; Zuboff, 2019). In the digital world, it is easy to capture the many traces and user data so that users and potential users can be profiled. AI technology is an additional layer for this profiling. Its ability to learn aids the detection and production of sophisticated classifications (Pasquinelli, 2020). To generate more engagement, platforms (social media) are creating designs with ever-greater powers of attraction thanks to AI technologies, as if stimulating dopamine, autoplay automatically streams one video after another and activates the brain network's default mode. Combining content and user profiles with unexpected content leads to the exploitation of variability in the brain (Citton, 2014; Socialter, 2024).

This commodification of attention may be turned into attentional extractivism (monopolizing an untapped resource to turn it into a commodity): our attention is a finite resource, the raw material on which advertising empires have built a war to capture our available brain time (Socialter, 2024; Citton, 2014). Their main advantage lies in their recommendation algorithms, which keep us online: for 13- to 19-year-olds, as much as five hours a day. In practical terms, according to Socialter (2024), this means that a few algorithms, driven by few platforms, structure access to information for half of humanity.

This attention economy can be described as an information revolution in the same way as writing, printing, and the Internet were. Algorithms now structure the global distribution of information (Citton, 2014). This has consequences on an individual scale (pupils spend sometimes more time in front of their screens than they spend at school, which can lead to cognitive disorders) and on a collective scale (we get carried away in a river of distraction, preventing us from pursuing our collective long-term interests) (Socialter, 2024).

The AI economy

Generative AI

The term 'artificial intelligence' (AI) was coined in 1956 by logician John McCarthy to describe the techniques used to better understand human intelligence and to imitate it using computer programmes (Noël, 2018). Today, there is still no internationally harmonized definition of AI, and it is defined differently in different jurisdictions. AI will be defined here as any 'machine designed to achieve explicit or implicit goals, by receiving input data and generating output such as predictions, recommendations or decisions influencing real or virtual environments' (OECD, 2024) (see Art. 3 AI Act).

AI can support the entire CVC and can be beneficial to CVC actors, as it can make them more creative and efficient. But AI can also be detrimental to CVC actors, as synthetic content can compete with human creations (as explained below).

CCS is particularly impacted by generative AI as it is increasingly used in artistic fields (aiartists.org) (Bensamoun and Farchy, 2020). Generative AI is a subset of AI designed to produce creative content (text, images, video, sound) by ingesting material, often copyrighted, to identify patterns (inputs) (Bensamoun and Farchy, 2020; United States Copyright Office, 2025a). The main models include image generators (DALL-E, Stable Diffusion, and Midjourney) that create new images by translating a text description into an image with a semantic meaning similar to that of the text (text-to-image model), music generators (AIVA, Boomy, MusicLM, Suno) that generate music (melodies, lyrics, arrangements) from simple text descriptions (text-to-music) (Benhamou and Andrijevic, 2022) and text or code generators (ChatGPT, Copilot).

The importance, or expectations of generative AI is reflected in the valuation of AI providers. For example, in 2024, OpenAI (a pioneer in generative AI that operates ChatGPT, among other things) was valued at USD 300 billion, making it one of the largest unlisted companies alongside SpaceX (USD 350 billion). Social media X (formerly Twitter) was acquired by xAI (a generative AI start-up founded by Elon Musk in 2023 in response to ChatGPT), illustrating the priority given to the development of AI technologies through the use of user data.

But generative AI has a number of variations that should be borne in mind in CVC (Benhamou and Andrijevic, 2022; Crawford, 2022; Benhamou Y., 2024):

- Generative AI models can take many forms and are likely to evolve in the future. One of the main forms of generative AI is a large language model (LLM) or more generally a *foundation model*, which is a model that is pre-trained on large datasets and can be adapted to a variety of specific tasks (LLaMA, or GPT-5 for text generation, code, data analysis, abstracts for various sectors, from CCS to education, medicine and finance). Training data often comes from large datasets retrieved from private or public web sources. Examples of large datasets include LAION or Common Crawl. Their content is based on information collected from publicly accessible pages on the Internet (images and text), social media (Facebook, Reddit), online newspapers (*New York Times*), Wikipedia, digitized books, patent archives (Gao and Ying, 2021; Liu, Liu, and Osmani, 2021; Baack, 2024). According to recent studies, large datasets often include illicit copies from classic pirate sites (LibGen, Anna's Archive, Z-library, Watchseries, and OpenSubtitles). For example, Meta reportedly uses Z-library, LibGen, and Anna's Archive to create new datasets for its Llama 4 model, and Deepseek reportedly uses Anna's Archive extensively to train its LLM (Kantrowitz, 2025).
- AI models *do not directly copy fragments* from training data but rather absorb concepts at a more abstract level through multi-layered architectures. During training, the AI models break down training data into smaller token and learns to predict the next token in a sequence (CISAC, 2024, which lists the three most common GenAI models: GANs, VAEs, transformers). Once training is complete, the original training data is not stored, only the learned weights remain, which encode statistical relationships between tokens. That said, AI models can sometimes *regenerate* training data (so-called phenomenon known of 'regurgitation' or 'memorization'), particularly for frequently seen or highly unique content (as illustrated by the recent decisions Gema v OpenAI and Getty v Stability AI). It is not that the AI model 'remembers' in the human sense. It is that the learned weights make some outputs extremely likely in specific contexts. AI developers use multiple strategies to limit memorization, for example, post-training analysis like test prompts to detect and measure memorization. So, this phenomenon of 'regurgitation' or 'memorization' could decrease in the future, if not become non-existent.
- Generative AI models can also take the form of *small language models (SLMs)*. SLMs are smaller versions of language models optimized for specific tasks, often trained with the user's own datasets. For example, Google's NotebookLM allows users to integrate their own datasets (notes,

personal documents) into the underlying LLM (PaLM 2), which can then contextualize answers for the user. SLMs are generally obtained from pre-trained LLMs using distillation or fine-tuning techniques, but, once deployed, they operate autonomously, independently of the LLM. They can also be obtained completely independently of an LLM without resorting to the distillation of an LLM, for highly targeted applications. In the CCS, SLMs represent lighter, more local, and creative alternatives to LLMs. For example, GPT-2 allows artists to select their own datasets to generate poems or experimental narratives as part of interactive installations or digital performances. In the same vein as SLMs, AI tends to be developed in devices integrated at the edge of the network (smartphones, Internet of Things [IoT] sensors, cameras), rather than in the cloud (edge AI). This reduces latency, improves data confidentiality, and ensures greater responsiveness even when connectivity is limited. However, SLM and edge AI can make it difficult to detect inputs. As an outcome, we can distinguish between three types of AI models: foundation models (pre-trained like GPT, LLaMA), specialized fine-tuned models (derivative, adapted to domains like music, text, or image generation), and dedicated models for specific creative workflows (for example, screenwriting and dramaturgy).

- AI can take the form of *proprietary* or *open source* models, making it possible to know and reuse all or part of the model components – training data, weights, architecture – and to run a machine with an LLM locally and at lower cost (DeepSeek) (Sparrow, 2025). 'Open source AI' is sometimes used for marketing purposes by proprietary companies ('open-source-washing') and is not the subject of a harmonized definition, so it is preferable to talk about the degree of openness depending on the components that are under an open licence rather than a binary notion of open source or not (Benhamou, Y., 2024b). However, because of their openness, open source models offer powerful tools to any actor, including malicious ones (De Roucy-Rochegonde, 2025).
- AI is tending to develop towards *agentic models* (autonomous agent, intelligent assistant) enabling tasks to be carried out without human supervision (AutoGPT). Agentic models will not simply generate content, but will deliver complex results according to the objectives provided by the user, by combining several tools and models (a sort of mini-cabinet of consultants). For example, an artist could ask his agentic model to organize his marketing campaign for the release of his album.
- AI is also tending to develop towards an *artificial general intelligence* (AGI) that is capable of understanding, learning, and applying knowledge in a wide variety of fields, in a way that is as flexible as a human mind. It is distinguished from specialized AI by its ability to transfer skills between different tasks and to adapt to new contexts without specific

reprogramming. It could lead to breakthrough innovations such as synthetic biology and pathogens. There are several caveats, however. AI technologies could follow the same pattern on environmental issues, where scientific reports could be pushed aside in favour of political and economic agendas. The AI summit 2025 played down the scientific report on AI safety, preferring to talk about innovation and investment, which is reminiscent of the climate change Conference of the Parties (COP) meetings, where scientific reports on environmental risks often take second place. Also, the potential of turning AI into AGI shall not be overestimated. AI developers advocate for years that their models continue to improve with breakthroughs (for example, with the release of GPT-3, which was ten times larger GPT-2) (so-called 'scaling law'), attracting historic fundings. However, there seems to be a stagnation in progress, a plateau where the marginal gains from 'scaling' are now minimal, as shown with the recent release of GPT-5 (Newport, 2025). Not to mention that some are even predicting a market crash of the AI bubble rather than stagnation. So, it is possible that AGI will not be achieved so soon and/or that the industry will start favouring post-training optimizations over fundamental breakthroughs, far from excessive hype that we have just been through in recent years. In sum, AI can be used as simple tool for routine tasks, as an intelligence assistant, or as an AGI.

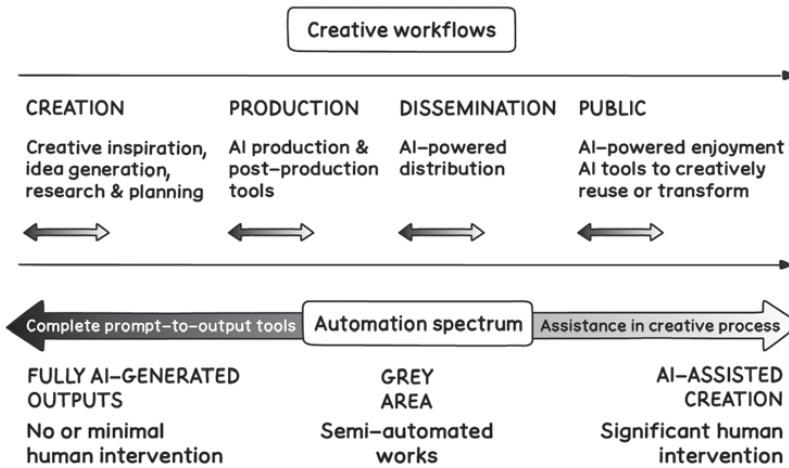
AI models can be used *across the entire CVC*, to support creative professionals in their workflows, from creation (for example, idea generation) to production (for example, AI production and post-production tools) and dissemination (for example, content recommendation, audience analysis). They can also support the public, when consuming a work (for example, providing real-time explanation, or adaptation of a work to suit individual tastes), or transforming a work (for example, AI tools to creatively reuse or transform a work). In other words, AI models, provided by upstream developers, can be used by downstream professionals (B2B for 'business-to-business'), by downstream end users (B2C for 'business-to-consumer'), or by downstream artists (B2A for 'business-to-artists'). AI technologies can also be used across a *spectrum of human intervention*, from fully generated works to assistance in the creative process.

Figure 3.1 shows different AI uses across the creative workflows and the automation spectrum.

AI value chain

AI models involve many actors at several stages. The actors in the chain can be divided into three types: *first*, the *public*, individuals or

Figure 3.1: AI use – AI-generated outputs vs AI-assisted creation



organizations that use the models in their activities (CCS, media, marketing), and society, which does not use them directly but benefits from scientific and cultural innovation (see Chapter 4). *Second*, *rights holders* whose works are used as inputs, original artists, and third parties to whom these rights have been transferred (producers, publishers). These may react differently to the changes brought about by AI's creative incentives: artist will be more sensitive to the intrinsic incentives linked to maintaining control over their work and its artistic integrity, while producers will be more sensitive to extrinsic financial incentives such as lower production costs. *Third*, *suppliers*, that is, data providers (Common Crawl, Laion), distributors and developers of models of generative AI, equipment manufacturers. They can be divided into upstream developers who develop the fundamental models and downstream developers who build specific applications from these fundamental models for a particular use, case, or sector.

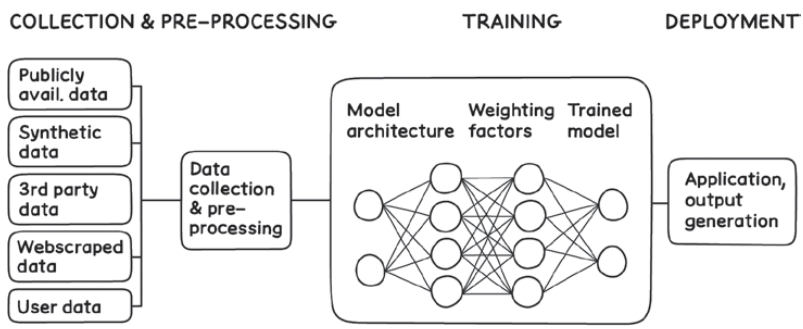
Along the AI chain, there are also *many professions*: infrastructure and hardware engineers who design and optimize GPUs, TPUs, servers, and other features of hardware architectures for model training and inference; data engineers who collect, clean, structure and annotate the data needed to train AI models; AI researchers and data scientists who develop new AI models, refine architectures and explore new learning techniques; machine learning engineers who train and optimize models for different applications; software developers and integrators who design applications that use generative AI and integrate it into products and services; UX/UI specialists and conversational designers who design user interactions

for generative AI-based systems (chatbots, AI assistants); AI ethics and compliance experts; and AI product managers who ensure the regulatory compliance of AI models and determine the strategic direction of products. All individuals behind the AI models who participate in the chain of model design, training, and deployment can be called invisibilized 'click workers' of the AI chain.

In terms of stages, AI models can be subdivided into three main phases (see Chapter 3). The *first phase* is *data collection and pre-processing*, which involves selecting, copying, structuring and storing data, as well as preparing these data for analysis (for example, cleaning, labelling, enhancing). The *second phase* is *training*, which involves taking an untrained model, that is, an architectural model with blank or random weights, and training it with specific datasets in order to fine-tune the model's parameters and weights. The *third phase* is *deployment*, which involves integrating of the model into operational applications and allowing users to generate content. Follow-up phases include maintenance, and ongoing optimization and governance to adapt to new data, technologies, and legal standards (OECD, 2024) (see Figure 3.2).

That said, AI polarizes. On one side of the spectrum, we hear reassuring speeches about AI models as a simple tool to aid creation, making creators more productive and creative. On the other side of the spectrum, we hear alarmist and apocalyptic talks of AI as a disruptive technology posing a substantial risk to humanity, like the nuclear bomb (a kind of Sputnik or Oppenheimer moment, an invisible weapon in an invisible war) (Roose, 2023; De Roucy-Rochegonde, 2025). In between, we also hear talks of yet another technological revolution, like the steam engine, which will relieve mankind of certain tasks, freeing up time for other things. We also hear that AI is more than a technological shift. It is a profound revolution of human civilization that delegates creativity to the machines, as opposed to previous

Figure 3.2: AI phases



technological revolutions that delegated other human faculties like strength to the stone, time to the machine, memory to the digital. Today, generative AI is no longer just a tool, it writes, composes, paints, arranges, sometimes with no human intervention. Even a phenomenon of deindividualization, where individual and authorship will disappear. Human will no longer think, create, or even choose what they consume, but hand it all over to machines. These conflicting positions obscure and delay AI regulation, so that one can speak of '*digital confusionism*' (Benbouzid, 2023; a dynamic also described in Chapter 4). Much like the tobacco industry's strategy of promoting contradictory studies from the 1950s to the 1990s, this confusion seems to serve the interests of Big Tech by undermining clear regulatory action and delaying AI regulation. Regardless of the camps, AI technology raises major challenges. One of them relates to employment and the distribution of value, as explained below.

Capturing the value of creative inputs

Generally speaking, AI has disrupted the value chain and the creativity, by enabling to generate new creative works, including large-scale reproduction of identifiable visual styles. To generate new creative works, AI is built on creative labour, on others' works mostly original creations and cultural heritage found on the Internet. This leads to a cultural transfer from creators and heritage to AI models (Krim, 2025a). An iconic example is Ghibli studio, whose style has been copied to generate millions of Ghibli-style images by ChatGPT users in March 2025, prompting debates over copyright, originality, and cultural appropriation. AI also leads to job replacement, or displacement. Another iconic example is *Elle*'s publisher. In 2025, more than half of its online articles were partly or fully generated by AI, under 'fake' journalists like 'Sophie Vermeulen' and 'Marta Peeters', without any human review, prompting debates over replacement of creative and intellectual professions like journalists. Moreover, the AI economy represents a new era of the economy, marking a profound transformation of the platform economy, while paving the way for highly personalized products and services.

Consequently, AI technology is impacting the job market in all economies and sectors, from automated jobs to intellectual and creative professions. The latter includes journalism, graphic design, law, translation–interpretation, education, science. For instance, Goldman Sachs estimates that AI could eliminate 300 million jobs (Goldman Sachs, 2023), while the Draghi report worries about Europe's lagging competitiveness in AI and upcoming job displacement (European Commission, 2024). In the CCS, AI-generated content is so massive that it will represent EUR 16

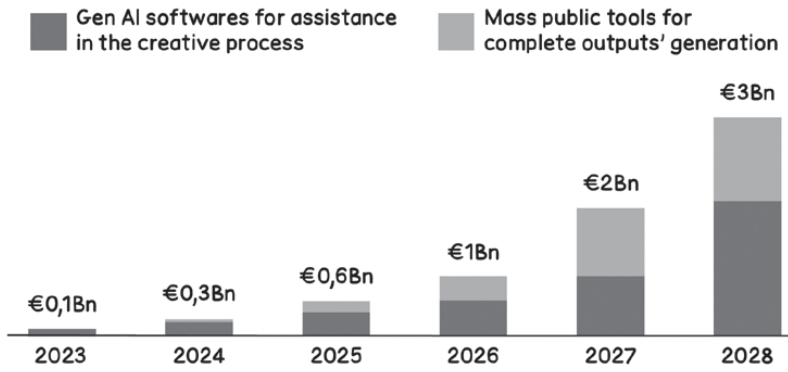
billion in music and EUR 48 billion in audiovisual content by 2028. This will represent a 24 per cent loss of income for creators in the music sector (Goldmedia, 2024). This rapid growth will be at the expense of traditional human works, and AI-generated art will gradually replace human creations.

The future of AI technology is difficult to predict, and everyone has their own forecast. In any case, we can predict that it will develop beyond generative AI, with rather disruptive, even dystopian scenarios. Let's take an example from the music industry. An Internet user takes an open-source model that allows to run it on his/her own machine locally and at lower cost (DeepSeek), combined with autonomous agents (AutoGPT) and quantum AI for computing power (Google Quantum AI). Thanks to open source, the user trains a local AI on 20 years of pop hits from pirated databases, then floods streaming platforms with 10,000 synthetic tracks every day. Streaming algorithms favour AI-generated songs over human ones in order to save on plummeting copyright royalties (Sparrow, 2025). Relying on an autonomous agent, it self-learns, generates, optimizes, and distributes music without any human intervention. It replicates an entire studio, creates music and publishes it directly on a streaming platform. With quantum AI, the autonomous agent reproduces copyrighted music with such precision that any copyright infringement is impossible to prove. Who owns what when AI models can instantly compose in any style, at any time, and proves indistinguishable from human work (Sparrow, 2025)? Another example, dystopian or utopian, is that tomorrow's Spotify, backed by an intelligent assistant (sometimes referred to as AI assistant, or agentic AI), could generate new real-time music to meet users' moods at every moment, based on emotion recognition, vacation photos, emails, and the day's schedule.

In conclusion, generative AI risks profoundly transforming CCS, and possibly to the detriment of human creativity (CISAC, 2024). We are entering an era of parasitic behaviour, where platforms absorb the creative labour, the creativity of millions of people to create wealth, at the risk of killing their hosts, replacing human creativity with AI-generated content. One author said that, in the animal kingdom, 10 per cent of known species are parasites, and that this is probably true of the creative economy (Gioia, 2024). We can also talk about a *double capture of value*: individual (works, data) and collective (heritage). AI models become factories for cultural remixing of works, data and cultural heritage (Krim, 2025a). This double capture of value raises questions about the fair distribution of value that is nevertheless created collectively.

Figure 3.3 shows visually the music GenAI providers revenues, whose figures come from the CISAC study (PMP Strategy, 2024).

Figure 3.3: Music GenAI providers revenues



Redefining the role of the players

Creative workers

In addition to the emergence of new modes of creation and production (new formats), distribution (streaming and sharing platforms) and consumption (collaborative platforms), digital technology is redefining the role of the players.

First, there are the *creative workers* at the beginning of the CVC. The term 'creative workers' is used here in a broad sense. It includes the 'core creators themselves' at the heart of the artistic process who initiate and create the artistic raw material, an original idea, a cultural expression like authors and interpreters, designers, game developers. It also includes '*adjacent creative workers*', people collaborating in the artistic process with more or less creative intensity, carrying out a related activity that is essential to the artistic process like technical staff with their creative or technical know-how, or event organizers with their network (Leeker, Schipper, and Beves, 2017; Office Fédéral de la Culture [OFC], 2024).

We define the notion of 'artistic work' or 'artistic process' broadly, within the framework of the CVC, as the transformation of an idea into exploitable goods, services, or experiences (see Chapter 1). Note that these notions have always been debated. An artistic work is 'any cultural good or service that elicits an aesthetic judgement from a disinterested viewer' (aesthetic theory, Kant, 1790; Swiss Supreme Court decision, 8 March 2005, ATF 131 IV 64 'the work must be judged from the point of view of a spectator open to art'). The notion of 'artist' or 'creator' relies as well on other criteria like on professional exercise of an artistic activity, on devoting at least half of one's working time to an artistic activity or on deriving at least half of one's income from it, training (having undergone artistic training) and/or on recognition by peers (prizes, bursaries,

exhibitions) (for example, Visarte Switzerland, conditions of eligibility for membership in the association). The notion of creators also differs according to theories and history, sometimes emphasizing individuality or sometimes interaction with its social, spiritual, and economic context. It can refer to the *craftsman*, the person who masters technical know-how (classical theory, Antiquity, and Renaissance, exemplified by Da Vinci). It can also refer to the *creative genius*, namely the isolated visionary endowed with natural or divine inspiration (19th-century romantic theory, for example the painter Turner). It can refer to the *member of a society* reflecting on its environment (sociological theory, Warhol between art and popular culture), the *thinker* (contemporary theory, conceptual art, Duchamp), or even the *spiritual intermediary* (mystical or esoteric theories, Kandinsky). It can also refer to the *producer* of commodities in a capitalist system influenced by material and economic conditions where the work becomes a form of product that can be valued, quantified and exchanged on the market (Marxist theory) (Walter, 1969).

Digital technology has redefined the role of creative workers who become autonomous self-entrepreneurs, by means to interact directly with their audience and distributors (Hisrich and Soltanifar, 2021). We are far from the dominant 'romantic' model of the 19th century whereby artists create and let intermediaries monetize their talent, but nonetheless close to the renaissance model of 15–16th century whereby artists worked in ateliers. Self-production is also growing strongly at the same time as traditional production, leading to an overproduction of highly homogenous content. The role of intermediaries remains central because, while creators can interact directly with their audience, the intermediary's reputation contributes to the creator's value (Benhamou et al, 2024) (as explained above).

Intermediaries

Intermediaries are any *third parties* positioned between creation and consumption. They do not directly create the works themselves but participate in the creative process by helping produce and/or distribute a work.

Traditionally, these intermediaries refer to third parties representing and/or controlling production and/or distribution of the work like commissioners, publishers, and producers. With digital technology, they have multiplied into a diverse number of players, who are generally more sensitive to the extrinsic incentives of creation (lower production costs, economic exploitation of the work) than creators, sensitive to intrinsic incentives as well (satisfaction derived from creation, recognition as a creator) (see Chapter 4). Their role remains central to the development of individual creators, despite promises of disintermediation (as explained below).

Operators transforming ideas into usable works

Intermediaries include operators who transform ideas into usable works, mostly linked to the production stage. They organize the creative and technical process of a work for its exploitation like producers, publishers, and label records. They often turn to, and hire adjacent creative workers like artistic directors, and technical staff (for example, sound engineers, printers, lighting technicians).

Distributors extracting economic value by connecting creators with publics

Intermediaries also include distributors who extract economic value of a work for its distribution. They ensure the promotion and distribution of works, and connect creators with their publics like agents, managers, art galleries, curators, auction houses.

With digital technologies, these intermediaries have evolved to digital service providers (DSP). They disrupted the CVC and have central role in the chain, ranging from creation and production (content generation, production, post-production tools), to the distribution and consumption (audience analysis, algorithmic recommendations, real-time explanation, adaptation tools). These intermediaries usually integrate machines and AI-models in all their services, which can be a threat without ensuring diversity in the content offered (as explained below).

Collecting management organizations and other royalty collection providers

Intermediaries also include collecting societies (CMOs). Their role is central to the CVC, since they represent and protect the creators' copyright, notably by collecting and distributing copyright royalties. With the advent of digital technology, new players have entered in this business segment like 'royalty collection providers' like Amra and Kobalt (see Chapter 2), while CMOs must adapt to new modes of creation and distribution (streaming, artistic, and participative NFTs) (Helfer and Priora, 2023). This leads us to imagine new forms of service providers like 'data cooperatives' or 'data trusts' aimed at pooling certain data or at standardizing metadata to improve Digital Right Management (DRM) and the digital distribution of creative content (Digital Data Exchange [DDEX], International Standardization Organization ISO) (see Chapter 4).

Machines

Machines are gradually transforming into players themselves. While they have historically been seen as tools used by players (creative workers,

intermediaries, and public), the role of algorithms in the digital economy is becoming so important that they can be considered as players as well. Think of recommendation algorithms, which automate processes of selecting and suggesting content likely to be of interest to the public (Benabou, 2018) (Art. 2 o and recital 62 DSA) or other hybrid processes of influence such as the over-visibility or under-visibility of contents. In effect, the algorithm influences not only audience reception but also the artist's creation.

The algorithm influences the public, enclosing it in bubbles of similar content. It also tends to change the way artists create. Artists bend to the constraints of the algorithm to gain visibility ('algorithmic favoritism' explained previously). The problem for artists is no longer finding the right door to knock on to reach an audience and make a living but rather acquiring visibility where communication is horizontal, global, and immediate. The visibility of content depends on the algorithm. But the opacity of the algorithm prevents artists from determining how to gain visibility. Algorithms tend to change the way artists create. They are limited in the tool settings. They may also be tempted to produce less original, shorter, or catchier art from the start to please the algorithm. It is therefore not an individual issue but one of cultural policy. Several actions aimed at protecting cultural diversity can be envisioned (see Chapter 5).

The role of the algorithms, or more precisely the machine that operates them, thus becomes so important that it becomes an actor in the chain. This is reminiscent of the actor–network theory, which understands the world in terms of interaction networks, where the boundaries between humans and non-humans disappear (Latour and Woolgar, 1979). Non-human actors, such as technologies, institutions, and objects, also play an active role in structuring networks and modifying relationships with human actors, similar to how traffic lights influence traffic flow. Without entering into the legal debate on whether machines should be recognized as legal entities (Oberson, 2025, and the references therein), we just mention here that machines contribute to action and decision-making thanks to networks and connections in ways comparable to human, just as a hospital operates through the combined agency of doctors, machines, protocols, software, and patients.

Equipment manufacturers

Equipment manufacturers in the creative value chains are the firms that design and produce the tools, technologies, and materials used by creators and producers, such as cameras, musical instruments, printing presses, or editing software. They enable the production and dissemination of cultural goods but are generally one step removed from direct content creation.

Public

The public plays a central role in CVC. The public consists, on the one hand, of the *audience*, the recipients of the works and, on the other hand, of *society* as a whole, which does not directly enjoy the artistic production but benefits from scientific and cultural innovation created by the works.

The audience 'consumes' the work, while providing the CVC with informational value: audience data, which not only provide a better understanding of audience reaction but also guide actor remuneration. Data are generated through the dissemination of the work. Therefore, artists and other participants in the creative process should access to these audience data to guide their development strategies and nurture links with audiences. Audience data also tend to become the basis for calculating the remuneration of CCS stakeholders. They not only make it possible to understand online cultural consumption practices but also to decide how to distribute income from advertising sales and subscriptions. There is therefore a direct link between the way audiences are shaped and the remuneration of works. In music, some platforms, such as Spotify For Artists or Deezer For Creators, give this information to artists and rights holders via audience data and statistics in real time (number of plays and saves, by country, by age). However, artists and other participants in the creative process generally have little access to audience data. Releasing data depends on the goodwill of the platforms, which justifies finding solutions for data sharing (see Chapter 4).

The public can also consume the work by bringing in creative elements, for instance by remixing, adapting and sharing content, becoming both consumers and creators (see distinction between Read-Only culture and Read/Write culture, Chapter 1).

This creative and/or informational input from the public raises two major questions. The first question is who has the status of artist? Who should be protected by copyright? In other words, do these new forms of public participation redefine the status of the artist? Should copyright be extended to all forms of production and co-production? For example, should all those involved in creating fanfiction be covered by copyright? And what about content produced by AI models? Should it, too, be protected by some form of copyright? The advantage is that copyright does not operate on these boundaries, but on the idea of creation. Therefore, everyone has access to copyright, amateur or professional. The question will be to determine the threshold of creative input provided by the creator, amateur or professional. One way of encouraging circulation despite the constraints entailed by protection is to use different value-sharing mechanisms (legal, political and individual) (Part II). The second question is can users, whether artists or not, be remunerated for their contribution to the creative process?

(Benhamou et al, 2024). Again, different value-sharing mechanisms can be envisaged (see Part II).

Value-generating layers

Artistic creation

In the CVC, multiple activities give value to the chain. At the outset, there is artistic creation, any artistic practice or cultural expression conceived at grassroots level by the main players. This includes the original creation protected by copyright but also activities of other players who participate in the creation and dissemination of a work with more or less creative intensity (performers, phonogram producers, distributors, broadcasters), protected by neighbouring rights in many jurisdictions (for example, civil law systems) or by other protection mechanisms (for instance, common law systems).

Creative or technical practices associated with the artistic creation

Beyond artistic creation, there are practices, techniques, or information that add value during an artwork's life cycle (Candy and Edmonds, 2018). Practice can be more or less creative or technical along a creative or technical spectrum (Mantegna, 2024).

In music, the musical work (originally conceived by the main players) (Leeker, Schipper, and Beves, 2017) is enriched by technical or creative know-how, networks, or ideas of numerous participants in the chain: sound engineers, record companies and labels, bookers, tour operators, agents, managers, venue and festival promoters and directors, volunteers, distributors, press attachés, community managers, fundraisers, streaming and sharing platforms, influencers, graphic designers, journalists and media, engineers and producers of immersive experiences, archivists, management companies, cultural mediators, and cultural authorities.

In visual arts, the artwork (originally conceived by the main players) is enriched by the technical or creative know-how, networks, and ideas of the participants in the chain: collectives (studios, structures, or collaborative hubs for creation and resource sharing), technical collaborators (photographers, graphic designers, 3D engineers, digital animators), printers and digital workshops (manufacture of limited editions, high-quality and 3D prints), designers, developers, and suppliers of digital tools such as software and AI models, private/public collectors, galleries, art dealers, museums, auction houses, experts and appraisers, influencers and social media, monetization platforms, marketplaces, visitors, buyers (occasional or regular), art fairs, technology enthusiasts.

In video games, the game (originally designed by the main players) is enhanced by the network or ideas of players in the chain: manufacturers

(consoles, smartphones), digital distributors (Google, Steam, App Store), marketplaces (Amazon), social media (YouTubers, Twitch).

Metadata and usage data

Beyond that, when artistic creation itself is dematerialized, several elements generate value, namely the information associated with the work, particularly the metadata and usage data (Azzi and El Hage, 2021). We enter the 'informational' dimension of the work.

'*Metadata*' refers to all information describing a specific work or creator (Azzi and El Hage, 2021). This may correspond to content data, ranging from basic metadata like description of the artists (title, name of the work, release date, names of the artists) and the file (for example, format: jpeg, wave, aiff, mp3; size of the file; genre) to extended information like the copyrights and the respective relationships between the various rights holders.

'Usage data' (or audience data) results from a user's encounter with a work and refers to the usage history of each internet user, in particular the number of times the works have been consulted or viewed (see Art. 19(2) of the CDSM Directive). This usage data makes it possible to determine users' tastes and habits and to offer them personalized content (Benabou, 2018). This usage data also makes it possible to calculate the remuneration due to rights holders based on the usage history for each work. On streaming and sharing platforms, this corresponds, for example, to the number of streams and views per work. In AI models, this corresponds to the statistical weight of each input in the training during the training phase and in a given result during the deployment phase (see Chapter 4).

These metadata and usage data are highly valuable to all players, as they mostly enable them to optimize both the uses and business models of the various players (Azzi and El Hage, 2021; Benabou and Farchy, 2021; Lyons et al, 2019). From the platforms' perspective, this information is central to their recommendation systems, whether knowingly and actively provided by the user, or observed data by virtue of the use of the service, whether simple and objective (purely descriptive information accompanying the work from the moment it is created) or more sophisticated (enriched with and inferred from other data sources like combined with social media data and data analytic tools). From the creative workers' perspective, this information provides essential insights into how the work is consumed, not just how it is distributed. This allows for a better understanding of how to tailor the production of future creations to the tastes and preferences of different audiences (Lyons et al, 2019). From the audience's point of view, this information ultimately enables better archiving and traceability of works and corrects biases in recommendation systems.

Beyond the value that can be derived from this information, these metadata and usage data are also essential for rights management, remuneration and content discoverability, as they make it possible to identify rights holders for the collection of copyright royalties and the discoverability or invisibility of content (European Commission, 2022a).

Metadata is generally generated by the main CCS players (labels, publishers, CMOs) to optimize rights management, while usage data is generally generated by users and the platforms to analyse user preferences. Beyond these data, there are also 'publicly available data' retrieved from social media by other players (companies and startups) in order to offer statistical analysis tools on audiences, as well as 'public data' produced by authorities, including CMOs. In all cases, these data are generated from an initial work and/or the interaction between a work and an audience. All players have contributed to generating them (platforms, creators, producers, audience). It is therefore legitimate to ask how each of them can access this information in order to derive value from it (see Chapter 4).

However, these data are generally *shared little* or not at all for several reasons. This is primarily due to the heterogeneity of sources and the *non-interoperability* of data. This information is held and generated by different players (platforms, publishers, distributors, CMOs), who often record it in very different formats (De Berardinis et al, 2023; Valk, 2025). In music, for example, the International Standard Recording Code (ISRC) system is decentralized, with each national authority responsible for managing ISRCs for its territory, and distributors often assign different ISRC codes to the same work (for example, in the event of a change of distributor) (UK IPO, 2025; De Berardinis et al, 2023). There is a global search tool on IFPI's website but it is incomplete, especially for lesser-known repertoires (for example, independent labels or artists), and it does not cover metadata other than basic metadata (Valk, 2025; Lyons, 2019). Non-sharing is also due to *economic reasons*. The most influential players are those who hold the most metadata (platforms and publishers). They have no economic incentive to share it, as this gives them a competitive advantage. This results in data being scattered across different locations and players with no incentive to share (Valk, 2025). Finally, non-sharing is due to *legal reasons*. Data are subject to a multitude of rights and legal regimes (for example, original works or user data, which may be subject to copyright and data protection). They often belong to the entity that generated them (through an exclusive right, or other control mechanisms, such as copyright or trade secrets, contract law, or de facto control) (Lyons, 2019; European Commission, 2022b).

There are many technological and legal solutions to facilitate the sharing of this information, but they all have limitations. In terms of *technological solutions*, blockchain allows metadata to be represented in

the form of tokens, which makes it possible to track its path through the chain, automate copyright transactions, and combat privacy (Bodó, 2018; European Commission, 2022a). However, blockchain raises difficulties, particularly legal ones, such as its compatibility with contract law (for example, between the immutability of blockchain transactions and error in contract law) (Bodó, 2018). AI can improve the identifiability of works and rights holders and detect piracy, particularly after learning from millions of works (European Commission, 2022a). However, AI will struggle to learn from small samples, such as older works or those belonging to cultural minorities (European Commission, 2022a) and requires metadata in a standardized format (particularly accurate and interoperable) in order to function (Senftleben et al, 2022). Standardization efforts are underway in various sectors (for example, ISO, DDEX in music and ONIX in publishing; C2PA standards for certifying the source and provenance of media content) (European Commission, 2022a). So, it could be just a matter of time. Another idea is fingerprinting, which involves embedding a unique digital identifier in a work to track all uses of that work. Infrastructures for rights management, or more generally traceability of digital files are also being considered (for example, WIPO Global Repertoire Database, GRD, a global music repertoire database; Metamusique, an online tool by musical actors to simplify music metadata management) (Butler, 2020; European Commission, 2022a). However, the voluntary standardization efforts do not guarantee that all rights holders will provide the data necessary to maintain the accuracy and completeness of the data, particularly when data entry exceeds expected revenues (Senftleben et al, 2022) and is difficult to implement when not harmonized at the global level. These projects have not yet been completed.

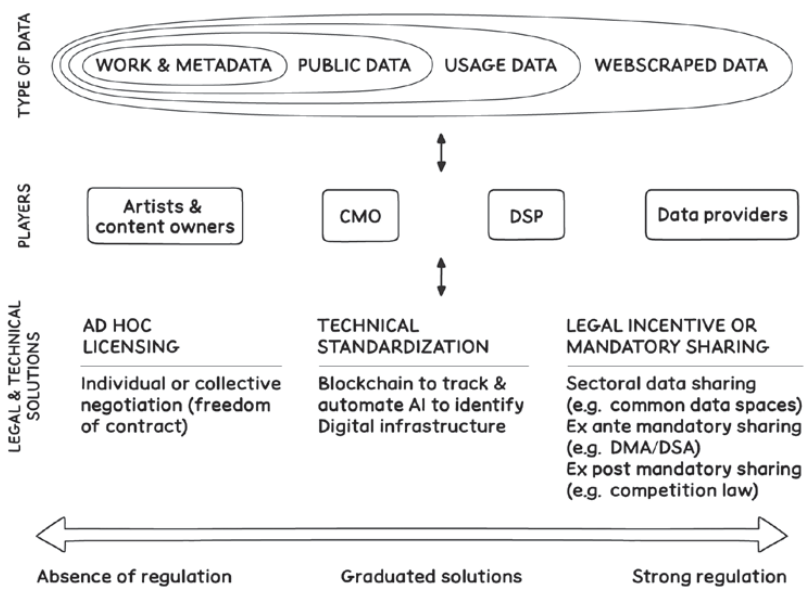
With regard to *legal solutions*, there are several initiatives and legislative projects like the EU legal framework that promotes data access and sharing. In CVC, these include the InfoSoc Directive (recital 54) and the CRM Directive, which encourages the interoperability of different technical identification systems for the identification, exchange of information, and reporting of use of works. More recently, consideration has also been given to the creation of common European data spaces, including for cultural heritage, and the Open Data Directive, which provide for the opening up of certain public sector data, including that generated by CMOs (metadata on works, catalogue publications, and repertoires of works). More generally, consideration is also being given to the Data Act and the European Data Governance Act (DGA), which provide for mechanisms for sharing certain categories of data, as well as the Digital Services Act (DSA), the Digital Markets Act (DMA) and the P2B Regulation, which create an obligation for service providers to inform

their business partners of the extent to which service data is processed. Finally, mandatory access to data could be considered, for example through competition law as well as through a system of compulsory licences or the implementation of FRAND (Fair, Reasonable, and Non-Discriminatory) licences aimed at granting non-voluntary access to non-personal data held by private companies. However, such mechanisms are difficult to implement (for example, a case-by-case approach in certain specific sectors in exceptional circumstances, such as an overriding public interest in protecting the interests of the data controller) and should only be considered as a last resort if voluntary sharing mechanisms are ineffective (de Werra, 2020).

In the absence of legal solutions on facilitated or mandatory sharing, data can be *shared voluntarily* (for example, music platforms that voluntarily share audience data with artists and rights holders, such as Spotify For Artists or Deezer For Creators) (see Chapter 2). Voluntary data sharing can be achieved through different contractual terms, particularly individual contracts between two or more actors (for example, data transfer or exchange contracts) or standardized contracts (for example, general terms and conditions or privacy policies) (de Werra, 2020).

Despite these solutions, data continue to be difficult to share (see Chapter 6). Figure 3.4 shows visually the metadata and usage data, those generating them and the legal and technical tools for data sharing.

Figure 3.4: Metadata and usage data

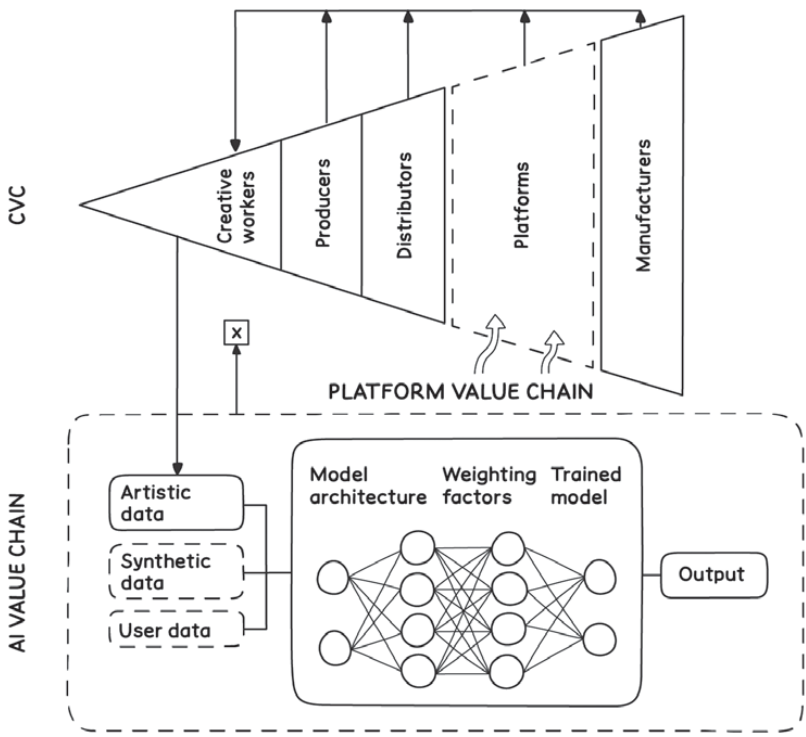


Commercial, cultural, social, and educational values

All these layers add value to the original work and the CVC. Regarding the commercial value, it can take different forms, depending on which player perceives it and at what point in the value chain. For creative workers, value can be a salary, or a fee when the work is being created, or a royalty fee, or even a market reputation when the work is being used, distributed and adapted. For intermediaries, the value can take the form of return on investments, company valuation, subscriptions, revenue from advertising and other microtransactions (see Chapter 1, particularly the 'size of the pie').

Creative workers are at the beginning of the CVC. The higher we go in the value chain, the more value the initial work acquires with successive layers of information and each player attempts to appropriate a share of it at its own level. The challenge for creative workers is to bring value back down the chain. CMOs bypass the intermediary levels and capture value at the very top of the chain in order to channel it all the way back down to the artists, doing so across every stage of the chain (see Figure 3.5).

Figure 3.5: CVC vs platform and AI value chain



It should be recalled that platform business model is to extract value from UGC and usage data, resulting in a *dissociation* between the platform value chain and the CVC. This is due to the legal environment of the time, in which platforms benefited from a no-liability regime for UGC ('safe harbour'). However, new legislations – such as the Digital Millennium Copyright Act (DMCA) in the United States and the CDSM (Directive on Copyright and Related Rights in the Digital Single Market) in Europe – have introduced liability regimes and profit-sharing obligations, leading to *merge* the platform value chain and the CVC into a single, integrated value chain. The AI value chain may follow the same trajectory. At present, AI models extract value from artistic works to generate new outputs. They remain separate from the CVC, since this extraction occurs without authorization or remuneration of artists. We believe that these two separate chains, the CVC and the AI value chain, will also converge, as licensing market develops and the legal framework becomes more clearly defined (see Figure 3.5).

Since creativity can produce different types of value, it should be remembered that these different layers have not only an economic or commercial component but also cultural, social, or educational components. Indeed, they help reinforce one or more of these dimensions. Thus, an artistic creation and the know-how, networks, and ideas of those involved in the chain contribute not only to boosting a creation's market value but also to producing meaning, experience, and emotions for the recipient of the cultural good (Belfiore, 2020; Benhamou, Y., 2023; Riom, 2023). These values have no hierarchy between them, no value prevails over another (see Chapter 1). Moreover, the economic value is dynamic, continually evolving and expanding the overall 'size of the pie' (see Chapter 1). This being said, contract can be used to take into account the value in its multiple dimensions and ensure a better distribution (see Chapter 4).

Overproduction

Digital technology is leading to overproduction, to the point where we can speak of *'oversupply'*, or even 'market saturation' or 'market congestion'. In music, 120,000 new songs are sent to music services every day. Four out of five songs sent to music services (80 per cent) are never played. More music was released per day in 2024 than in the entire 1989 calendar year (Mulligan, 2023). In visual arts, a deluge of images leads to an estimated 5 billion images taken daily (61,400 per second). In video games, multiple publishers and developers invest, producing and distributing numerous games in the hope that they can be monetized for many years to come. AI reinforces this trend by accelerating and optimizing work on the one hand and expanding the

offering on the other. This leads to a longer tail and to a concentration of revenue among superstars (see Chapter 2).

Fluidity

Digital technology blurs the boundaries between actors, sectors, and stages of creation. It blurs the boundaries between producer and consumer, old and new industries, individuals and communities, the tangible and intangible, creativity and technology, digitized and natively digital objects, buying and renting property, physical and virtual places, and local and global presences.

In terms of actors and stages of creation, we are seeing a *decompartmentalization* of the artist and artistic practices. Often artists take on several roles at once. Artists are no longer necessarily artists because they master an artistic practice (painting, architecture). Artists can be brokers, project managers, financiers, or even gurus or priests (Antille, 2025). It echoes philosophical debates in art history on the 'end of art'. Art has changed over the ages. Its first stage was aimed at imitating and reproducing reality with 'traditional art', such as sculpture and painting, then photography as a mirror or mimic of reality. The second stage called this mimicry into question with artistic movements such as abstract expressionism seeking to focus on the specific qualities of the medium (for painting, flat tints, impasto, two-dimensionality) (Greenberg, 1988). The third stage seems to take art out of the traditional circuits with pop art proposing that everything an artist touches is art (Warhol, Duchamp, Eliasson). It is no longer artistic ability that defines the work but the artist's ability to convince the market that as art it is a money maker. Art seems to have achieved its goal, we are beyond art, artistic properties become indiscernible: an object is sometimes a stone or a washing machine, sometimes a work of art (Danto, 1989). We are entering a pluralistic era, where anything is possible, everything is equal, everyone is an artist. Today, we seem to be entering a fourth stage where creation is transformed into information goods and the medium disappears, or rather is available on several media (platforms, smartphones, VR/AR experiences) (Cramer, 2015; Schweibenz, 2018). Artistic properties are so diffuse that creativity is transformed into a *gaseous state*. As early as 2003, Michaud was already talking about the transition from the object regime of creation to its 'vaporization' in an immaterial, abstract space (Michaud, 2003). Value seems diffuse, diluted, and resides more in the narrative of production than in the creation itself.

In terms of places, there are coexistence and interaction between physical and digital places. Creators can engage in global networks on global platforms while being rooted in specific local contexts. At the same time, certain cities and regions are becoming hubs of creative production and innovation due to a concentration of talent, infrastructures, and support networks ('creative

cities'). These creative cities attract more artists, and creative businesses that create an ecosystem conducive to the exchange of ideas and collaboration. Due to the challenge for artists to engage globally and the benefits of creatives cities for their regions, UNESCO has dedicated a programme since 2004: Creative Cities Network (UCCN) to promote cooperation among cities that have identified creativity as a strategic factor.

In terms of sectors, technology has reinforced the fact that sectors are crossing paths, leading to the use of several media to create a coherent story or artistic experience (phenomenon of 'transmedia'), or the use of the same work on several media (phenomenon of 'cross-media') (Pôle de création numérique, 2023).

Examples of *transmedia*: video games combine music, moving images, texts, and scripts and have a global reach, involving multiple scriptwriters, developers, and graphic designers. Music festivals are increasingly hybrid, combining music, cuisine, and conferences, in order to stand out from the crowd (Blanc and Vulser, 2025). Similarly restaurants try to combine tasting experiences with unlikely settings and/or an audio-visual show like the Uncensored restaurant in Budapest with an immersive 3D show. Transmedia bring video games closer to music, the visual arts, and cinema. Immersive experiences combine theatre, music, AR/VR, and live performances (Jenkins, 2006).

Examples of *cross-media*: Harry Potter started out as a book before being adapted as a film for cinema, video games, theatre, and theme parks. Marvel characters reside in universes that have been translated into comic books, films, TV series, video games, and merchandising. Other recent examples include streaming platforms which start streaming traditional TV channels. In 2025, Netflix announced the first of its kind deal that will enable French Netflix customers to watch French TV content as of 2026 as part of their subscription (Weatherbed, 2025). Similarly, podcasts are increasingly being produced in video format to be listened to as well as watched, particularly by young listeners who are looking for a visual connection. Podcasts are becoming a hybrid, multiplatform, and visual format. As a result, however, podcasts are replacing TV. YouTube, TikTok, and Instagram have become the main platforms for listening to podcasts, sometimes ahead of Spotify or Apple Podcasts. Cross-media enable creators to adapt to new consumer habits, diversify income, and reach fragmented audiences. Creators thus navigate between roles and platforms. A musician or sound engineer can make a name for themself on specialist websites to work on a mandate for a collective, on Instagram to give workshops and take part in juries, and on Facebook to sell scores that he has reworked from well-known standards. However, this requires the creator to maintain a coherent narrative and a logic between formats, while taking advantage of their specific features.

Yet streaming and sharing platforms are merging and becoming confused. For example, Spotify is transforming into a social platform, by exploiting user data, while TikTok is transforming into a streaming platform, by combining music with videos and linking to the Spotify catalogue.

Given these characteristics, the CCS is fluid, permeable, and dynamic, as it is in constant transformation (Manovich, 2010). This changes the way we understand and manage these sectors. Creation, perception, and exchange of value are increasingly dynamic, reaching a diversity and complexity almost equivalent to biological systems (Surana et al, 2005).

In terms of media, there is a tension between the *materiality* and *immateriality* of cultural goods, because cultural works are immaterial in their content but are often incorporated into material supports, such as books or records. And NFTs and other new digital formats reproduce the characteristics of ownership, recreating uniqueness multiply (Lee, 2023a).

However, while digital technology is enabling new modes of production, distribution, and consumption, we are also seeing that CVC is resisting dematerialization (Cramer, 2015), with a trend toward the *rematerialization* of cultural goods in the form of tangible objects, such as records or printed materials, or live performances (Cramer, 2015; Crawford and Joler, 2018). In video games, Nintendo Labo, first introduced in 2018, offers a 'rematerialization' of video games by integrating cardboard kits that can be assembled by the user, thus linking digital gaming to a physical and tactile experience that combines manual creativity and virtual interactivity. In music, artists and labels offer cassettes/vinyl records based on digital files (or vice versa) (Bartmanski and Woodward, 2015). Some artists and labels also offer fan merchandise like the Kanye West Players speakers that only owners of music NFTs can play (Bartmanski and Woodward, 2015; Cramer, 2015). Thus, behind this 'age of access' (Rifkin, 2000; Glevarec, Nowak, and Mahut, 2020), the CCS is resisting dematerialization. While cultural works are immaterial in terms of their content (ideas, creations), they are often incorporated into material (books, records) or immaterial (NFTs) media that reproduce the characteristics of ownership (Lee, 2023b). Thus, CVC changes the material–immaterial value of cultural goods, bringing it closer to the materiality of supply chains (food, automotive). In summary, we can talk about tensions and paradoxes between the tangible and the intangible, namely objects that are dematerialized or born digital, then 'rematerialized' in order to divert the vale captured by the platforms (for example, Kanye West Player) or that use tangibility to facilitate the tradability, the commodification of the work (for example, NFT printing).

Creation is also an experience that is lived collectively in the moment with other people. Often, an artist publishes a work 'for free' (for example, under a creative commons licence), and a platform then ensures its promotion and visibility. The work is finally 'materialized' when the artist performs in public.

The artist thus returns to the physical world to monetize his or her work. At that point, the artist creates value thanks to the rarity and authenticity of the experience, which is not accessible online.

Tension can no longer be reduced to the tangible-intangible dichotomy but must be understood in its *full spectrum*. The analogue and the digital therefore coexist. Digital and analogue forms of culture are not mutually exclusive but complement and nourish each other (Office Fédéral de la Culture, OFC, 2024).

Dynamics of intermediation and disintermediation

In the digital world, there is a dynamic of intermediation and disintermediation in the relationships between creators, producers, distributors, and publics.

Intermediation consists of inserting an actor (an intermediary) between the creator and the public to facilitate or optimize the transaction and/or the circulation of creation. In streaming, for example, Spotify, Netflix, and YouTube aggregate content to make it easily accessible. With AI technologies, these platforms rely on algorithms to personalize the user experience, becoming powerful mediators. As a result, they reinforce intermediation and create new dependencies on platforms, which control cultural content, data, and recommendations.

Disintermediation consists of eliminating intermediaries, enabling a direct link between creators and publics. In streaming, for example, artists can use Bandcamp or Twitch to sell or distribute their content directly to their audience, without going through traditional distributors. Web3 also provides flexibility in the allocation of rights and distribution (Molins, 2021), enabling artists to better control the circulation of their productions and the traceability of usage and income (European Commission, 2022b; Benhamou et al, 2024). With AI technologies, artists can create content, without using intermediary agencies or developers. They can also decide how to distribute and monetize their productions without intermediaries, reduce costs and increase profit margins. On the other hand, this increases the offer with a risk of market saturation with too many offers, obscuring visibility of each individual creator. Also, contrary to the common view, disintermediation may affect cultural diversity, particularly due to an extreme reliance on business models of free – yet commodified – distribution of content, mostly based on advertisement revenues (Pessach, 2013).

In practice, however, these two dynamics tend to *coexist*. Intermediation still outweighs disintermediation, since platforms like Spotify, Instagram, or TikTok are essential to reaching large audiences. Some creators and companies try to bypass these intermediaries to retain greater control over their revenues and interactions with the public. Yet the promises of Web3 decentralization need perspective. Infrastructures and tokens are often

controlled by a few powerful players. In CCS, platforms showcase blockchain to connect artists and fans – from Spotify's 2023 'token-enabled playlists', or Ubisoft Quartz, which offered NFT in-game items, to SuperRare, which promoted artist royalties in NFT art sales – but they still centralize access and control. In finance, Binance and Coinbase act as centralized intermediaries, leading to what can be called 'Web3-washing', where projects retain centralized dynamics under a decentralized guise. In visual arts, platforms replicate traditional market patterns. They set terms and fees regardless of artists' wishes. The same happened with NFT royalties. Initially promoted as a way to automate the resale right (*droit de suite*), platforms like OpenSea later made royalties optional, prioritizing liquidity over artists. After the utopia of decentralization and artist empowerment came a wave of recentralization and marketplace power.

The challenge of remuneration and value sharing

Value capture by intermediaries and the substitution effect of synthetic content

Digital technology is giving rise to problems of remuneration and value sharing. This is leading to problems of employability in the CCS and job insecurity for artists, heightening fears that creative professions will be replaced, particularly as synthetic works compete with, or even replace, human works. This is the so-called substitution effect of synthetic content.

Generally speaking, there is a capture of value by certain intermediaries and a downward levelling of revenues due to the increasing complexity of rights and the fragmentation of revenues shared between numerous players. More specifically, in music, there is an unequal distribution of revenues, which seems even more pronounced in the digital. In visual art, we are seeing a strengthening of traditional players who are replicating the dynamics of the art market. In video games, we see a concentration of publishers and distributors who capture the intellectual product of developers who, upstream, produce the main value at the beginning of the chain. As a result, the remuneration received by artists continues to weaken in comparison with the pre-digital era, and certain stages of creation that are invisible continue to go unpaid (for example, artistic research). This proliferation of intermediaries and the capture of value by some has provoked strong reactions; in fact, many artists cannot make a living from their art because copyright income is inadequate (UMAW Justice at Spotify).

Beyond the capture of value by intermediaries, other factors reinforce the challenge of remuneration and value sharing like overproduction. This *overproduction* leads to a market saturation, even a devaluation of culture. Some amateur artists are looking for visibility, others for profitability (moody playlists, fireside films), all potentially devaluing culture, or emptying artistic

goods of their cultural and social value. In music, an overproduction makes it difficult for artists to emerge from the mass. In visual arts and video game, there is even an oligopsony, many artist-sellers confronted with a handful of buyers. Artists have to deploy significant marketing resources. For some, the Pareto 80/20 rule would have to be adapted: 80 per cent of marketing efforts would have to be deployed against 20 per cent for creation.

AI technologies reinforce the problem of remuneration. Generally speaking, AI is feared as a threat to employment and the distribution of wealth, impacting all sectors (Briggs and Kodnani, 2023). More specifically in CCS, there are fears of the substitution of AI to the detriment of creators or, in other words, a transfer of economic value from creators to technology companies. Creative labour retrieved from the Internet are used as inputs without authorization or remuneration to generate new works that compete, substitute human creation. Artists and their representatives are taking upstream developers to court for copyright infringement, particularly in the US and Europe. In the United States, the most frequently cited cases include the action brought by developers against Microsoft, GitHub, and OpenAI for the Copilot tool, an action brought by artists against Stability AI and Midjourney, and the action brought by the *New York Times* against OpenAI. In Europe, Getty Images has taken action against Stable Diffusion (UK), and French publishers and authors unions have followed suit against Meta for its chatbots on Facebook, Instagram, and WhatsApp (Vincent, 2022) (see Chapter 4).

These fears are growing. A recent study commissioned by CISAC (2024) concluded that OpenAI, Google, Microsoft, and other AI providers could earn nearly 9 billion more euros by 2028, while creators could suffer a loss of income of EUR 22 billion, of 24 per cent in the music sector and 21 per cent in the audiovisual sector by 2028 (CISAC, 2024a). This will have consequences for employment. AI can in fact substitute for human creation (*substitution effect*), generating high quality productions with low production costs, whereas a human creation often has high quality but high production costs (Slattery, 2024). Many generative AI tools are available 'free of charge' (bundled with the sharing and reuse of user data) or for a low-cost subscription fee and often include in their terms of service (ToS) the possibility of reusing synthetic content for commercial purposes. Furthermore, even if remuneration is recognized for human inputs, there is a risk that artificial works will be completely free of charge in due course because they are themselves trained on (unprotected) synthetic data (see AI models collapse described later). Moreover, AI models can be creative and produce *high quality works*, or at least works that *replace human works*. Think *Elle* magazine in 2024, mentioned above, or the music band Velvet Sundown on Spotify followed by millions of listeners in 2025. AI models can create productions corresponding to the three types

and criteria of creativity: combination, exploration, and transformation (Boden, 2009; Towse, 2019) (see Chapter 1). We can then delegate to AI the task of creating productions that break norms, substituting the machine for disruptive artists. Finally, it is possible that the public will become accustomed to and increasingly appreciate AI works as they are exposed to them (see Chapter 4).

There is an increased use of AI technologies throughout the creative process of CCS, which ranges from a simple tool to aid creation or production to real hybridizations, human-machine dialogues allowing for experimentation. An increased use of AI also leads to fraud, often for the purpose of capturing royalties (see Chapter 2).

This increased use of AI technologies is leading to *strong reactions* from some stakeholders. Initiatives, such as 'Human Creation' labels by rights holders, publishers, and researchers, aim to promote transparency, to distinguish works written entirely by human authors. Amazon updated its policies in September 2023, asking authors to declare whether their content is AI-generated when publishing or editing a book on its Kindle Direct Publishing platform. In addition, Amazon has limited the books a single author can publish per day to three, to curb this trend. Streaming platforms recently have declared they will ban or demonetize AI works (Deezer, Spotify).

Other more radical initiatives call for a ban on the use of AI technology in the creative process, echoing the call for a pause (moratorium) signed by Elon Musk and hundreds of global experts in 2023, citing 'major risks for humanity' or the PauseAI movement founded in 2023 and growing in various countries. It should be noted that resistance seems more prevalent in the visual and audio-visual arts than in music or literature, even though the former fields are more accustomed to using technology than the latter. In visual arts, there are calls to ban festivals from exhibiting artificial works or to ban the sale of artificial works at auction houses on the grounds that it would be institutionalized theft of works by human artists (Milmo, 2025). Further controversies include the painting *Girl with a Pearl Earring* by Johannes Vermeer, which has been reinterpreted by the artist Julian van Dieken using AI (Midjourney and Photoshop). The copy has been exhibited at the Mauritshuis museum in The Hague in 2023 as a replacement for the original, which was on temporary loan to the Rijksmuseum. This painting has been criticized on the grounds that it is an insult to the Vermeer legacy and that it is merely a substitute for the original. The museum defended its choice, stating that it had selected this work on aesthetic criteria, with no intention of provoking a debate on the use of AI in art. Similarly, Jasen Allen's painting *Space Opera Theatre*, created in 2022 with Midjourney, won an art competition in Colorado. The image created controversy on the grounds that it was generated

automatically without any creative effort, while the artist claims to have spent 80 hours finding the right prompt and generated 900 images to select only three, before improving the definition with the Gigapixel AI tool. In the cinema, Screen Actors Guild-American Federation of Television and Radio Artists (SAG-AFTRA) union writers and actors went on strike in 2023 because they were worried about their working conditions and remuneration in the age of streaming and AI. The film *The Brutalist* (the story of a Hungarian Jew in New York in 1947, who had survived the Holocaust) caused controversy in 2025 because it is said to have used the Respeecher AI tool to refine the actors' Hungarian dialogue. The director Brady Corbet defended his choice to use AI to enhance authenticity, that is, to preserve the performance of the actors who had worked for several months with a dialect coach, while guaranteeing flawless pronunciation for the Hungarian audience. Conversely, a film, made entirely with AI-generated images (Midjourney), won two awards at the 2023 Nikon Film Festival. While the use of AI has created controversy on social media, the director, Anna Apter, defended her approach. She said to have provided significant human work behind the scenes. She had a precise idea of images and prompts specifying the light and the framing, then generating hundreds of frames before selecting a few and reworking them in Photoshop. She aimed to create something without a substantial budget, without a film crew or animation technicians, while raising the debate about the use of AI in creation.

Let's put things into perspective: new distribution mechanisms and AI at the service of remuneration

These fears must be put into perspective. The complaint that intermediaries are capturing value is obvious but not necessarily inevitable. It is possible to distribute value differently (see Part II).

As a preliminary remark, interest groups seem to have *learned the lessons* from the challenges of the internet in the 2000s and appear better prepared to address the challenges of the AI value chain than they were with the platform value chain two decades ago. The cultural and creative sectors are much more responsive: interest groups are joining forces, reacting quickly, and actively working together – from artist collectives and content creators to platforms.

As for the *risks of no longer being able to make a living* from one's art, it can be argued that it is a long-held illusion that is only set to continue with digital technology. While the record industry crisis and copyright are often at the heart of the CCS concerns, this type of income has always represented only a small part of artists' overall income. More than royalties or record sales, income from other activities, artistic and non-artistic,

is the artist's main source of sustenance (see Chapter 1). Authors often earn little from their artistic creations because they simultaneously rely on other, more lucrative standardized tasks, such as production work or photo retouching (Cornelissen, 2024, interviewing F. Young). Yet these tasks are increasingly being taken over by AI models, disrupting an already precarious balance in creative work as well as cultural diversity. Artists who previously supplemented their income through such standardized tasks will now have to seek alternative sources of revenue, for instance, teaching, activities outside the arts, or the invention of new digital professions.

As for the *risks of overproduction* and devaluation of culture, we can also postulate the opposite. From the point of view of the public, overproduction occupies so much space (physical, digital and mental) that the public will want to turn to cultural goods that convey deep and subtle values, for example through specialized sites – niche radio and cultural journalists who present selected artists – or through sites that allow them to connect directly with the artist or a community in order to recreate meaning. There may be also 'AI fatigue', the public gradually tiring of AI works (Ernst & Young, 2014). From the artist's point of view, we might imagine that humans will refuse to delegate to machines their ability to disrupt, think, dream, and imagine.

As for the *risk of fraud*, AI technologies can also be used to identify fraudulent content circulating on platforms so that it can be demonetized or removed from the platforms (see Chapters 2 and 4).

As for fears of *job replacement*, AI should be seen as part of a technological *continuum* rather than a radical technological breakthrough. Like past innovations, it may replace certain professions but will also create new ones, resulting more in job displacement than outright replacement. If AI models may be used as a magician's assistant for certain generations (for example, younger generations with limited cultural references), they can act as a booster of productivity and experimentation for others (for example, for earlier generation who have ideas and cultural entry points but not necessarily the time), speeding up workflows and processes (Krim, 2025b). AI technologies encourage artists to train or to collaborate with technicians. It should be remembered that many artistic fields – music, cinema, visual arts, design, architecture – are used to working collaboratively with several people. Even in visual art, contrary to the myth of the romantic artist alone in his studio, artists have always worked with technicians (Van Gogh and da Vinci in their studios). Moreover, several artistic approaches were already seeking to automate creations (for example, Tinguely's drawing machines and automatic writing in Breton). The difference with AI technologies, however, is that they are causing a technical acceleration with high quality (for example, *Elle* magazine, music

group the Velvet Sundown, or the *Girl with the Pearl Earring Bay-Bas*, which replaces the original) (explained above). The change is certainly happening in small segments of the artistic field. As for collaboration between technicians and artists, AI only changes the chain of collaboration. In the past, the artist was not alone in front of their easel, they already collaborated with technicians who introduced new professions into the creative process. We could consider AI models an external agent that is added to other agents – language, pencils, dictionary, Wikipedia. The creative professions will be transformed. In literature, the translation professions will be transformed into verifiers of machine translation, becoming more service providers than actual authors of translated works. Thus, it seems excessive to ban AI, especially when it is used as a simple tool, and brings many benefits for the society at large (see Chapter 4). It also seems excessive to demand transparency in all cases, especially when it is used marginally, for example to perfect a particular aspect of a work. Otherwise, we would also have to ban the use of Adobe or Photoshop for photo retouching, and the use of Wikipedia or Google for research. On the other hand, it seems legitimate to be concerned when AI models produce creations without human intervention and with high quality. Assuming that AI is a real revolution, a breakthrough, a tipping point after which current jobs will disappear (point of singularity), why should CCS differ from other fields? In other words, why should be more concerned about the fate of creators than about other activities, when any job, from accountant and surgeon to cook, is at risk of disappearing? According to Bill Gates, the only three professions that will survive are coders, energy specialists, and biologists (Singh, 2025).

We can also take comfort that humans will continue to create even if technology threatens to replace them, if only for intrinsic reasons (see Chapter 4). As a jazz musician in New York confessed to me in 2000, before becoming a well-known artist, 'I will continue to play no matter what happens, I play music out of necessity anyway.' Similarly, let's bet that there will always be demand for creative visionaries who can communicate a deep, relatable, personal, inspiring, and human message through music and art, especially in this tumultuous time for society (Smits, Koens, and Broekstra, 2025).

We can also take comfort that AI models will always need high-quality human data because of the risk of AI collapse if it continues to train on synthetic data; AI models collapse when trained on recursively generated data. In fact, an AI model fed with synthetic data, a form of 'inbreeding', leads to model degeneration. An LLM trained on the outputs of these same models ends up learning nothing but errors and collapses, whereas high-quality data reduces the risk of hallucinations and allows contemporary trends to be reflected (Bensamoun and Goffre-Charrier, 2024). Quality human data will continue to be necessary for AI models.

That said, *two types* of AI use can be distinguished. *Large-scale* productions, where artists could lose their jobs, and *experimental* artistic creations, where artists continue to provide strong added value. Large-scale productions are works most often generated by clones, imitations for the purpose of economic optimization with little originality or poor quality. These large-scale productions are sometimes called 'AI slops' in the sense that they dilute quality standards or steal attention from authentic human work. Think of Spotify playlists of white noise, videos of fireplace fires for decorative purposes, airport novels, production music libraries (that is, background music repositories for marketing and film, also called 'musico-mètre'), or even emotional works, such as emotional deepfakes, generated to elicit emotion and virality of the content. Think also of *Elle*'s publisher, which confessed to have published more than half of its online articles in 2025 that were partly or fully generated by AI models under fake journalists (mentioned before). These large-scale productions, a kind of 'handcrafted mass-production', can easily be automated without human intervention. They require little creative input from users, so much so that they can be considered as unprotected mass-produced material (see Chapter 4).

However, they compete with existing products at a lower cost. For these segments of activity, these productions effectively lead to the risk of replacing creators whose income came from this activity. These creators will then have to reinvent themselves.

Conversely, experimental creations are works created with an artistic, aesthetic, or critical intention. They are often new, diverting and reappropriating existing fields with a certain degree of control over the desired output of the artist. These artists may use AI to improve their productivity and workflows, others to boost their creativity and new experimentations (hybridization, dialogue human-machine).

Thus, the jobs related to mass productions will be called upon to disappear (job replacement) or at least to be transformed as they are entrusted to machines (job displacement). Conversely, new artists will emerge with experimental productions and/or more efficiency.

Assuming that AI models will one day achieve a degree of originality similar to experimental creations (see the three types of transformational creativity Chapter 1), let's bet that the role of humans will remain indispensable in the creative process: to select the right creation (curator), to contextualize, explain, bring an experience to life (mediator). Let's bet that a work of art is always a dialogue between one human being and another, an exchange of experiences about emotions, feelings, an experience (Ferrand, 2025).

It is also strange to be revolt against AI in the CCS, knowing that creation has already been mediated by technology (digitized 'established' or digital-native arts). AI models can be fantastic tools for experimentation rather

than a threat. And for the risk of job replacement, or displacement, it is up to politicians to adopt a strong cultural policy that supports culture and the creative professions, not to copyright law or other legal mechanisms to restrict the tools and creators to use them.

Finally, if we shall not underestimate the changes brought by GenAI, we shall *not overestimate* them either. We seem to witness a stagnation in progress, a plateau where the marginal gains from 'scaling' are now minimal, as explained before. Industry could favour post-training optimizations over fundamental breakthroughs, while regulators should ensure appropriate regulations to avoid excessive hype (Newport, 2025).

The challenge of cultural diversity

Concentration of players and the interface designs dictating content creation

Digital technology threatens cultural diversity for several reasons. First, it leads to a *concentration of revenues and players*. The majority of revenues are captured by 'big players', be it majors, large galleries, large editors, or the most popular artists ('superstars' or so-called 'winner-take-all' principle), making it difficult for independent creators and niche styles to survive (see Chapter 2).

Moreover, there is a *concentration of technological power* in the hands of a few companies. Platforms operating in a few countries now control public access to a mass of content, reducing cultural diversity. On streaming platforms in Europe, there is an over-consumption of Anglo-American works, occupying 61.2 per cent of total viewing time, while consumption of works from countries other than the US and Europe occupies only 8.3 per cent of viewing time (Grece and Tran, 2023). This is mainly due to the role of recommendation algorithms. Humans are losing agency by delegating their cultural choices to non-human algorithmic devices, a form of 'curation by code'. Algorithms are parameterized to ensure economic objectives without ensuring diversity in content (Anderson et al, 2020). They analyse all online activity to suggest similar content, based on cultural content and user behaviour. Their algorithms tend to confine the public to a hermetic environment, in a logic of confirmation or self-conviction. The algorithm tends to enclose the user in bubbles, within which they always consume the same types of content. Their algorithms also tend to favour the most popular content, marginalizing local and minority artists and styles (Anderson et al, 2020). The algorithms encourage a homogenization of content, reducing the space for local repertoires, diverse musical genres, and alternative cultural expressions. Algorithmic opacity reinforces this trend.

Algorithms also tend to *change the way artists create*. To gain visibility artists bend to the constraints of the algorithm. The artist's problem is no longer finding the right door to knock on to gain audience access but rather acquiring visibility in a context where communication is horizontal, global,

and immediate. However, the visibility of content depends on algorithms that are generally opaque. In such conditions, artists cannot determine how to gain this visibility. They try to understand the algorithm to know when to publish releases, sometimes through data analysts. They may even be tempted to produce less original, more calibrated content to please the algorithm ('algorithmic favoritism' as explained before). Interfaces also dictate how to create with parameterization options, the creative leeway left to the user. Interfaces, coupled with the attention economy also dictate short formats. For example, on streaming platforms, the length of content has radically decreased over the last 20 years. Streaming platforms encourage artists to compose short, catchy contents from the outset. On Spotify a track triggers remuneration after 30 seconds of listening. It is predicted that by 2030 the average song will be a maximum of 2 minutes (Samsung, 2020). Short formats have reduced the attention span of Internet users, and vice versa. On TikTok, the attention span is estimated at eight seconds for a video (sometimes called the 'TikTok brain'). It is 2.5 seconds for a Netflix trailer or a track on Spotify (Milmo, 2025).

AI models produce new cultural content mostly trained on non-diverse data. This risks *standardizing* cultural content. For example, AI-generated photos almost all share the same characteristics (recurring stylistic elements, cartoon-like features, smooth textures, minimalist composition, and idealized aesthetics). This can be explained by the way these AIs are trained, often using the same datasets (for example, LAION, which contains 5 billion images combining photos and drawings) (Six, 2025). AI models also seek algorithmic favouritism. Synthetic content is often optimized to match popular trends and preferences, and therefore the standard criteria of algorithms, to the detriment of traditional works that may be more diverse or less suited to algorithmic standards (European Parliament resolution of 17 January 2024, and Report on Cultural Diversity of 4 December 2023). There is also a risk that the public will settle for 'soup kitchen' (*mainstream* culture) and an inflation of synthetic content, which increases competition and the risk of substitutability (see Chapter 4).

There is also a risk of *losing know-how*. In addition to a loss of income, if all standardized and creative tasks are automated, the creative professions will lose technical and creative know-how, for example editing, mixing (Marx, 1919; Tsing, 2009; Walton and Nayak, 2021).

Finally, there is a risk of a *loss of human creativity* as AI models produce cultural and creative content and replace human creation: the substitution effect. In a dystopian way, one could even fear that AI works will flood the Internet ('AI-infested') and that we will live in a 'self-driving culture', where AI models will create, select, and promote the culture we enjoy, control the visibility of artists, and decide who gets paid. In a world of machines, humans will do nothing but consume synthetic cultural content, itself driven

by synthetic inputs, according to automated recommendation algorithms (Gervais, 2021).

These findings, coupled with the working conditions of artists call for solutions, legal and political (see Chapters 4 and 5). Otherwise, the public and the society at large will have to pay the bill, making culture accessible only to the wealthiest and thus distorting all its extra-economic societal benefits.

On this basis, some decision-makers are recommending legislation on several fronts (see Chapter 5).

Let's put it into perspective: audience choice and technology for diversity

These fears must be put into perspective. First of all, we must beware of *paternalism* when it comes to cultural diversity. For example, the public sometimes seems to proactively freeze its tastes and style, without wanting to be forced into discovering new things. In music, for example, the tendency to discover new artists or genres drops dramatically after the age of 30, to the point that some people talk about musical paralysis (Glevarec et al, 2020; Lebrun, 2023). Furthermore, 'passive' listening from algorithmic playlists represents only 30 per cent of plays on streaming platforms, while the remaining 70 per cent come from active playlists created by listeners themselves, far from the idea of purely passive listening that blindly follows algorithmic recommendations (Félin, 2025). Music lovers would probably be willing to invest more in their passion. As Emily White says in her *LA Times* profile:

> Streaming underserves artists because it doesn't reward depth of fandom in any way. A USD 10.99-a-month Spotify membership, for instance, is hardly the limit on what superfans are willing to spend on the music they care about; it's like offering fast food to foodies and assuming they'll be satisfied. White's thinking is that there's an unfulfilled market for those looking for something richer, something more tangible – a belief that would help explain why 50 per cent of people who purchased vinyl in 2022 didn't even own a record player, according to a survey by Luminate. (Rogers, 2024)

Furthermore, each individual develops their own cultural practices, including daily practices that are sometimes very local and rooted in restricted social circles (Frith, 2015) (see Chapter 1).

Moreover, the promotion of content linked to *user preferences* has existed for a long time. In the pre-digital era, programmers relied on radio and TV programme schedules. And today, algorithmic recommendations are sometimes corrected/reviewed by human beings – for example, Spotify uses

national music consultants, Google and Facebook use human reviewers, and Criteo uses an advertising targeting tool with hand-crafted 'features' that are then weighted with clicks. The difference, however, is that today most algorithms are designed to maximize the user's exposure to a commercial offer, whether it involves paying a subscription or being exposed to advertising, since it generally comes directly from the entity offering the content. One approach would be to break this concentration (Benhamou et al, 2024) (see Chapter 4).

Platforms also seem to tailor content to public tastes, moving away from the idea of homogeneous styles imposed on all publics. Indeed, if recommendations are poor or ill-suited to their needs, users are likely to abandon the platform in favour of another. According to a Canadian study, tailor-made recommendations explain why Quebec French-speaking music is as much recommended by algorithms as English-language music. Quebec publics listen to French-language music when searching for specific emotions such as nostalgia, melancholy, while preferring English-language music for activities that require concentration (work, study) to avoid French lyrics being a 'source of distraction' (Jamet, 2025).

The homogenization of cultural goods is an old debate. As far back as the industrial and TV era, concerns have surfaced about technology-driven homogenization of content and mass culture. There has been talk of market concentration limiting diversity and favouring 'mass market' works with immediate success, preventing small producers from accessing the market and artists from creating experimental works. Sociological theories of taste distinguished between high and low culture, depending on the social group to which the audience belonged. The risk of standardization and mass culture gave rise to artistic movements such as the avant-garde. It also legitimized the intervention of public authorities to correct the effect of the market as the guardian of cultural diversity (Romainville, C., 2014). This has been corrected through legislative and political interventions, such as the cultural exception, the requirement for quotas, and the fundamental right to culture and respect for cultural diversity. Now that this debate is re-emerging with AI, it would be possible to draw on past experiences and intervene with similar solutions. Cultural diversity can be maintained with a reaffirmation of the right to culture and diversity (Romainville, C., 2014), with the recognition of a right to attention (Benabou, 2018). It can also be maintained with legislative interventions, such as discoverability and quota requirements (see Chapter 5).

Better still, AI models make it possible to *strengthen cultural diversity* ('*AI4diversity*') via discoverability algorithms that each Internet user could configure, and which could be more powerful, faster, and more effective than a human curator or adviser. Rather than imposing a single model, AI models can adapt content to the cultural preferences of individuals, thereby respecting local particularities and promoting interculturality.

Diverse cultural content can also be promoted. Thanks to recommendation algorithms, art from less dominant cultures can reach a wider audience, encouraging the discovery of films, music, books, and traditions from all over the world. In the context of the long tail theory, digital technology can reinforce diversified consumption, reducing the number of popular products and increasing niche products (Anderson, C., 2006; European Commission, 2017). This is made possible by a digital space free of physical and logistical constraints, unlike the limited physical space reserved for bestsellers. This is also made possible by the accessibility of tools for creation, production and distribution, by the ability to group enough consumers to create market niches of sufficient size, and by the existence of filters to help consumers find what they are likely to enjoy (Anderson, C., 2006; Ranaivoson, 2010). However, the main beneficiaries are consumers and platforms rather than creators: consumers because they benefit from greater variety (Brynjolfsson and Hitt, 2003; Masnick and Ho, 2012) and platforms because they can offer access to a wide variety of goods or services, increasing the diversity of supply with economies of scale and reducing competition by saturating the market and erecting barriers to entry (Marcone, 2010). On the other hand, creators run more risks, particularly because platforms have greater control over access to cultural works and can make marginal works invisible: for instance, Apple withdrew digital comic books from a French publisher because of depictions of nudity (European Commission, 2017).

As for filter bubbles, it has never been confirmed that algorithms was the reason why public are enclosed into filter bubbles. Some studies have qualified the responsibility of algorithms by insisting on the capacity of Internet users to lock themselves in with people who share their own vision and to send signals to algorithms of their lack of curiosity. Furthermore, regardless of algorithms, citizens have a natural tendency to reject information that does not correspond to their tastes and convictions. Finally, the phenomena of filter bubbles, when they are proven, only concern a small minority of Internet users (Benabou, 2018). For example, false information, which is reputed to be six times more viral than reliable information, is said to be shared within the same community active in the propagation of such information. Thus, in universes such as Facebook or YouTube, where the number of new content is virtually unlimited, there are autarkic tribes, centred on a few sub-categories of information or content that can be renewed ad infinitum (Benabou, 2018). When the public transfers its choices to machines, this is far from a pure 'curation by code' (the fantasy of a 'zero-button player'). It is often a conscious decision to delegate cultural selection in order to reduce cognitive load, and algorithms themselves operate on the basis of personal traits. We should therefore speak of a partial transfer to algorithmic devices, a form of 'distributed agency' in which technology equips and shapes human choice rather than replacing it.

An increase in new works, made possible by AI tools, is also beneficial for creativity and innovation, because it allows for experimentation, at least when used as B2A. And experimentation encourages the emergence of unexpected successes that open up new avenues of innovation. For example, in music, many musicians create variations of the same musical genre. The market eventually adopts some of the most popular variations, which can lead to the emergence of a new musical genre. The success of this process depends on diversity and experimentation.

So, while AI models lead to the risk of overproduction, it can complement innovation (United States Copyright Office, 2025a). AI models can inspire new forms of art and cultural expression, drawing on diverse databases and blending different traditions to create new works. Artists are looking to create differently, without mechanizing or reproducing what already exists. For example, some artists have crossed datasets from varied sources to produce new outputs. One artist has used data scraping to cross-reference IKEA and Alibaba datasets, or Indian hospital datasets with Western datasets. The outputs are new, never-before-seen, chimerical objects. Without falling into the trap of technological solutionism, we can see that AI enables experimentations, highlighting the role and experience of the artist. We do not claim that art was not open to experimentations and other cultures around the world before (think impressionism's influence from Japanese art in the late 19th century). We just claim that AI models enable new forms of expression, research and experimentation. We are also seeing creative tactics to reappropriate value (De Certeau, 1992), such as optimizing the duration of tracks for streaming (a track triggers payment after 30 seconds of listening), video games designed to be broadcast on Twitch, or tracking usage and revenue via Web3 (see Chapter 6). While there is a risk that AI will automate certain standardized and creative tasks, I am confident that it will not replace the human role of interpreting and delivering a human experience to an audience. Better still, AI models may even strengthen and enhance the human role of interpreting and selecting works to enrich the human experience.

Finally, a dose of cultural *homogenization* could be beneficial, as the opposite could be hyper-personalized cultural content and a loss of common ground. And the society is more fragmented than ever, lacking social cohesion, trapped in fragmented identities (Betz, 2023). Yet culture enables people to adhere collectively to shared cultural identities and cultural references (see Chapter 1). It is an element of social cohesion. It helps to work out what society means and contributes not only to personal fulfilment but also to forging a social bond, breaking with the individualist drift (Romainville, C., 2014). That said, we need to ensure that this homogenization corresponds to the standards of a given society (typically, in democratic states, we want standards that include diversity, ethics, and inclusiveness).

As for the risk of *replacing human creativity*, it must be remembered that AI automation affects society, not just the CCS. AI technologies also have positive not just negative effects (see Chapter 4). Furthermore, AI models need high-quality human data, since a closed-loop approach risks the degeneration of models, making it unlikely that human creativity will be replaced (as explained before). Finally, while there is concern that many creative professions will disappear as they are automated, it is likely that they will not be replaced but displaced. The state should anticipate and train for the jobs of the future (see Chapter 5). AI models increase productivity and quality as it makes more productions and experiences possible, meaning that fewer workers will be needed to perform the same tasks. The remaining creators will produce as much, if not more, and of better quality. As for other creators, they risk seeing their tasks automated and having to adapt to new or the same professions but with new tasks.

CCS as a catalyst for societal changes

CCS can be described as a catalyst for societal, economic, political, and legal change (Miles and Green, 2008; Molins, 2021). While it is difficult to confirm that today's CCS is the precursor of tomorrow's changes, based on past experience, we can affirm its influence and predominant role in changes of the society at large (Hearn, Roodhouse, and Blakey, 2007).

CCS is challenging our *conceptions of value*, by integrating ethical and contemporary issues into the value chain and current practices. This includes, for instance, diverse representations of society. Think of the experiments with datasets (as explained before). This also includes a wide range of themes, from freedom of expression, identify, diversity and inclusion. Film and television influence viewers' perceptions and promote a more inclusive society. We are also thinking about ecology and sustainability. Fashion and design promote and raise awareness of eco-responsible fashion. In fast fashion, for example, brands like Patagonia promote recycled or biodegradable design and materials. We are also thinking about the inclusion of women and empowerment. Music and pop culture are a catalyst for inclusivity, as with the #MeToo movement, which gained momentum in the film industry and stimulated a global discussion on harassment, leading to changes in professional standards and zero-tolerance policies.

CCS also *experiments* with new ideas and technologies, to the extent that some economists have described CCS as 'a testing ground for the relevance of fundamental economic concepts' (Blaug, 1976). Graphic designers, for example, played a pioneering role with the design of the iPhone in 2000, transforming our lives, our social, professional, and cultural behaviours.

Google Fonts' open source fonts, launched in 2010, have given typographers, businesses, and developers free access to a wide variety of fonts for their digital and print projects, profoundly influencing web design.

Web 2.0 has encouraged peer-to-peer sharing. This adoption has been particularly important in CCS (Napster) and in journalism, positively – real-time coverage by small communities without dependence on big media favours hyperlocal coverage and plural and diversity, collaborative journalism. The flipside is that it has led to disinformation and political harmonization.

The video game industry is also constantly experimenting, changing the way people interact with the world and how they perceive each other, to the point that some are talking about the 'Ludic Century' (Whiston, 2020). VR/AR are paving the way for immersive and educational experiences (*Pokémon Go* RA accessible to the general public). NFTs are also paving the way for a new decentralized economy and governance. The enthusiasm started with artistic NFTs to recreate rarity (Cryptopunk in 2017, Beeple and Bored Ape Yacht Club in 2021) and musical NFTs to control revenues and the circulation of works (Spotify). Video games have also adopted NFTs for avatar customization purposes (skins, weapons, virtual terrain), for exchanging items between players, and for monetization (rewards or financial gains via the game). It is difficult to predict the future of NFTs, but these uses point to a new participative economy, where consumers can trade and sell all kinds of goods.

CCS can also be a catalyst for *new economic and governance models*. There are new (utopian) forms of self-regulated communities, such as Subvert, a music marketplace collectively owned and governed as a cooperative, or terra0, a self-regulated forest based on Web3 technologies (Seidler, Kolling, and Hampshire, 2016). Modern wage-earning models, going back in time, seem to come from the CCS. Since the Middle Ages (13th–14th centuries) and the Renaissance (15th–16th centuries), musicians often worked under contract for patrons, churches or royal courts, receiving regular remuneration in exchange for their services. In addition, musicians sometimes took part in guilds or brotherhoods, foreshadowing trade unions. This way of working foreshadowed the employer-employee relationship and the modern wage-earner. In the industrial era, this model became more widespread and developed towards inter-professional and intergenerational solidarity and the redistribution of wealth, in particular via financial contributions from employers and workers to finance collective protection, pensions, unemployment benefits, health insurance, and family benefits (Young, 2022, referring to initiative led by Victor Hugo to set up a fund to pay artists with salaries and social security). This system protected the most vulnerable and ensured economic and social stability on a national scale. Then there is the collaborative and hierarchical organization of work. Going back in time, we will recall that visual artists of the Renaissance (15th–16th centuries) worked in studios, delegating specific tasks, such as preparation and painting, to assistants, operating like proto-industrial workshops where production was

rationalized and collective. This prefigured the hierarchical or horizontal modes of collaboration that later became widespread in the industrial era.

It is difficult to say that CCS today is the precursor of changes tomorrow, just as it is difficult to know whether CCS will influence other areas of society, like IT, agri-food, transport, politics, and science, or whether the opposite is true. In other words, what is the transition from CCS to politics and economics, or vice versa? What can be said is that each sector influences others, resonating and bouncing off each other, even more so today in an interconnected society where sectors are interdependent and constantly intersecting. It also seems that it is the industrial value chains and their claims (respect for environmental, ethical and societal conditions, such as better working conditions, throughout the entire chain) that have stimulated other sectors like CCS, and not the other way round.

Nevertheless, due to these interconnections between sectors and to the paramount role of CCS, it seems crucial to analyze CCS in detail, as done in the following Part II.

PART II

Solutions for a Better Value Distribution

4

Legal Solutions

The legal landscape is complex, but it is crucial to analyse it to understand how value is shared among creative workers, intermediaries, and audiences. The following analysis focuses on the current copyright debates on streaming and AI remuneration, before moving to our proposals. Our proposals can be ordered along a spectrum: from adjustments within existing copyright rules, through reinforced collective management, to more ambitious reforms such as contractualizing value distributing extended to digital workers and social licensing.

We concentrate on two major themes. *First, streaming and sharing platforms*, which have become dominant channels for distributing creativity. *Second, generative AI*, which increasingly functions both as a tool supporting human creativity and as a competitor to it. Both themes are characterized by operators capturing a disproportionate share of value, calling for corrective solutions. These will be considered first from a copyright and contractual perspective (Chapter 4), before turning to measures that copyright cannot adequately address (Chapters 5 and 6).

Considerations relating to streaming and sharing platforms apply not only to music and AV chains, but also to video games, where distribution platforms such as Steam, Apple, and Google retain a 30/70 revenue split similar to that of music streaming (see Chapter 2). Likewise, gaming business models (subscriptions, micro-payments) have relevance for music and the visual arts (Chapter 2). Such models also prompt reflection on whether they could be replicated for AI technology, or whether entirely new models are required (see Chapter 6).

Non-fungible tokens (NFTs) and *Web3* will be addressed primarily as technological tools (Chapter 6), with cross-references to copyright and contractual aspects (Chapter 4). Their main interest lies in decentralized governance and the automation of remuneration, whereas broader legal issues such as property rights or their regulation as financial assets fall beyond the scope of this book.

Finally, the following analysis focuses primarily on European Union (EU) and US law, two jurisdictions/regions of importance to the cultural and creative sectors (CCS), while recognizing that solutions vary across jurisdictions and raise questions of private international law.

Streaming's remuneration: current situation and criticisms

Unequal income distribution (value gap)

This section first describes the current situation of streaming remuneration, solutions to address a fair value distribution, before turning to their limits.

Streaming is characterized today by a '*value gap*', namely an unequal income distribution between those who create, own and invest in the creation and other players (see Chapter 2). Possible explanations:

First, publics have become *accustomed to free access* to cultural goods and services: low-cost subscription for an unlimited offer on streaming platforms like on Spotify or free access to content on sharing platforms like TikTok. Streaming and sharing platforms require a subscription fee or 'free' access to under-remunerated content in exchange of personal data for targeted advertising. They justify the often low remuneration to artists because they offer a global advertising showcase as well as a remuneration, which, even if it is low, contributes to artists' careers, while artists are encouraged to appear in this 'global advertising showcase' in order to 'exist'.

Second, there is also a *proliferation in the number of intermediaries* (streaming and sharing platforms, aggregators, digital distributors) and therefore a fragmentation of rights, which reduces the revenue share among multiple players, and which pays a fraction to artists at the end of the chain (the so-called 'problem of the lion's share').

Third, there is a *proliferation of the means of consumption*. Audiences are enjoying creative works in a variety of ways, from streaming to social media and online radio.

Fourth, streaming and sharing platforms are giving rise to new *forms of exploitation* without being accompanied by necessary legislative changes, like interactive and semi-interactive streaming, or podcasting (about the legal challenges of podcasting see Kahn, 2025). Whereas radio led to the introduction of a collectively managed remuneration right in favour of performers on the grounds that radio is an uncontrollable secondary form of exploitation (for example, broadcasting into hotel rooms and restaurants) and to a quasi-parity distribution between performers and producers (50/50) on the grounds that performers have little bargaining power, on-demand streaming does not provide for a remuneration right in favour of performers. On-demand streaming provides for a simple exclusive right managed

individually on the grounds that it is a controllable primary exploitation (for example, sound recording fixation). The distribution then depends on the contract in question. It is sometimes 80/20 in favour of producers, in particular when they assume creation to distribution stages, but it can also vary according to the contracts and negotiating power of the parties (Castle and Feijóo, 2021; Cherpillod, 2022; Savage, 2022). The difficulty is that there is no standard distribution. In addition, many agreements were signed in the pre-streaming and AI era, which raises questions about the rate applied for streaming, as in the dispute between the artist Four Tet (Kieran Hebden is his real name) and his independent label Domino. The contract stipulated a royalty rate of 13.5 per cent, while the artist claimed a 50/50 split with the label. The parties reached an extra-judiciary agreement and the label declared: 'Kieran's claim arose from differing interpretations of specific clauses in a contract entered into by Kieran and Domino in 2001 in the pre-streaming era, and the application of those clauses to streaming income' (Savage, 2022).

Fifth, copyright *exploitation contracts* are sometimes characterized by *power imbalance* between artists and their contractual partners, publishers and producers, which act as risk takers and facilitators. In practice, this power imbalance leads often artists to accept 'take it or leave it' contracts with disadvantageous conditions, such as the buy-out of all copyrights in favour of the producers (so-called 'buy-out' clauses) (European Commission, 2025; Vanherpe, 2025). That said, with digital technology, artists are beginning to gain autonomy, to take charge of and control all stages of the value chain, including the production and distribution of their works. This influences remuneration. Sometimes artists remain owners of their works and grant a licence to intermediaries (a label, aggregator, or distributor), which exploits them on the platforms and offers additional services in exchange for a commission (percentage of income or fixed amount per track). Thus, the contractual conditions to which artists are subject are sometimes more advantageous in terms of duration of rights, royalties, and advances than they were at the pre-digital era, especially for artists who have high visibility and engagement on social media. For example, Ed Sheeran earns more money than artists did back then. As for intermediaries (labels and other distributors), they are operating in an increasingly competitive and risky market, especially for emerging artists who still have little visibility and engagement on social media. So, digital may lead to more autonomy and to levelling up contractual clauses in favour of artists (Hesmondhalgh et al, 2021).

Exploitation contracts are characterized by an international context, particularly in the music and audiovisual sector. This raises delicate issues of private international law, particularly when there are choice of law and jurisdiction clauses in jurisdictions that favour contractual

freedom or the domicile of the artist's co-contracting party (producer, platform). When the co-contracting party is a platform, general terms and conditions usually provide a choice of law and jurisdiction in favour of the platform. This choice can be barely challenged by the artist with arguments like consumer law protection, as the artist will be deemed to act as professional. Recently, the French Supreme Court has confirmed the validity of Instragram's general terms and conditions (GTC) that selected Irish courts instead of enforcing consumer protection, as the claimant, an Instagram's user, was acting as a professional (French Supreme Court, Cass. civ. 1, 2 April 2025, n° 23–12384). When the co-contracting party is a producer, the contract generally provides a choice of law and jurisdiction that favour contractual freedom. British or American law favouring freedom of contract is often selected instead of EU law providing artists protection rules (as explained below), so that one can speak of *copyright colonialism*, according to which some permissive copyright rules are selected instead of more restrictive rules that protect the artists.

Exploitation contracts are also characterized by a complex chain of copyright licences involving multiple players (licensors, licensees, and sub-licensees) (Tritten, 2024). This may lead licensees and sub-licensees to request choice of law and jurisdiction clauses in favour of a more flexible legal framework or, at the very least, to obtain guarantees or indemnities from the artist's initial business partner (Vanherpe, 2025).

Finally, exploitation contracts are characterized by *opacity*, a lack of transparency for artists, particularly contracts between producers and platforms, as artists have no direct relationship with the platforms. These contracts complicate the levers of action for authorities and artists. As the president of the International Confederation of Societies of Authors and Composers (CISAC) declared:

> For example, it is clear that the pricing models of digital platforms are hard to follow and difficult to explain. The many discussions about their algorithms remain unresolved. As these platforms mature, we should demand more transparency and accountability, rather than simply waiting for scalability to solve the challenges of fair remuneration. (Teosto, 2024)

Solutions to correct unequal distribution

Context and diversity of national solutions

The value gap has triggered international and national debates aimed at improving artists' remuneration, particularly through copyright reform. In what follows, we examine the range of solutions developed at these levels,

including their limitations. Building on this analysis, we then propose a normative approach designed to strengthen value sharing and cultural diversity.

At the *international level*, the debate revolves around whether to maintain the status quo or to strengthen artists' rights, in particular by introducing a new remuneration right for streaming, as have Spain, Italy, Belgium, Mexico, and Colombia. Authors tend to be satisfied with the status quo, in particular because they benefit from an exclusive rights and strong negotiating power, while performers are calling for a better sharing with a unwaivable right to remuneration even after a buy-out (Connect, 2025).

An interesting solution for increasing the rate of remuneration for performers in streaming consists of replicating radio royalty split (50/50) on the grounds that streaming is comparable to radio with algorithmic playlists (Art. 12.3 Beijing Treaty; Art. 15 WPPT / Art. 12 Rome Convention, providing an equitable remuneration to performers and producers, managed collectively).

Without taking a position on this solution, the argument for replicating the radio solution for streaming is understandable, knowing that consumers use platforms on the basis of algorithmic recommendations, that is, 41 per cent on Spotify and 80 per cent on Netflix in 2019 (Beuscart, 2019) (see Chapter 3). We can, however, counter-argue that algorithmic recommendations are not the same for everyone. They are indeed the result of choices made by consumers who are themselves interactive. Also, consumers are often proactive when enjoying cultural content, and not mere passive users (see Chapter 3). A new right to remuneration is commented upon later.

At the *national level*, there is a wide variety of solutions ranging from no specific regulation with contractual freedom to specific regulation with artist protection rules, with some jurisdictions being more or less pro-regulation. For example, the United States and the United Kingdom offer little or no protection to artists and leave market players to negotiate individually. Given the importance of Anglo-American territories in the CCS, digital exploitation contracts often stipulate that British or American law and courts apply (Vanherpe, 2025). Conversely, Europe provides artist protection rules, such as transparency obligations and contract adjustment mechanisms (discussed later). In Spain, Italy, Belgium, Mexico, and Colombia, there are provisions for remuneration for artists. The compensation may be 'non-transferable' (even after assignment / buy-out), and/or managed by collective management organizations (CMOs) (discussed later).

The diversity of national solutions, combined with the global nature of the CCS, places private international law at the heart of the debate. Questions of jurisdiction and applicable law may appear abstract, but they are decisive in determining which national rules govern private claims over the value captured and redistributed by platforms worldwide.

According to the usual rules of private international law, applicable laws depend on whether there is a contractual relationship. In the case of a contractual relationship, for example, an artist's relationship with the producer, the applicable law is that designated by the parties or, failing that, the law of the country that is close to the contractual performance, such as the artist's or the company's place of residence (*lex contractus)* (European Copyright Society (ECS, 2020). In the absence of a contractual relationship, for example an artist represented by a producer vis-à-vis a streaming platform or an infringer, the applicable law is that of the country in which the legal protection of copyright is claimed (*lex loci*). In both cases, this can lead to a law that is unfavourable to an artist. One can attempt to apply a more protective regime regardless of the applicable law, where the latter has no connection with the case in terms of the parties' domicile, the place of creation, or the intended place of exploitation (Art. 19–21 with 23(1) EU Directive on copyright and related rights in the Digital Single Market [CDSM]), or where the protective regime is considered mandatory law in the country where protection is sought (*lex loci protectionis*) (ECS, 2020). However, this situation will remain the exception, since there shall be a link with the applicable law due to the internationalization of CCS and since mandatory law should only be admitted in a restrictive manner (Vanherpe, 2025).

Thus, as long as there is no international harmonization, certain jurisdictions may be used by certain actors as a loophole to circumvent artist protection rules. In other words, jurisdictions with protection rules bear a risk of talent and market drain toward jurisdictions where rules are less restrictive.

Specific regulations: the European example

In Europe, there exists specific regulations, in particular an obligation for sharing platforms to conclude licences relating to the content posted online by their users (Art. 17 CDSM). There are also mandatory remuneration rules for artists (Art. 18–20 CDSM), particularly rules obliging intermediaries to provide appropriate and proportionate remuneration (Art. 18 CDSM), a transparency obligation (Art. 19 CDSM), and a contract adjustment remuneration mechanism (Art. 20 CDSM). Competition law and platform regulations may be complementary legal tools, particularly the Digital Market Act (DMA) and the Digital Services Act (DSA), that close existing gaps of transparency and remuneration rules.

As a preliminary remark, the CDSM anticipates questions of private international law discussed above, by providing that these rules have an extraterritorial scope of application and are mandatory in nature.

With regard to the *extraterritorial scope*, the CDSM does not expressly state that it also applies to cross-border like contracts concluded with producers,

publishers, or platforms established outside the EU but exploiting works in the EU. Nevertheless, the interpretation of the provisions tends towards an extra-territorial scope. Article 17 CDSM applies when the work is accessible to the public (when the platform 'gives the public access to copyright-protected works'), regardless of the establishment of the platform, and Articles 18–20 apply when the place of exploitation of the work is in Europe. This interpretation is also confirmed by judgment C-575/23 (Belgium National Orchestra ONB), where the Court of Justice of the European Union (CJEU) affirmed that Articles 18–23 'apply to all acts of exploitation' without consideration of the geographical residence of the contracting party. This extra-territorial scope is confirmed by the recital 81 of the CDSM, which specifies that it can also apply in international contexts when the 'elements relevant to the situation […] are located in one or more Member States'. It should be noted, however, that this extraterritoriality of laws leads to a certain decline in territorial sovereignty, since it consists of a state (in this case the EU) promoting its standards abroad. However, we may be entering an era in which courts could oppose the extraterritoriality of foreign laws and reaffirm their territorial sovereignty. For example, the United States is threatening not to apply the extraterritoriality of European laws on digital services (White House, 2025) (as mentioned before, see Chapter 1).

With regard to the *imperative nature*, the CDSM specifies that, in an international context, the transparency obligation (Art. 18 CDSM) and the contract adjustment mechanism (Art. 20 CDSM) are mandatory and still apply, even if the parties choose a foreign applicable law, whether in contracts between artists and their contractual partners or between them and sub-licensees (see Art. 23 para. 1, recital 81 CDSM and Art. 3(4) of the Rome I Regulation). As for the rule of remuneration (Art. 19), while the CDSM does not expressly specify its mandatory nature, the CJEU confirmed in judgment C-575/23 (ONB) that this rule is infringed where national law provides for mandatory transfer without the consent of the artists. Therefore, if a contractual clause prevents an author from invoking these rights under Articles 18–20, it is unenforceable (Gervais et al, 2024).

The *first obligation* is the requirement that *sharing platforms conclude licences* (Art. 17 CDSM) (sometimes called the *Lex YouTube*). This licensing and profit sharing provision is intended to raise the royalties paid by sharing platforms such as YouTube to the level of Spotify, given that they are used to stream music with lower royalties than music streaming services. In other words, the idea is to prevent sharing platforms from hiding behind passive behaviour in the face of illegally shared content, at least for as long as they have no actual knowledge of them and provided that they then act promptly to have them removed. However, these sharing platforms are used to stream music with lower royalties than streaming platforms. The *Lex YouTube* assumes that sharing platforms exercise an act of communication to the public and must

therefore obtain licences for the content shared by their users. Failing that, they must prevent infringements. These obligations, however, are limited to 'best efforts' to obtain licences and prevent infringement. Since sharing platforms cannot know in advance which works will be shared by their users, the CDSM limits platforms' liability to their best efforts to obtain licences and 'ensure the unavailability of specific works […] for which rightsholders have provided the service providers with the relevant and necessary information'.

However, the *Lex YouTube* is often criticized, at least during the preparatory work by certain lobbies of the tech industry and the civil society. In particular, it has the effect of levelling down royalties and risks leading to the 'overblocking' of lawful content. In practice, the levelling down is due to the business model, since the subscription fee is calculated according to what the consumer is prepared to pay before the free offer, which means that subscriptions can be capped (Cherpillod, 2022). The race to the bottom can also be explained by the legal model, as the obligations to conclude licences for the content shared online is limited to best efforts, which encourages negotiating the minimum. In a case between TikTok and the Berlin film distributor Nikita, TikTok was found liable for distributing films on the platform despite discussions to conclude a licence (*TikTok v Nikita Ventures*, Landgericht München I, 9 February 2024). Nikita criticized TikTok for not having given a price, and TikTok criticized Nikita Ventures for not having given it sufficient information to decide on the price of the licence. The court concluded that there is no obligation to accept any offer from a rights holder but that both parties must exchange all the information required. That Nikita was the only party to provide information suggests that TikTok did not want to reach a quick solution in the interests of both parties. Although TikTok was found to have failed to make best efforts, these issues are difficult to assess. For example, the licences concluded by players other than TikTok, such as Spotify, are difficult to compare due to their different business models. As an outcome, the courts will be faced with practical difficulties that will lead them to accept the platform's liability only in cases where there is clear lack of cooperation or efforts fall short of the standards that might be required. The risk in such a situation is that the lowest standard becomes the rule. Finally, there is a risk of overblocking, since making sharing platforms liable for content illegally posted online by Internet users (if they fail to demonstrate their best efforts) encourages the use of automated content filtering methods, which risk blocking lawful content, for example, content that benefits from exceptions, such as quotations or parodies. To give an example of scale, YouTube's robot ContentID processes more than 1.5 billion videos to identify and manage copyright, 90 per cent of which is monetized for the benefit of rights holders (Google Transparency Report). That said, this risk of overblocking does not seem to have materialized. Filtering tools seem to work well (for example, Content ID) (Cherpillod, 2023).

To correct the *Lex YouTube* effect, the CDSM provides mandatory contractual rules. A *second obligation* is the rule for '*appropriate and proportionate*' *remuneration* of authors and performers (at. 18 CDSM). This rule provides that, when authors and performers have licensed or transferred their right for the exploitation of their works, they shall receive appropriate and proportionate remuneration (see also Art. 16 CRM Directive requiring that rightsholders receive appropriate remuneration and that tariffs reflect the economic value of the use). This provision is difficult to apply, particularly because the notion of 'appropriate and proportionate remuneration' can be transposed differently in domestic laws of the Member States (for example, France transposing 'proportionate' by 'proportional' in L. 131–4 CPI). The provision can also be transposed by 'different mechanisms' in the Member States (Art. 18 para. 1 CDSM), taking into account the 'principle of contractual freedom and a fair balance of rights and interests' (Art. 18 para. 2). This can be done through an exclusive right of authorization managed individually by the rights holders (*first option*) or through an unwaivable right to remuneration managed collectively by the CMOs (*second option*). Nor does the directive specify whether an unwaivable right to remuneration (second option) replaces or can coexist with the exploitation contract between the author or performer and his or her co-contractor (label, producer) (first option). These concepts deserve to be clarified, (1) namely transposition by 'different mechanisms', (2) the concept of remuneration as 'appropriate and proportionate' and (3) the concept of artists and performers referred to in the provision.

As for the different mechanisms (1), the second option of a right to remuneration has been introduced in Belgium and Spain. Belgium has introduced two types of additional remuneration rights, which are non-transferable, non-assignable, and collectively managed (also known as 'residual rights' or 'statutory remuneration rights'): a first remuneration right due from streaming platforms such as Netflix and Spotify and a second remuneration right due from sharing platforms such as YouTube (articles XI.228/11 and XI.228/4 of the Belgian Code of Economic Law). These two remuneration rights are non-transferable and non-assignable in the sense that they remain vested in the authors and performers even after the contractual transfer of their exploitation rights (buy-out) and are in fact triggered by this transfer (Izyumenko, 2024).

That said, the validity of these two Belgian rights is being contested by Google, Spotify, Meta, Sony, and Streamz, a Belgian video streaming service, on the grounds that they are incompatible with Articles 17–18 CDSM and freedom of trade (Le Cam, 2024). It is now up to the CJEU to examine the legality of these new rights. Regarding the first right to remuneration owed by streaming platforms, the petitioners consider that it is contrary to Article 18 (appropriate and proportionate remuneration) because authors and performers would receive two streams of remuneration for the same

exploitation: an 'appropriate and proportionate' contractual remuneration according to Article 18 CDSM and an additional extra-contractual remuneration. This would lead to double payment, which is excluded by Article18 CDSM. The petitioners also argue that this right to remuneration unduly divides copyright into an exclusive right to authorize and a right to remuneration. However, according to them, these two rights are intrinsically linked and cannot be dissociated (Izyumenko, 2024; in the same vein see the French State's Council Opinion on authors' remuneration for second-hand books, concluding that there is an inseparable link between the exclusive right to control and the right to remuneration, based on CJEU C-55/80 and 57/80). Regarding the second right to remuneration owed by sharing platforms, the petitioners consider it to be contrary to Article 17 CDSM (obligation of sharing services to contract licences) because this article is a maximum harmonization rule and does not allow for additional rules (Izyumenko, 2024). The petitioners also argue that these rights make the cross-border offer of the platforms less attractive by creating legal barriers and transaction costs specific to Belgian territory, in violation of the European Charter's principles of equality and non-discrimination. These rights would also weaken the bargaining power of performers since they can no longer assign their rights to remuneration (Izyumenko, 2024). The CJEU's ruling is eagerly awaited as it could have major implications for the remuneration frameworks of authors and performers in the EU.

Pending the CJEU's forthcoming decision, and without prejudging its outcome, the ruling is difficult to anticipate, particularly regarding the first right to remuneration owed by streaming platforms.

There are strong arguments against such a right (second option). First, the idea of a mandatory remuneration right was debated during the legislative preparatory works but ultimately rejected in the final text, unlike in other directives, such as Directive 2006/115 on rental and lending rights (Art. 3) and Directive 93/83 on satellite broadcasting and cable retransmission (Art. 9). Second, Article 18 CDSM specifies that remuneration must take account of contractual freedom, whereas a mandatory remuneration right would prevent the parties from negotiating alternative contractual arrangements. Third, the Belgian proposal would apply only to artists who have transferred their rights to a producer, while independent and self-produced artists – the most economically vulnerable, would remain outside its scope and continue to negotiate their exclusive rights individually. Fourth, practical management poses significant challenges: CMOs would need to determine precisely which sound recordings fall within each category. In Spain, for example, where such an unwaivable right has been introduced, the CMO Asociación Española de Artistas e Intérpretes (AIE) collects remuneration across the full repertoire, including uses that may exceed its mandate or may be legally controversial, whereas it should restrict collection to recordings for which

rights have actually been transferred. AIE has also been reported to face late payments, suggesting difficulties in the management of this new right.

There are, however, also good arguments in its favour. The fact that the remuneration right applies only to artists who have transferred their rights preserves contractual freedom for independent and self-produced artists. It also protects signed artists against buyout practices that could otherwise leave them with little or no remuneration for exploitation, while enabling self-produced artists who retain copyright *ab initio* to negotiate their rights differently, for instance by entrusting CMOs or other management entities. Moreover, this system could reduce CMO management costs: instead of documenting the multitude of contracts for each individual member (for example, for a performer who worked with different authors and labels), CMOs would collect copyright royalties by category of creative workers, upon simple proof of a membership contract (for self-produced artists) or of a transfer of rights (for signed authors): a 'copyright package' for technicians, and a 'copyright package' for authors and performers.

In sum, while a mandatory right of remuneration seeks to protect artists against buyouts and facilitate royalty collection, it would have little impact on independent artists not signed to labels, or on those who already benefit from equitable arrangements such as 50/50 deals. It therefore primarily benefits artists who have received label support but failed to achieve commercial success despite such investment. In any case, the CJEU's ruling may have significant consequences, potentially triggering a domino effect that could either discourage or encourage other jurisdictions to adopt similar protective remuneration regimes. Ultimately, the issue may not be solved by dividing the existing size of the pie (discussed before) more finely but rather by finding ways to expand it and to ensure its more efficient distribution.

As for the concept of remuneration (2), despite uncertainty regarding the interpretation of certain notions, the CDSM provides a *second obligation* that the remuneration must be 'appropriate and proportionate to the actual or potential economic value of the licensed or transferred rights' (recital 73 CDSM). In another instance, the CJEU has already had occasion to interpret the concept of 'appropriate and proportionate remuneration' in relation to a quasi-intellectual property right to football matches broadcast by foreign decoders. It reiterated the importance of weighing up the interests between the right of the organizer of sporting events to protect his services and the free movement of services. It specified that the organizer's right does not guarantee the highest possible remuneration but appropriate remuneration for each use of the subject matter. Appropriate remuneration is that which is 'reasonable in relation to the economic value of the service provided' (CJEU, 4 October 2011, C-403/08 and C-429/08, cons. 108–109 Football National Premier League). Thus, it is likely that the CJEU will confirm this notion taking into account the different parties and seeking a reasonable relationship with the economic

value of the service in question. In CCS, this means that the remuneration split applied by platforms between players (for example, YouTube 70/30, Spotify 30/70) could be reviewed by courts, to ensure a reasonable price in relation to the economic value of the service provided by the platform.

As for the concept of artists and performers (3), the notion of authors and performers is not explicitly defined. It generally includes the original creators of copyrighted works (writers, composers, scriptwriters, directors) and the performers who interpret, play or perform works (musicians, singers, actors, dancers). Video game creators who have been involved in the creative process and worked on copyrighted works appear to fall within the definition of author, at least in jurisdictions recognizing video games as copyrighted works. This is the case, for example, of programmers, scriptwriters, graphic designers and animators, composers and 'sound designers'. Member States may, however, choose to limit the notion of authors and performers to certain categories, particularly in the case of insufficient contribution by the artist in relation to the overall work or performance (Art. 19 para. 4 CDSM). For example, Belgium limits this appropriate and proportionate remuneration to sound and/or audiovisual works (chap. 4.2 Belgian Code of Economic Law). Thus, only certain developers could be entitled to compensation, for example composers and sound designers, but not programmers. This kind of policy risks creating inequality between artists and segmenting income even more.

Finally, note that, in the press sector, a right to remuneration has been introduced (Art. 15 CDSM) to cover new digital uses by news aggregators on the grounds that they index and benefit from parts of publications, often not protected by copyright and not paying royalties, while indexing increases advertising income and traffic on their web site. The question also arose as to whether to grant an exclusive right (first option) or a right to remuneration (second option). The first option was chosen on the grounds that there is no mass use involving many players and that it is not a form of secondary exploitation, unlike TV in restaurants and hotel rooms, which justified providing for a right to remuneration supervised by CMOs (second option) (Furgal, 2024).

To ensure the implementation of this right to remuneration (Art. 18 CDSM), *a third rule* is a *transparency obligation* (Art. 19 CDSM), according to which operators of the work must inform the authors and performers of 'the modes of exploitation, all revenues generated and the remuneration due' (Art. 19.1 CDSM). This is a genuine right to transparency for the author or performer, and it goes far beyond the contract concluded with the direct contractual counterpart (label, publisher) since it can be enforced against any sub-licensees (platform, aggregator, distributor) if the direct contractual counterpart does not hold all the necessary information (Art. 19.2 CDSM). The geographical scope of this obligation is worldwide since it covers 'all relevant revenues worldwide' (recital 75 CDSM). The obligation does not specify whether it is limited to cultural metadata or extends to usage data

(see Chapter 3). Indeed, the material scope of this obligation is to be defined in national law. For example, in France, this obligation covers all usage data (Art. L. 132–18 CPI: 'information on the number of times works have been downloaded, consulted, listened to or viewed'). This requirement of data sharing is, however, subject to conditions: the disclosure shall not be disproportionate in the light of the revenues generated (Art. 19 para. 3 CDSM), shall not infringe the data protection of the users of the works (cons. 75), and confidentiality shall be preserved (cons. 76). These conditions for data sharing should be easily met: the disproportionate nature will be difficult to invoke as the processes become automated (see YouTube Content ID: 'RH can track user data to get detailed analytics, such as countries where their content is popular'), data protection can be respected if the data are used for statistical purposes and in aggregated form (cf Art. 5 and 89 GDPR, recital 62), and confidentiality will be ensured by means of a simple confidentiality agreement when sharing data with third parties.

As an outcome, this provision allows artists to assess the economic value of the rights assigned or granted (Art. 19.3 CDSM, cons. 72) (Bernard and Hadot-Pericard, 2021). It must be said that transparency is key in determining what the effect of a small difference in the sharing with the labels would entail: a difference of 1 per cent could have a huge impact on a value chain. Effective implementation of remuneration is also important for the effectiveness of payments. However, it sometimes is difficult to trace the entire chain and to pay all the rights holders. In the United States, for example, the Mechanical Licensing Collective (MLC), the organization in charge of managing licences and collecting mechanical rights on musical works distributed online, has USD 562 million in unrecovered revenue (black box MLC) (Smith, 2023). Clearly, hope and efforts should be focused on more effective solutions that allow for better transparency and traceability of rights holders and a better match between rights holders and metadata.

Finally, a *fourth obligation* is a rule for *contract adjustment mechanisms* (Art. 20 CDSM) to ensure that it remains 'appropriate and fair' when the remuneration originally agreed proves to be unreasonably low compared to the income derived from the exploitation of the work. Again, this rule may be transposed differently into domestic laws of Member States. For example, there are contract adjustment rules in German and Dutch law (for example, with 'bestseller provisions' requiring a contract revision when the split appears disproportionately low (Costas and Vonderau, 2025)). There are also buy-out rules in the audiovisual sector in French law, allowing film composers to invoke a remuneration adjustment mechanism and transparency in audiovisual production contracts (Vanherpe, 2025; European Commission, 2025).

Beyond these special rules of the CDSM (remuneration requirements, transparency obligation, and contract adjustment mechanism), several

Member States also provide for protection rules in general contract law that limit the contractual freedom of the parties in favour of the weaker party and that could be invoked in the CVC to rebalance the power imbalance between artists and their counterparts. In particular, we think of the prohibition of excessive commitments (in terms of the duration or scope of the assignment) and commercial clauses deemed unfair (Benhamou and Tran, 2016). However, these provisions face practical difficulties in private international law since they can be ousted by a choice of courts and law clauses. In the event of a dispute, a judge has to determine whether or not they are mandatory in nature.

In addition to the CDSM's transparency and remuneration rules, *complementary legal tools* exist, *competition law*, as well as gatekeeper and *platform regulations* under the Digital Markets Act (DMA) and the Digital Services Act (DSA). These tools matter because platforms such as TikTok and Instagram may not clearly fall under the scope of the CDSM's provisions, creating a grey area in legal and policy debates (MusE, 2025). Article 17 CDSM applies to Online Content-Sharing Service Providers (OCSSPs), defined as 'provider of an information society service of which the main or one of the main purposes is to store and give the public access to a large amount of copyright-protected works […] uploaded by its users, which it organizes and promotes for profit-making purposes' (Art. 2(6) CDSM). This clearly includes DSPs such as YouTube, SoundCloud, and Dailymotion, but not necessarily platforms like TikTok or Instagram, which some argue revolve primarily around short-form video, personal communication, and branding rather than public sharing of copyright-protected works. Therefore, the complementary tools may be useful.

The DSA fills part of this gap by imposing *ex ante* obligations on platforms to publish clear terms of service and explain algorithmic decision-making. Very large online platforms (VLOPs), such as YouTube and TikTok, must also publish regular transparency reports. The DMA, meanwhile, imposes ex ante obligations on designated gatekeepers (for example, Apple, Meta, Alphabet) to ensure fair, reasonable, and non-discriminatory access to platform infrastructure and data, including rights for business users to access performance data and avoid lock-in. Finally, competition law provides an *ex post* tool to address abuses of dominance by requiring, for example, data portability and metadata-sharing to mitigate concentration (Art. 102 TFEU; Benhamou and Tran, 2016; MusE, 2025) (see Chapter 5).

The classification of TikTok and Instagram as OCSSPs ultimately depends on how national courts and regulators interpret Article 17. Divergent national interpretations could mean that these platforms face licensing and remuneration obligations in some countries but not in others. As a result, DSA, DMA, and competition law can serve as complementary frameworks to close gaps left by CDSM obligations, especially regarding transparency and fair

remuneration (Fair Muse, 2025). Yet significant blind spots remain: streaming platforms like Spotify and Deezer are not currently designated as gatekeepers or VLOPs, and the legal categories used in the DSA and DMA ('business user', 'recipient of the service') may not fully capture the roles of authors, performers, or CMOs. This creates a regulatory grey zone where creators risk falling through the cracks (MusE, 2025).

No specific regulations

Outside of Europe, the priority seems to be *contractual freedom*. In the absence of specific regulation, the creative economy is dictated by contracts, that is the play of the market of supply, demand, and competition. Copyright exploitation contracts between artists and their contractual counterparts – producers, publishers that act as risk takers and facilitators – are sometimes 'take it or leave it' contracts (Bouvard, Cooper, and Thomas, 2024; European Commission, 2025; Vanherpe, 2025). Exploitation contracts are also characterized by an international context with the prevalence of international media conglomerates in the CCS, particularly in the music industry and the audiovisual sector.

In practice, this can lead to *a power asymmetry* between artists and their contractual counterparts. In other words, this leads to certain artists having weak negotiating power and accepting disadvantageous contractual conditions, such as the transfer of their rights to their performance prior to any digital exploitation, with the result that they no longer receive any income after the transfer (buy-out). It also leads artists to accept a choice of law and jurisdiction in jurisdictions that favour contractual freedom without specific protection for artists (Vanherpe, 2025). This also leads to a certain lack of transparency from the artists' point of view. In the absence of a transparency obligation, they can only demand an account from their direct contractual counterpart (for example, labels, publisher) but not from platform sub-licensees.

This situation led the actors' union SAG-AFTRA to go on strike, demanding better pay in an industry turned upside down by streaming and AI (see Chapter 3). The strike led to a social agreement between authors and film producers authorizing the use of AI but specifying that it must not be used to reduce the activity and remuneration of creative teams (Bensamoun and Farchy, 2020). These pressures help to reduce the disadvantage of authors in contracts, particularly in the age of AI. However, they do not make it possible to regulate the limitations as set out below.

Limits of the current system

There are many limitations to the current system. *First*, CCS is becoming *increasingly complex*. Streaming and sharing platforms are based on multiple

parties and contracts. The contracts and remuneration models provided for therein are also characterized by an unequal bargaining power between platforms and artists as well as a lack of transparency, since the contracts are often subject to confidentiality clauses and are not available to non-contracting parties (for instance, performers outside of contracts between a label and platform). This situation has led regulators to assess the impact of contractual practices and revenue distribution models (European Parliament, 2024). Calculation methods are also complex. There are 20 to date, including market-centric and user-centric models, and they are all criticized (see Chapter 2). They also lack a reference framework, with each new player presenting itself as a player to be treated differently from a legal point of view. There are also problems with payment. Even when rights to remuneration are provided for, royalties are not always redistributed because the rightful beneficiaries have not been identified, as shown by the black box MLC discussed previously.

Second, the platform liability regime has focused attention, but the value gap has other causes. It is more a *problem of the 'size of the pie'* than of remuneration models or a purely matter of copyright. Assuming that a new right to remuneration is provided for, this right will not change the problem of the 'size of the pie', since it will remain the same (see Chapter 1). Value will simply be distributed differently among multiple players, along with the management costs of such a solution. Performers risk receiving only a fraction of the pie. Thus, a new right to remuneration will not de-complicate the value chain. With the same budget, it will segment income even more.

Third, assuming that a new right to remuneration is provided for in certain jurisdictions, this right will also not change the problem of *enforcement and applicable law*. Regarding enforcement, regulations exist on paper, but their implementation in different jurisdictions remains inconsistent and fragmented. For instance, in Europe, some jurisdictions may interpret Art. 17 CDSM broadly or narrowly (for example, including or excluding social media like TikTok and Instagram), which creates ambiguity in the legal definition and lets them escape some obligation (MusE, 2025). Similarly, the DSA and the DMA may not fully capture the roles of authors, performers, or CMOs, creating a regulatory grey zone (MusE, 2025). Regarding applicable law, the CCS is characterized by an internationalization of transactions with multiple contracts that may be subject to different laws. Often, choice of law and courts clauses oust the law from a jurisdiction that provides artists with protection rules in favour of more liberal laws. These technical conflicts of jurisdiction translate into real vulnerabilities for creators: when laws do not align across borders, artists may be left without effective protection. To mitigate this risk, one solution is for the court concerned to consider artists' protection rules as imperative in derogation of the applicable law (*lex fori protectionis*) (European Copyright Society, ECS, 2020). However, even this solution must be qualified, as it will only be accepted in very exceptional

cases (Vanherpe, 2025) or when a rule is expressly declared mandatory. Moreover, the extraterritorial effect of certain laws may be weakened as some States refuse to apply them on their territory.

Fourth, linked to the problem of the size of the pie (explained before), there is also the *problem of fraud or misuse*, which captures a significant share of royalties (see Chapter 1). This problem will increase as AI models develop. If this problem were tackled firmly, it would increase the share of income going to human and creative artists. To combat it, a legal obligation for platforms to detect and remove or demonetize fraudulent or non-artistic content would have to be created or affirmed.

Fifth, 'typical' creative work – performers in the music value chains, developers upstream in the video game value chains, artists upstream of the primary and secondary market in the visual arts value chains – is often *undervalued* (Miller, 2018; Bouvard, Cooper, and Thomas, 2024). It is characterized by unstable working conditions, and low pay, and a dynamic where a few 'superstars' capture the bulk of the income. This has an impact on diversity, with only artists who have the support of a wealthy family or a higher education qualification surviving. Therefore, copyright, which is supposed to promote art and culture, does not support creativity (except for successful authors and 'superstars') or cultural diversity (Bouvard, Cooper, and Thomas, 2024).

This observation calls for several possible solutions. One idea is to provide support throughout the entire value chain and rebalance the rights of artists. This could be done through an unwaivable right to remuneration, possibly supplemented by a transparency obligation. However, such rules are insufficient because they will not change the problem of the size of the pie (see Chapter 1). These rules will then need to be supplemented with additional measures (discussed below in Chapters 4 and 5). Alternative models will also be needed to take into account the entire long tail (see Chapter 6).

AI remuneration: current situation and criticisms

Preliminary remarks

Two main questions (inputs and output), leading to an AI value gap

This section first describes the current situation of AI remuneration and the criticisms it has triggered, before turning to possible solutions and their limits.

Generative AI (GenAI) models use artworks as training data (hereinafter: 'input', 'artistic data', or 'creative labour'), often without authorization or remuneration, to produce new content (hereinafter: 'output', 'AI work', or 'AI generated work'). This raises two distinct but linked copyright questions (on the link between input and output, see Strowel, 2025a). On the one hand, to know if and to what extent input can be legally

used for training purposes. On the other hand, to know if and how output are copyrightable, it being recalled that they can compete with human creation with a risk of substitution (Lemley, 2024; United States Copyright Office, 2025b).

From a value standpoint, according to a study commissioned by CISAC (an organization representing 5 million creators and songwriters in 116 countries), creators would suffer a loss of income of more than 20 per cent in music and audiovisual by 2028 (CISAC, 2024a; Goldmedia, 2024), so that we can speak of an 'AI value gap', namely a transfer of value from creators to AI models. The situation deserves a closer look and to see what solutions can be used to remedy this.

Input protection

The *first question* is whether *artistic data* (image, text, and music) can be legally used for *training purposes*.

Copyright tends to protect the use of works as training data. Indeed, the scope of reproduction rights is interpreted so broadly in most jurisdictions (as illustrated by recent court decisions discussed in this chapter) that any re-use for training purposes is covered by copyright and requires the authorization of the rights owner (Benhamou and Andrijevic, 2022; Gervais et al, 2024). More specifically, the scope of copyright seems to stretch to the three AI phases (see Chapter 3):

- The first phase of collecting and curating a dataset containing copyrighted works triggers the right of reproduction, as the works are copied and stored.
- The second phase of training a model also triggers the right of reproduction, as the dataset must be first downloaded and stored prior to training and as copies of works are temporarily reproduced (fully or partly) as they are 'shown' to the model in batches. Also copies of works may be contained in the model weights if substantial protectable expression from the works at issue are memorized (for the concept of memorization, see below);
- The third phase of deploying the model with individual outputs may infringe the reproduction right (potentially leading to derivative works) if they replicate or closely resemble copyrighted works, potentially also leading to an infringement of communication rights as well (United States Copyright Office, 2025).

That said, technical issues are currently being examined in copyright lawsuits and vary from one model to another (Crawford and Joler, 2018; Mantegna, 2024), making it difficult to anticipate the decisions in all pending lawsuits with reasoning that is consistent across all AI models and AI stages. Legislation

(for example, AI Act) and recent decisions like *Ross and Anthropic* (discussed later) remind us that copyright does apply to inputs. This is reminiscent of the downloading and streaming era, which led courts to reaffirm copyright protection for illegal downloads and streaming. Today, Meta is defending a similar approach in a lawsuit against publishers after admitting that it downloaded a dataset of pirated books for training purposes. Meta contends that it took precautions not to 'seed' the downloaded files – that is, not to redistribute the dataset – while retaining them internally for training (Belanger, 2025b). It is doubtful, however, that this defence will be persuasive, given the strict interpretation of copyright law extending protection to inputs, as illustrated by the *Anthropic* decision, which sanctioned the company for copying and storing 7 million pirated books (discussed later). It therefore seems likely that courts will reaffirm the application of copyright to inputs, at least where AI models rely on illegal copies.

To allow the re-use of inputs for training purposes despite copyright protection, most jurisdictions provide for copyright exceptions, like text and data mining in Europe, fair use in the United States. In the United States, the 'fair use' exception is assessed on a case-by-case basis according to several criteria, in particular whether the use of the pre-existing work enables transformative creations (1st criteria) and what is the effect on potential market of pre-existing rights holders created by these transformative creations (4th criteria) (107 of Title 17 USC). The application of this exception in the context of AI is the subject of ongoing litigation. Rights holders reject fair use on the grounds that the output would pursue a similar objective to the pre-existing work (making an artistic work) (1st criteria), thus turning into lost sales, lost licensing opportunities and market dilution (4th criteria). Fair use advocates assert that AI models would enable a transformative output that is different from the initial work (1st criteria) and that there is no licensing market, hence that the rights holder did not suffer a lost licensing opportunities (4th criteria).

Ongoing legal proceedings will determine whether this exception can be legitimately invoked in a particular case. In the United States, a Delaware court recently rejected the fair use argument and prohibited Ross Intelligence from using Westlaw and Thomson inputs to generate court summaries on the grounds that Ross was pursuing the same objective (1st criteria) as Westlaw and Thomson (*Thomson Reuters Enterprise Centre GmbH and West Publishing Corp. v Ross Intelligence Inc*, No. 1:20-cv-613-SB). Conversely, a federal judge in San Francisco said Anthropic made 'fair use' of books by the writers Andrea Bartz, Charles Graeber, and Kirk Wallace Johnson to train its Claude large language model (LLM) (*Andrea Bartz, Charles Graeber, and Kirk Wallace Johnson v Anthropic PBC, No. C 24–05417*). However, *Anthropic*'s copying and storage of more than 7 million pirated books in a central library infringed the authors' copyrights and was not fair use – although the company later bought 'millions' of print books as well ('that *Anthropic* later bought a

copy of a book it earlier stole off the Internet will not absolve it of liability for the theft but it may affect the extent of statutory damages'[*Andrea Bartz, Charles Graeber, and Kirk Wallace Johnson v Anthropic PBC, No. C 24–05417*, pp 31–2]). This is reminiscent of the hyperlinking copyright debate. Courts in many jurisdictions, including the EU and US, have generally ruled that hyperlinking does not infringe copyright if the content is lawfully available and the linker does not circumvent access restrictions. Similarly, following Anthropic's decision, it may be 'fair use' to train on content lawfully available but not on pirated content (Benhamou, 2018).

In Europe, the text and data mining (TDM) exception allows lawful users to copy and analyse works for computational analysis – such as extracting patterns or information from text, images, or data – without authorization, under the conditions set in Art. 3 (TDM for scientific purposes) and 4 CDSM (TDM for all purposes, including for commercial purposes). This exception can be overturned if rights holders declare it inapplicable (*opt-out*), which is what many artist consortia have done (CISAC, by indicating to 'robot-crawlers' that it is forbidden to retrieve content online) (Keller, 2024). The opt-out right is also reinforced by the *transparency* regime of the AI Act, requiring AI operators to publish a summary of the works used to train the tool (Art. 53(1)(d) AI Act; EU AI Office Code). Moreover, the TDM exception may not apply when an AI model creates permanent copies within its parameters, thereby introducing a risk of memorization, as illustrated by the *Gema v. OpenAI* decision by a Munich court (Gema v OpenAI, Munich Regional Court, 11.11.2025, Az. 42 O 14139/24). On the other hand, copyright claims were rejected in the *Getty Images v Stability AI* decision by the UK High Court because no evidence was provided that copies, or storage, of Getty's images occurred within the UK during training phase (*Getty Images v Stable Diffusion*, 4.11.2025 High Court of England & Wales). Thus, the re-use of creative works as training data is hampered by numerous claims from rights holders, whether in relation to the protection of inputs in Europe or uncertainty regarding the scope of fair use in the United States. As an outcome, we are now entering an era of 'data winter' and the monetization of datasets – a far cry from the open and free Internet advocated at the start of the web – where rights holders determine the conditions of access to their data or, failing that, block such access (Longpre et al, 2024). Let's bet that the industry will be adapting on its own, entering into licensing agreements with the rights holders (discussed previously). This is reminiscent of the streaming era, when the industry favoured direct agreements in the face of new technologies (discussed below).

Outside Europe and the US, approaches diverge. Japan and Singapore have introduced broad AI-friendly copyright exceptions (Senftleben, 2025), yet encouraging licensing deals (Japanese Ministry of Economy, 2024). Canada and Australia have a fair dealing model with specific enumerated

purposes (for example, research, study, criticism, parody) and have begun consultations on how creators should be remunerated for AI uses of their works (Canadian Minister of Industry, 2023). China, instead, relies on a closed list of narrow statutory exceptions, yet courts interpret these strictly (You and Han, 2025).

Finally, it should be noted that when a pre-existing work appears in the result, we enter into the issue of an output, qualifying either as a derivative work (and thus infringing) or as a mere inspiration, an issue further discussed below.

Output protection

A second question is to know if outputs are *copyrightable*. Under traditional copyright laws designed to protect human creators (based on the principle of human authorship, as codified in the Berne Convention and national laws), the output must be the result of sufficient human creativity (*Naruto v Slater*, 888 F.3d 418, 426, 9th Cir. 2018) (Lemley, 2024; Mammen et al, 2024). This requires intention, creative choice, and human expression.

The whole question is what degree of human expression, of creative choice is required for an output to be protected. This is a recurring question in copyright law. In the early days of photography, the question arose as to whether photography enabled artistic expression or merely mimicked reality (Walter, 1969). Two courts quickly recognized photography as original artistic expression (Cour de cassation, 28 November 1862, Mayer Pierson; Sarony, Supreme Court, 17 March 1884) (Benhamou, Y., 2020b). Today, the challenge is to determine in each case whether there is a sufficient degree of human creative input (*de minimis* threshold of creativity), with the difficulty that AI models attained an unprecedented level of autonomy, enabling it to independently generate content. That said, distinction shall be made between, on the one hand, AI-generated works, with no or minimal human intervention and therefore lacking copyright protection and, on the other hand, human-generated works (including AI-assisted works) with significant human intervention and therefore copyrightable (see Figure 3.1).

Decisions and good practices are beginning to address this issue. As for AI developers, they have no copyright, since they have no control over the outputs obtained by end users, unless they designed the tool in such way to predefine outputs. For example, 'The Next Rembrandt' was trained on 486 of the master's paintings, so the output is predefined and attributable to the developers (Delft University and Microsoft). This brings to mind an old case where painter Renoir was qualified as author of his sculptures even though they were only produced by Guino, his trainee, following Renoir's instructions. As for end users of AI models, court decisions tend to refuse protection on the grounds that end users have no control over the output. In the United States, the US Copyright Office (USCO) is refusing protection for AI-generated

works (United States Copyright Office, 2025a). On this basis, it refused protection for works created on Midjourney because their users provided a simple prompt and the machine had generated the rest randomly, unpredictably and without the user's control (*Zarya of the Dawn*, Théâtre d'Opéra Spatial). On the other hand, it accepted protection for the selection of images and text made by an artist. For the graphic novel *Zarya of the Dawn* (*Zarya*), USCO agreed on the protection of *Zarya*'s 'text; selection, coordination, and arrangement of text created by the author and artwork generated by artificial intelligence' (USCO, 2023, p 1). Similarly, for *A Single Piece of American Cheese*, a visual material generated by Invoke AI and with a technique called 'inpainting', the USCO ultimately agreed and registered the work on the basis of the 'selection, coordination, and arrangement of material generated by artificial intelligence'. A Chinese court has also accepted protection for an image created on Stable Diffusion based on a prompt combined with precise instructions ('Young woman' by Li). Thus, without human creative input, the output is in principle freely accessible and falls into the public domain.

Therefore, there is uncertainty as to the degree of creative input required for an output to be protected, and the burden of proof is likely to fall on the backs of the creators. This notwithstanding, operators decide the fate of AI-generated works through contractual mechanisms. Indeed, most of AI model terms of services (ToS) stipulate that there are rights over the output. Generally, they stipulate that users own the output generated by their prompts and that the developer obtains a licence to use them in return, regardless of their copyrightability. For example, Midjourney's 2024 ToS echoe the licences provided for on social media (Benhamou and Andrijevic, 2024a; Cifrodelli, 2024).

There is also reason to believe that the authorities' practices will evolve *towards greater protection* for AI-generated works as the tools become more configurable and the authorities understand them better (United States Copyright Office, 2025a). Today, it is increasingly possible to control the tool both upstream and downstream. Upstream, it is possible to fine-tune the output and set parameters for every stage of the process, like the cloud of seed pixels used to make the image realistic, the number of stages required to achieve greater photorealism. Downstream, a generated image can be modified by adding or replacing elements while maintaining a natural appearance consistent with the rest of the image (inpainting). The consequence of this practice would lead to over-protection of works, with an ecosystem where everything is protected, for example, protection of all AI-generated works and a reduction of the public domain.

It should be noted that when a pre-existing work appears in the output, that output may raise copyright issues, qualifying either as a derivative work or as a mere inspiration (Gervais, 2022). Accordingly, distinction is to be made between two scenarios which depend on the extent of similarities between the output and the pre-existing work:

- The *first scenario* is that the output qualifies as a *copy or a derivative work*, thus infringing copyright of the preexisting work. This is the case when AI replicates all or part of a pre-existing work (a process known as 'memorization'), for example if ChatGPT spits out entire passages of text from the *New York Times* or if Github Copilot spits out lines of code used for training. This first scenario is subject to American lawsuits (mentioned before) but may be anecdotal in the future as AI models are perfected to produce exclusively new content and to avoid any regurgitation or memorization (Emanuilov, 2024). That said, this scenario was upheld in *Gema v. OpenAI*, where the German court held that ChatGPT's memorization of song lyrics meets the legal threshold for reproduction under EU and German copyright law.
- The *second scenario* is that the output is a *mere inspiration*. This is the case when an AI model can generate creations 'in the style' of an artist. Copyright does not protect style, understood as an abstract and non-protectable concept within the idea/expression dichotomy, but only the reproduction of individual elements of a specific work (Benhamou and Andrijevic, 2022). In these cases, it is not copyright but possibly other claims (personality rights, unfair competition) that can be mobilized to prevent the reuse of pre-existing works to imitate the style of an artist or other elements of his personality, such as his voice or appearance (Benhamou and Andrijevic, 2022). Recent examples include the song 'Heart on My Sleeve', which imitates the style and voice of Drake and The Weeknd, and OpenAI's voice assistant, which uses Scarlett Johansson's voice cloning. Another example is the Ghibli case, where millions of images on ChatGPT have replicated the style of Studio Ghibli (a Japanese animation studio behind films such as *Spirited Away* and *My Neighbor Totoro*). These images caused controversy because users around the world (including the White House and Emmanuel Macron) rushed to transform their own shots in the Ghibli style, while the studio's founder Hayao Miyazaki did not authorize the reuse of his images and even said he was opposed to AI (Szadkowski and Clairouin, 2025). As an outcome, ChatGPT became a factory for cultural remixing of heritage and images. However, in these three examples, it is not through copyright but possibly through other claims (personality rights, unfair competition) that rights holders may seek to protect their style, even if it is uncertain whether these imitations enhance or devalue the originals (see Chapter 2). Nevertheless, it may seem shocking that an artist's style can be ingested and then imitated in the same way by an AI model without permission or remuneration, so solutions must be found (discussed below). That said, despite copyright's idea/expression dichotomy and the general exclusion of abstract style from copyright protection, there exists a continuum of protectable works. This ranges from highly individualized creations to works in which style or genre reflects more or less general expressive choices made by an artist (Sobel, 2024; Strowel, 2025).

Copyright war for the control of value

The current legal landscape and contractual practices have led to criticisms. Copyright, combined with contract or other proprietary claims, is used primarily to control the circulation of works, and often their economic value. This control polarizes the camps to the point where we talk of a copyright war (Baldwin, 2014; The Economist, 2023a). To put it simply, on the one hand, the creators and the content industry oppose the re-use, without permission or remuneration, of their works as training data, while the tech industry advocates for free re-use in order to develop AI models.

Two polarized camps

The copyright war is as old as the Statute of Anne, with corporate and national interests. As mentioned by Guadamuz, its modern phase began with the rise of the Internet (*Google v Authors Guild; Internet Archive v Hachette*) (Lessig, 2004) and smartphones (*Samsung Electronics v Apple*) and continues today with AI copyright litigation (Baldwin, 2014; Guadamuz, 2024). Today, the copyright war essentially involves two camps: the maximalists and the minimalists. The maximalists want stronger copyright protection, while the minimalists advocate a weakening of copyright; some minimalists even advocate the abolition of copyright or consider piracy to be ethical (Guadamuz, 2024). This copyright war could become as important to the tech industry as the 'smartphone war' involving Apple, Samsung, Nokia, Google, and HTC (Waters, 2023). A difference, however, is that the smartphone war focused on patents and opposed large companies with extensive intellectual property (IP) portfolios and resources, while the AI focuses on fragile copyright claims (unfair practice or unjust enrichment) and opposes individual creators to AI companies with arguments like social benefits of AI tools for many people (Strowel, 2023). On the other hand, it seems that interest groups like individual creators have learned the lessons of the past and join forces with the content industry to react quickly and work together actively.

Maximalists mainly include the content industry – music, photography, video games, film, publishing, media, software, and video games – because its business model is based on copyright. It also includes individual creators, such as writers, photographers, musicians, artists, actors, and subcontractors in the creative industry, because they consider copyright as their main source of income. The content industry and individual creators are also often represented by professional organizations (Authors Guild, RIAA, MPAA, Publishers Association) and CMOs that manage copyright and collect royalties (PRS, IFPI, CISAC) (Guadamuz, 2024).

Minimalists mainly include streaming and sharing platforms, AI companies, e-commerce, search engines, data brokers, software developers, open-source

developers, hardware developers, and venture capitalists. These players are minimalist because they need access to large amounts of data to train their models, which requires exceptions to copyright law (scrapers must be able to extract data from the web, AI developers to train their models, and platforms must be exempt from liability for infringements committed by their users). Some players do not hesitate to make bold statements. On 12 April 2025, Jack Dorsey (creator of Twitter) posted a tweet (liked/supported by Elon Musk) saying 'delete all IP law'. On 12 March 2025, Sam Altman (founder of OpenAI) stated, 'If [Chinese] developers have unfettered access to data and American companies are left without fair use access, the race for AI is effectively over.' (OpenAI's policy submission to the US government as part of comments for the US AI Action Plan.) Minimalists often also include civil society, particularly non-governmental organizations, GLAMs (galleries, libraries, archives, and museums), the Free Culture movement, and academics, who advocate for better access to culture (Guadamuz, 2024).

Each position defends its arguments for or against the reaffirmation of copyright in AI, so solutions for arbitration must be found. It should be noted that this *polarization* of camps is reminiscent of the Napster era and the battle over illegal downloading, which led to technological solutions (The Economist, 2023a). To appreciate the implications of copyright, it is necessary to understand the technical elements of different AI models: if and when the AI model creates a copy or learns by extracting features, which depends on the phases (collection, training, deployment phases) (see Chapter 3).

Between these two extremes, there is a wide *spectrum of more ambivalent*, even hesitant camps, as shown by policy makers, hesitating between different approaches to AI regulation. Put simply, policy makers hesitate between detailed *ex ante* AI regulations (like the product-based EU AI Act) with a risk of overregulation and chilling innovation and an *ex post* AI regulations (like in the US focusing on voluntary soft-law instruments) with a risk of letting AI models run wild with no turning back. However, disagreements within jurisdictions show the tensions and complexity around AI regulation. For instance, in Europe, the EU Commission considered simplifying its regulations since April 2025 (even before the full entry into force of the EU AI Act). Being cynical, we seem to enter an era of deregulation after an era of overregulation. In the US, the Trump's administration has fired the head of the US Copyright Office (USCO) in May 2025, right after the release of a report about how AI could run afoul of fair use. But consensus is a long way off. The USCO report states that 'government intervention would be premature at this time', given that licensing agreements are being made across various sectors.

These moving approaches to AI regulation may translate something more cynical: an era of '*digital confusionism*', in the sense of fragmented, ambiguous, or incoherent legal approach to AI, creating legal uncertainty and preventing the formation of any consensus. As explained above, this can be compared to

the tobacco industry in the 50s to the 90s, which has long sown doubt about the harmful effects of tobacco by funding contradictory studies, creating an 'artificial scientific controversy' to delay or weaken regulation (Oreskes and Conway, 2011) (a dynamic also described above, see Chapter 3). In the AI-era, we may witness the same strategic avoidance of clear regulation in favour of a zone of legal and scientific uncertainty (Benbouzid, 2023).

Position of the creators and content industry (maximalists)

The position of creators and content industry (maximalists) is that the creative economy is growing rich on their backs by using creative labour, without knowledge or consent, while receiving little or no remuneration in return, and that copyright should be clarified and strengthened for a number of reasons (Mantegna, 2024). They bring several arguments, which often overlap, transparency, implementation challenges, unfair contractual terms. Yet each of them highlights a distinct facet of the broader imbalance.

First, copyright has always *adapted to technological shifts*, from printing to broadcasting to the Internet (Matulionyte, 2015), seeking a balance between protection and access to information. With AI, moreover, the challenge is not only economic but also existential: AI models blur the line between human and machine authorship, raising fears of job replacement and of diminishing cultural diversity (see Chapters 3). When Google indexed protected content, it was required to secure licences; when iPods, blank CDs, and hard drives enabled private copying, levies were applied. Why, then, should creators tolerate AI models exploiting authors' works without compensation, while generating commercial value?

Second, uncertainties remain regarding the *scope of copyright protection*, in particular the protection of training data and the copyrightability of output. These uncertainties lead to legal insecurity, which stifles creativity. Because of the threat of copyright lawsuits, only large companies can continue their business. Some large companies even propose, as part of their corporate strategy, to grant immunity to users by assuming all responsibility for copyright (Microsoft's Copyright Commitment for Customers, or OpenAI's Copyright Shield). Conversely, these lawsuits are inaccessible to 'small' creators who prefer to avoid any risk even if it means undermining their creation (Mantegna, 2024).

However, the protection of inputs must be affirmed because they are used without authorization or remuneration. Some counter with the 'human reminiscence' argument that compares the ingestion of inputs to human inspiration, in the same way that a human painter visits museums to learn to paint. However, AI models differ as to the scale. A human painter is often inspired by works created by others, without triggering copyright, and admission to museums is paid, whereas with AI models the systemization and scale of machine learning changes the scope of the phenomenon (Blain and Farchy, 2024).

Third, assuming that the scope of copyright protection is clarified, there are *practical challenges* in implementing the right. One challenge is that uncertainty remains regarding the *scope of copyright exceptions*. In the US, the fair use exception is the subject of many ongoing lawsuits, because it is so difficult to know whether it applies. And even with forthcoming rulings, the uncertainty will remain, since the exception applies on a case-by-case basis. In Europe, the TDM exception is also the subject of legal proceedings, as it is difficult to draw the line between commercial and non-commercial uses and to know whether right holders have validly exercised their opt-out right. In a German decision, the TDM exception was admitted for LAION, a German non-governmental organization (NGO) that creates databases recovered from the Internet to drive LLMs such as Stable Diffusion or Image, on the grounds that LAION merely creates datasets, even though the same dataset is then used for commercial purposes (*Robert Kneschke v. Laion*, 27 September 2024).

Another challenge is *ineffectiveness of the opt-out* (reservation of rights to escape the TDM exception).

How can we ensure that the opt-out declaration is valid and understood by third parties? Efforts are being made to clarify and standardize the opt-out declaration from a legal and technical point of view (code of conduct of professional associations and regulators, technical standards like the Standards-Track RFC), but uncertainty remains. In a Dutch decision, the TDM exception was admitted for HowardsHome, a news aggregator, on the grounds that the publishers had not explicitly reserved their rights in a machine-readable format, even though the publishers had forbidden the major AI bots from accessing their content (ChatGPT-User, CCBOT, and Anthropic AI, among others) (*DPG Media v HowardsHome*, 30 October 2024) (Valk and Toepoel, 2025).

Assuming that the opt-out is actually implemented, the *inputs cannot be forgotten* once the model has been trained and the inputs have already been ingested for training, unless the model is unplugged (Fosch Villaronga, Kieseberg, and Tiffany, 2018).

Opt-out also means that rights holders have the *means to identify* whether and which AI tools are actually using their works to assert their rights. Transparency is of the utmost importance here. From the rights holder's point of view, it is important that it can assert its rights and that a market for content remuneration can emerge (see site referencing Have I been Trained data). Note that transparency is also important from the public's point of view, so that it knows whether it is dealing with synthetic content, if only for ethical reasons. It is then up to the public to decide whether it wants to enjoy, feel something, project themselves onto synthetic content like the Drake and The Weeknd songs, virtual K-pop, or Velvet Sundown groups) (Purbantina, Kusuma, and Rasyidah, 2022). Initiatives start to emerge for transparency of AI models, like 'Fairly Trained' project, a certificate

guaranteeing that a generative AI model has been trained without infringing copyright (United States Copyright Office, 2025b) or 'Human Authored' project, a certification project by Authors Guild for labelling synthetic data.

Today, however, rights holders have little way of knowing whether their work is being used in an AI system. And when they are suspicious and ask for additional information, AI providers require them to specify the names of the content (or identifiers), which amounts to placing an insurmountable burden of proof on the rights holders. On the other hand, it may be difficult for AI providers to respond effectively to a constant influx of more or less precise requests from millions of individuals. The only reasonable option seems to rely on spontaneous declarations of AI providers and/or a transparency requirements imposed by legislation, for example, the EU AI Act requiring publication of a detailed summary of input (Art. 53(1)d AI Act, completed by the AI Training Data Disclosure Template) (Benabou and Farchy, 2021). We can also think of a centralized opt-out register, an audit of the model on their premises, as OpenAI suggests (Bensamoun and Goffre-Charrier, 2024), or even a presumption of exploitation of creative works by AI, as provided for under the French proposed law (12 December 2025, Texte n° 220, 2025-2026). But these proposals are not yet operational and are not harmonized internationally.

Another challenge is *ineffectiveness of opt-in*, in other words the difficulty for rights holders to make their works available as inputs, notably in the form of licence agreements. Proposals are emerging, as in France, such as the creation of trusted third parties (for example, data trusts) or entrusting existing entities (for example, CMOs), a facilitating infrastructure that can grant the necessary licences for datasets like INA or BNF that already have large catalogues. Another proposal is that of India's Department of Promotion of Industry and Internal Trade (DPIIT), that considers a statutory licensing with a centralized system to compensate copyright holders for training data (DPIIT Working Paper on AI-Copyright Interface, 9 December 2025). We also propose to scale up these third parties by setting-up thematic or universal data trusts combined with standard contracts (explained below).

While waiting for clarifications, the content industry is getting organized with voluntary licences. It is facilitating opt-in with standardized licences and opt-out with protocols (Spawning, Warner, Sony, Merlin), as well as collective opt-out statements (AI training statement) (Hu, 2024). It is also facilitating opt-in with a technical infrastructure to monitor the use of training data in AI models (Dataset Providers Alliance, Sound Exchange AI registry, ASCAP-SACEM working group). But platforms are still reluctant to enter into such licences because of the costs involved, preferring to engage in legal battles (for example, in music with Claude, Suno, Udio), while YouTube, Deezer, Roland, and others agree to conclude licences in order to position themselves as copyright-friendly platforms.

Civil society position and tech industry (minimalists)

The civil society and tech industry have many counter-arguments. Many of the counter-arguments revisit the same themes of transparency, fairness, and implementation challenges, but from a different perspective, underscoring the tensions.

First, strengthening *copyright stifles competition*, and even favours Big Tech, since they are the only ones with the means to defend themselves or to pay for licences. What's more, guaranteeing copyright to creators does not guarantee their remuneration. It is neither guaranteeing attribution of their works, since everyone could claim credits and nor guaranteeing remuneration, since the extension of copyright has led to a greater segmentation of income among multiple players and to the payment of a fraction to the artists at the end of the chain (see Chapter 4). Put simply, more copyright means more power for the powerful. What creators get from tech companies is not determined by copyright, but by the structure of the creative market. In these conditions, 'giving a creator more copyright is like giving a bullied school kid extra lunch money. It doesn't matter how much lunch money you give that kid – the bullies will take it all, and the kid will still go hungry' (Mantegna, 2024, quoting Giblin and Doctorow, 2023). The content industry lobby would use the pretext of copyright to defend its own interests (Mantegna, speaking of a colonial approach to copyright). Criminalizing the data scraping industry would be a front for maximalists to seek greater protection, echoing the criminalization of piracy, some of which was nonetheless legitimate.

Second, guaranteeing copyright on inputs does not resolve the *difficulty in tracing the attribution and influence of a work* in the output. It is impossible to remunerate and attribute everyone on the inputs, otherwise everyone would be legit. This would be the same as crediting and remunerating thousands, even millions of artists per copyrighted work. With 6 billion people connected to the Internet, the content generated should be attributed to 6 billion people (Mantegna, 2024).

Third, input *remuneration encourages data substitution*. The cost of the licence will encourage developers to use synthetic or cheap inputs (Mantegna, 2024). This has even collateral damage, as it affects innovation and the development of ethical AI.

Fourth, there is an unfair *stratification of creative labour*, since copyright protects specific creative tasks and leaves other creative tasks, such as the work of data taggers and content moderators (digital workers), which are rendered invisible and unprotected. Despite the fundamental role of these workers, they face precarious working conditions. Just think of the Kenyan workers, hired by Sama on behalf of OpenAI since 2021 for one to two USD an hour to detect problematic content, by labelling text prompts for sexual abuse, hate speech, and violence. Some ask, 'why should creative work be protected differently from other types of work integrated into the

AI (training) chain' (Gray and Suri, 2019)? And some call for this work to be rethought and valued (Mantegna, 2024).

Fifth, the fear of *human creativity replacement* needs to be *tempered*, since AI models will have to continue to train on high-quality human creations. Failing that, if they train on synthetic data, they run the risk of degeneration, of collapsing (phenomenon known as 'AI collapse') (as explained before).

Sixth, AI models come with economic growth, innovation and social interest to the *benefit of the society* at large, as discussed below. These positive, social and economic impacts shall be taken into account before taking any policy decision and regulation.

Legal solutions for AI remuneration

While the previous discussion outlines the main tensions copyright war, the following section examines solutions to address them, ranging from copyright-based solutions, contractual, collective bargaining arrangements, policy and regulatory interventions.

The result of the copyright war is that inputs tend to become scarce or at least monetized by rights holders. In jurisdictions where input protection has been recognized and where players have exercised their opt-out right like in Europe, the tech industry has no choice but to negotiate input licensing agreements. Where there is uncertainty about input protection like in the US, the tech industry has a choice between negotiating input licence agreements or defending free use at the risk of being sued.

On this basis, several regulatory measures can be envisaged, with graduated solutions that move increasingly towards market regulation (Gervais et al, 2024). In particular, there are two regulatory models: on one end, a total absence of market regulation, favouring individual negotiation and, on the other end, strict regulation with facilitated agreements or even imposed tariffs (Bensamoun and Goffre-Charrier, 2024; Blain and Farchy, 2024).

As a preliminary remark, the diversity of national solutions, the diversity of AI phases, and the globalization of AI models make the question of applicable law crucial (as illustrated in the *Getty v Stability AI* decision, commented above; see also Vanherpe, 2025). For example, the training and deployment of an AI model generally involves several players located in different countries – data scrapers, data brokers, data servers, upstream and downstream suppliers, end users. The situation leads to legal conflicts because, according to the rules of private international law, the applicable law depends on a number of factors (commented above). Let's take the example of a visual artist whose work is scraped and used to train an AI model that later produces outputs for end users. If the artist wishes to claim copyright infringement and remuneration for the ingestion of his work, it will be necessary to determine which law applies and for which AI phase

before knowing if the ingestion is an infringement and what remuneration can be claimed. If the ingestion is considered a copyright infringement, it will be governed by the law of the country where the damage occurs (*Lex loci delicti*) or where protection is sought (*Lex protectionis*), which is often the artist's home or place of business. On the other hand, if the ingestion is considered a breach of the GTC, the ingestion will be governed by the law designated in the site's GTC, which is often the law of the domicile of the platforms. Assuming that the applicable law is obvious, the competent court could still decide to apply another law on the grounds that the applicable law is too remote from the case or that the remuneration rules are mandatory (for an analysis of private international law issues, see Azzi and El Hage, 2025).

Specific regulations

In jurisdictions where protection of input is recognized, we tend to move towards agreements facilitated by the authorities. There are several types of normative action that could be envisaged for input remuneration.

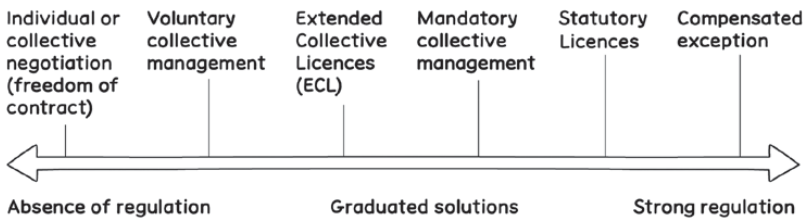
A *first solution* is to set up, or entrust an existing infrastructure assuming the role of trusted third party to facilitate links between rights holders and AI providers, a sort of *opt-in platform* that would meet the needs of each party, that would support licensing deals and allow easier access to quality data (Benabou, 2018; Bensamoun and Goffre-Charrier, 2024; Blain and Farchy, 2024).

A *second solution* is to develop a *legal framework for remuneration*. This may take the form of individually negotiated licences or where such individual negotiation is impossible, voluntary or mandatory collective management (including ECL, a legal licence, or an exception compensated under specific conditions, similar to the levy on recording media for private copying or for museum catalogues). At the end of the spectrum, there may be an opt-in exclusive right of authorization, managed individually or collectively, or an opt-out statutory right to remuneration that is managed collectively (hereinafter 'right to remuneration').

Figure 4.1, inspired by a CSPLA study prepared by Bensamoun and Goffre-Charrier (Bensamoun and Goffre-Charrier, 2024), shows visually the different legal solutions for AI remuneration.

In copyright economics, an 'exclusive right' is preferred when transaction costs are low, especially when the number of parties to the transaction is limited to the licensor and licensee, and it is difficult for a court to evaluate the value of the rate (the Coase principle). On the other hand, a 'right to remuneration' is preferable when transaction costs are high, especially when there exist multiple parties with different bargaining powers. In such cases, there is a market failure that shall be compensated by a liability rule instead of an exclusive (property) right. With AI, a right to remuneration is preferred because it is a mass market with many players, at least in sectors like in

Figure 4.1: Legal solutions for AI remuneration



visual arts that are not yet well organized or do not have a sufficiently well referenced catalogue. On the other hand, an exclusive right may be preferred for certain well-organized sectors with pricing practices and well-referenced catalogues (music, audio visual, press). Thus, in copyright economics, an exclusive or authorization right will be preferred depending on the degree of organization of the sector (Bensamoun and Goffre-Charrier, 2024; Blain and Farchy, 2024). This echoes the remuneration from streaming, for which there is provision for either an exclusive right managed individually or a non-transferable right to remuneration managed collectively. One solution would be to take into account the temporality of the measure, with a phasing-out of the authorization right when the market works and to move towards an exclusive right to remuneration.

Another solution is to apply to AI models a similar *platform liability regime* to that provided by the CDSM. While the CDSM provides a profit sharing with mandatory licensing for OCSSP (Art. 17 CDSM), a new AI framework could provide a mandatory licensing for AI models (for example, for large online platform providers). We would move from an opt-out system with the reservation of right to be enforced by rights holders to an opt-in system to be enforced by AI models. In other words, we would shift responsibility from rights holders to AI models. This solution has been not widely discussed yet. It could well be implemented, as it strongly resembles the mandatory licensing regime provided by the CDSM (Art. 17) combined with the AI Act (transparency disclosure requirements at Art. 57), and seems logical based on past experience: before, sharing platforms benefitted from a safe-harbour regime, according to which they were not liable for content shared by their users (Pessach, 2016). This enabled platforms to create a dominant position, while surfing on copyright infringements. To avoid this (unfair) safe-harbour regime, policy makers adopted a new liability regime under the CDSM with a requirement of profit sharing and mandatory licensing for OCSSP. With AI, such a liability regime seems also logical due to the complexity of assigning liability along the AI value chain, given the involvement of multiple actors in the design, development, and deployment of AI systems (Arcila, 2025). This would allow the AI value chain to be

integrated into the CVC, much like the platform chain did further to the platform liability regime (see Chapter 3).

No specific regulations

In the absence of special legislation, the market is dictated by licensing agreements. In certain contexts, licensing deals seem feasible and the royalty rate mutually acceptable. This is the case when works are well referenced and well controlled, because they are, for example, difficult to extract from the Internet or behind a paywall (United States Copyright Office, 2025a). In music, for example, Warner, Universal, and Sony signed a licensing agreement with AI startup Klay. Warner and music generator Udio settled copyright lawsuit, and struck a licensing deal to build a new licensed music creation service. Stable Audio has licensed AudioSparx – 800,000 audio files containing music, sound effects and individual instrument tracks – for use in its audio datasets. In the audiovisual sector, Disney has licensed its characters (including Marvel, Pixar, and Star War) to OpenAI for its AI video generator Sora (as described above). In the media sector, several media companies have licensed their content to OpenAI: Wall Street Journal; Axel Springer's Politico, Business Insider, Bild, Welt; Hearst's Esquire, Cosmopolitan, ELLE, AFP (United States Copyright Office, 2025b). Microsoft has obtained a licence with Axel Springer, Hearst, Reuters, the Financial Times, and USA Today for its Copilot Daily (Microsoft in 2024). In the visual arts, similar agreements have been reached between AI developers and Shutterstock, Getty Images, and Reddit (Davis, 2024; United States Copyright Office, 2025b). In other contexts, however, licensing deals seem less feasible (described below). This is the case with foundation models like LLM that ingest millions or even billions of inputs. AI developers claim that the value of an individual work is negligible and that the transaction costs are higher than the value of the licence. So, individual licences will rarely be concluded (United States Copyright Office, 2025a).

Remuneration models

With or without special laws, there are two types of remuneration models that can be considered: either based on inputs, or based on outputs. *Input-based remuneration* seems to favour the content industry (producers, labels, studio, publishers) since remuneration is levied on the catalogue regardless of the actual use of the works once the AI model is deployed, while *output-based remuneration* seems to favour individual creators since it guarantees them a direct share proportional to the actual use. This is reminiscent of streaming remuneration models like market-centric and user-centric. It is also similar to streaming, as AI models could keep a fixed percentage to cover their operating costs and pay the balance into a remuneration fund

for redistribution to rights holders (for example, 30/70 like Spotify). In both cases, the remuneration will be determined according to the quality and quantity of works used for an AI model, which requires traceability of works in order to determine the proportion of works that have contributed most to the results (Senftleben, 2023a). More specifically:

- The *flat rate model* is based on a lump sum (fixed amount per work contained in the dataset), regardless of the number of works actually used in AI training. A flat fee is set in advance for the use of training data. This fee can be negotiated by the parties or imposed by a tariff. The platform pays this fee to a CMO, which redistributes it either equally among all or weighted according to popularity, type of work, duration. This model is reminiscent of the piracy era with the idea of a global licence ('flat rate'). The idea was to impose a monthly flat fee on internet subscriptions to compensate for illegal downloads. The idea was discussed mainly in France, Germany, Canada, and the United States in the 2000s, at a time when the music industry claimed to be in crisis due to illegal downloading with peer-to-peer platforms like Napster, Kazaa, eMule, and BitTorrent. The aim was to compensate for the loss resulting from illegal downloading through a licence paid by internet users. This idea was abandoned for several reasons: opposition from the major labels, which feared losing control over music pricing and the legalization of piracy; opposition from Internet service providers (ISPs), which feared damage to their image from the addition of a mandatory tax on subscriptions; and the rise of streaming (2010), which rendered the concept of a global licence obsolete. Thus, this idea of a flat rate for the Internet could return in another form with AI in order to remunerate rights holders. The advantage is that the model is simple to manage and ensures financial stability for rights holders without having to precisely track the use of each work. The limitation is that it is not always fair, as it does not reflect the actual use of the works, which can disadvantage the most popular creators, much like some streaming payment models (see Chapter 2). This model could be preferred in markets where it is difficult to track the exact use of works (massive databases), particularly with foundation models like LLM (Dermawan and Mezei, 2025). Moreover, it may rapidly become obsolete once a workable solution is developed.
- The *pro-rata* model distributes the revenue from a work according to the importance of the work for the training phase (number of times it is interpolated, its statistical weight in the training) and, once the model is deployed, for a request. Rights holders are remunerated according to the proportion of their works effectively used. The more a work is used by an AI model, the greater share of the fund its creator receives. The advantage is that this model offers a remuneration proportional to the effective use of the works, reduces transaction costs by pooling payments

through a collective organization. There are two limitations, however. First, it is complex to identify the works effectively used with accuracy and it may favour prolific creators at the expense of those whose works are few but of high quality (Dermawan and Mezei, 2025). Second, this model seems feasible for the first and second phases of model design and training, less, if not feasible for the third phase of model deployment, since outputs seem to be generated independently of inputs (see Chapter 3). This means that only the flat rate model seems feasible for this third phase, or to rely on approximations or proxies.

Limits of the current system

The solutions, with or without specific regulations far from the narratives of camps for or against strengthening copyright, have limits that should be explained.

Input protection

First, the *legal justification* for protecting inputs is *still uncertain*. According to a *first interpretation*, input protection shall be recognized, as the opposite, providing free use of inputs without remuneration, for example in the form of a free exception, would be incompatible with the three-step test set out in the Berne Copyright Convention. According to this three-step test, the exception must be limited to special cases, must not conflict with a normal exploitation of the work, and must not unreasonably prejudice the author. Yet, a free exception would be incompatible, as there would be a licensing market (Bensamoun and Farchy, 2020). Such an exception would interfere with the normal exploitation of the work and cause harm to the author in the form of lost profits on licensing agreements (Piquard, 2024). Recent AI licensing deals between the content industry and AI providers confirm the emergence of a licensing market, like between music majors (Universal, Warner, Sony) and music AI leaders Udio and Suno, or between the New York times and Amazon (Thomas and Kretschmer, 2025, listing 83 current AI licensing agreements and pointing out that 68 per cent of known commercial agreements are with news or media companies). One difficulty linked to the three-step test, however, is that the condition of 'normal exploitation of the work' and 'harm to the author' can be time-shifted with AI model in use. Indeed, the use of training data (the copyright-relevant act) would occur during the training phase, while most lost profits (harm to the author) would take place once the AI model is deployed upon requests of end users. This time-shift makes it difficult to assess the three-step test (on this issue Senftleben, 2025).

However, according to a *second interpretation* unfavourable to input protection, the emergence of a generalized licensing market is still uncertain.

Some agreements have been concluded, but it remains uncertain whether they will be concluded and mutually acceptable in other contexts (as explained below). Moreover, licensing deals create an illusion of feasibility: they cover only a tiny slice of the data needed to train modern AI models. They cannot scale to 'internet size.' Without broad web-scraped data, modern LLMs simply cannot be built. In Europe, according to a survey of EU governments and CMOs, licensing market for AI training remains underdeveloped due to the reluctance of AI developers to engage in licensing negotiations and workable opt-out mechanisms (Bertuzzi, 2025). In the United States, for example, the fair use argument is sometimes accepted and sometimes rejected even when a market exists. In the Ross case, fair use was refused on the grounds that Ross's search engine undermined the business model of publishers Thomson Reuters and Westlaw. Conversely, in the pre-AI era with Google Books, fair use was accepted and allowed Google to digitize books, even though the publishers argued that there was a licensing market for their catalogues. That being said, in my opinion, the market will become more widespread as input traceability and licensing agreements are facilitated with, for example, efforts to standardize AI licences and rights management (see below and Chapter 6). Also, the lack of a licensing market seems rather due to the reluctance of AI developers to engage in licensing negotiations. So these concerns should not lead to refusing input protection (United States Copyright Office, 2025). This will therefore justify the first interpretation, and input protection.

Assuming that input protection is generally admitted, *one difficulty* lies in the *scope of copyright* protection. The scope seems defensible for the data collection (1st phase) and training (2nd phase), much less for the deployment of the model (3rd phase), as content generation is mostly *independent of the inputs* used for training, thereby breaking the link between input and output (Szkalej, 2024) (Chapter 3). This is because AI models do not store the works on which they are trained in the traditional form of files or folders. The content is fragmented, ingested, and integrated into the parameters of the algorithm in a new form that is as yet unknown. For example, stable diffusion compresses the inputs into a point cloud, while ChatGPT converts inputs into tokens in a format specific to training and reconstructing semantic relationships between words (Benhamou and Andrijevic, 2022; Cherpillod, 2022; Dornis and Stober, 2024). Extending copyright to phase 3 would require either an extensive interpretation of copyright or the use of contractual rights (detailed below).

Another difficulty is that copyright may be divided among multiple rights holders, including the *moral rights* of authors and performers, which could be invoked to object to ingestion into a model. This fragmentation of right could lead to divergent situations in which some rights holders would authorize the ingestion of an input (for example, on the basis of reproduction

rights), while others would oppose it for the same input (for example, on the basis of moral rights) (de Werra and Benhamou, 2020). This issue is certainly not unique to the AI technology but would add an additional difficulty to AI models and lead to interpretation difficulties for courts, especially since moral rights are not harmonized at the international and European levels (European Commission, 2022b). This justifies providing solutions for inputs (detailed below).

Assuming that input protection is generally admitted, each of the possible legal solutions has *implementation challenges*. One could rule, with a strict interpretation of copyright, that access to inputs should be prohibited for past and future use (United States Copyright Office, 2025a). However, this approach would face technical challenges, namely the ability to identify inputs retrospectively and prospectively. Prospective identification seems technically feasible, but with setting up a system to track inputs and would remain costly. Retrospective identification, moreover, seems difficult to achieve since it would require historical data from archives on past inputs (United States Copyright Office, 2025a). That being said, we believe that management costs will decrease as the traceability of inputs improves and alternative models emerge to cover the various rights holders in the long tail (see Chapter 6).

An intermediate approach would be to rely on a legal exception, similar to the copyright levy in Europe tied to equipment/media sales to offset unlicensed but permitted uses (for example, private copying) (Senftleben, 2023), or to rely on a statutory licence, similar to SoundExchange streaming royalties in US (United States Copyright Office, 2025a), or to the India's DPIIT proposal (mentioned before). This approach would make it possible to preserve the positive effects of AI models, while taking account of the difficulties of individual negotiations. It takes into account the competing creators' protection and the public interest in fostering ethical AI innovation for scientific and cultural advancement (Geiger, 2024). It would also avoid giving excessive market power to rights holders, which is what led to the introduction of compulsory licensing for mechanical reproduction rights for musical works in the 20th century (Peters, 2004). However, the legal exception presupposes that the authority can set an objective royalty rate that takes account of the market. In the absence of a market, it will set a rate on the basis of incomplete information. Rates that are too high or too low would result in an inefficient allocation of resources. Furthermore, unlike the other legal exceptions which concerned a defined type of work, foundation models like LLM incorporate all types of work, making the administration of such a system complex and costly. It is possible that the costs of administering such an exception could absorb the majority of the revenue collected (United States Copyright Office, 2025a). Given the massive volume of inputs, most works would only receive derisory amounts

and, depending on the system chosen, only successful popular authors would benefit from a significant source of income. That being said, we believe that management costs will decrease as input traceability improves and alternative models emerge (as mentioned before).

Another approach would be to concentrate rights with one entity and use collective management to grant a blanket licence for massive use in certain industries, such as music (United States Copyright Office, 2025a). However, CMOs will not be able to solve the problem of foundation models ingesting an extremely diffuse corpus and currently refusing to reveal what is used to train their models (Nasr et al, 2025).

We could also consider opt-outs – allowing owners to withdraw their works for model training – along the lines of the EU system or the 'noindex' tag on certain websites to prevent their content from being explored and archived by search engines (Google, 2022). However, this raises practical challenges. The system should include a mechanism for rights holders to check that developers have respected the wishes expressed by rights holders to remove an input or not to scrape a website. The opt-out would also change the nature of copyright protection by transferring the responsibility, from the content user to the rights holders (United States Copyright Office, 2025a).

Finally, we could let the market dictate the licensing terms, particularly in order to respect contractual freedom and to avoid the risk of legal fragmentation with each jurisdiction providing its own solution (Lilova, 2021). However, individual negotiations do not solve the question of value distribution (hereinafter referred to as 'redistributive justice'), since they depend on bargaining power of contractual partners. For example, in the case of streaming, this bargaining power has led performers to assign their remuneration rights upstream of the chain (buy-out at the time the work is recorded). With this arrangement performers no longer receive remuneration once the work has been monetized (Senftleben, 2024). There is, therefore, a risk of intermediary value capture, particularly if a negotiable, exclusive right and individual negotiation are maintained, instead of a non-negotiable, remuneration right (explained above). Moreover, licensing deals cover only a tiny slice of the data needed to build modern AI models. Finally, AI licensing deals cover only a tiny fraction of the data required to train large language models, which need trillions of diverse tokens scraped from across the internet, a scale that traditional licensing cannot realistically reach (Sag, 2025). Still worse, individual negotiations may have a counterintuitive effect: creators who block AI today may disappear from tomorrow's AI outputs, and eventually have to pay to be visible again. The real issue isn't stopping AI from learning, but staying visible in what it shows the world (the 'exclude today, pay tomorrow paradox'). On this basis, it is preferable to provide a framework in the form of mandatory collective management, or a legal exception, instead of individual negotiation or optional collective management, at least

in sectors like in visual arts that are not yet well organized or do not have a sufficiently well referenced catalogue (explained above).

This solution will also prevent the fragmentation of copyright, including moral rights, which are not harmonized at the international level and could lead to divergent situations in which certain jurisdictions allow authors and performers to exercise their moral rights (in particular the right to integrity) to oppose the use of their works or performances as inputs (European Commission, 2022a) (as explained above).

Secondly, recognizing or refusing input protection has in *both cases, negative and positive economic effects*, bearing in mind that the economics of copyright seeks to find a balance between these negative and positive effects.

Recognizing input protection has obvious *positive effects* like recognizing that artistic data have a value and their use shall be compensated, in favour of artists and other creative workers associated in the CVC. This compensation also contributes to improve working conditions of artists for the benefits of cultural diversity. On the other hand, recognizing input protection may have different *negative effects*. It reinforces the risk of data substitution, since paying for licences on datasets will encourage data substitution. Developers will be encouraged to use synthetic datasets, which are often cheaper (Mantegna, 2024, indicating that this also affects the development of an ethical AI that guarantees cultural diversity). The principle of protecting inputs risks also limiting public access to works, as the content industry is tempted to restrict access to AI models, with a risk to restrict access to everyone including the public (so-called data winter effect, explained before). The redistribution of value via copyright can also generate high administrative costs and potential litigation. It can also lack precision and lead to unforeseen results without guaranteeing that the benefits will reach the targeted beneficiaries. Input protection risks also favouring proprietary models over open-source models and large established developers over start-ups. Open-source models are often funded by volunteers and have limited resources to acquire licences, while the inputs are needed for the model to learn and for its deployment with subsequent uses. Thus, restricted access to learning data is likely to give closed-source models an advantage over open-source models. Large, established companies have greater resources, like internal data from other activities, Google having access to the billions of emails contained in its Gmail database, Adobe's Firefly having access to its internal stock image databases, and therefore greater negotiating power than start-ups. Restricted access to learning data could therefore favour well-established developers (United States Copyright Office, 2025a).

Conversely, refusing input protection and allowing unlimited ingestion of inputs may also have both negative and positive effects. The *negative effect* is that ingesting input risks a substitution effect on human creation and dissuades creators from creating. For example, in journalism, subscribers to a newspaper would have less incentive to keep their subscription if an AI model acts as a

news aggregator or allows the model to be asked to summarize articles. This approach could reduce licensing revenues for newspaper companies and, even in the absence of a subscription, reduce audience traffic to the newspaper company's site (Shrivastava and Nieva, 2025). Beyond this negative economic incentive, AI can also affect the intrinsic incentive to create: an incentive the artist derives from the personal satisfaction of creation, of being recognized as a creator, and feeling the integrity of the work. Thus, ingesting inputs without authorization or remuneration can affect the extrinsic and intrinsic incentive to create. This would lead to a transfer of value from rights holders to AI developers and a reduction in the economic incentives for human creation. A *positive effect* is that ingesting inputs may improve creator incentives if they manage to capture some of this new value, for example through licensing agreements with developers (United States Copyright Office, 2025a). Another positive effect for creators is that AI tools can act as a booster of productivity and experimentation for certain artists, speeding up their workflows and processes. Another positive effect for the society is that there would be innovation and interesting advancements (United States Copyright Office, 2025a).

The reality is probably somewhere between these two effects, which recalls the debates on Internet piracy. Some have argued that piracy harmed the commercial interests of rights holders (substitution effect), while others argued that illegal copies would even have stimulated other income, particularly for live music (Telang and Waldfogel, 2014; Danaher, Hogan, and Shankar, 2017). The substitution of synthetic content – which represents an existential issue of job replacement, or displacement for certain economic sectors of the CCS because the market could prefer to shift towards these synthetic content – depends on the purpose of the model. Some models are designed to replace human content with synthetic content, while others are designed to broaden and enrich artistic creation without replacing it (Bensamoun and Goffre-Charrier, 2024; Blain and Farchy, 2024) (see Chapter 3).

Third, supposing that input protection is admitted, a number of *practical difficulties* remain.

There are *difficulties in identifying* the inputs used. Many developers currently refuse to disclose which inputs are used to train their models (Nasr et al, 2025). They often invoke business secrecy. One imagines that their reluctance is also due to the current uncertainties of copyright law and that the value of each individual work may be too insignificant to reach a mutually acceptable agreement. Furthermore, unlike a traditional database, an AI model does not keep files (audio, image, text), it extracts statistical patterns from them. Generative AIs such as Google's MusicLM or OpenAI's Jukebox do not directly store the works they analyse but create music from mathematical representations. This makes it virtually impossible to prove that a work has been used. How can a right to protection be realized when the technology makes a violation impossible to prove (United States Copyright

Office, 2025a)? There is also a lack of metadata and traceability of inputs. AI-generated content has no clear credits indicating who or what influenced it. Unlike traditional works, current fingerprinting techniques make it difficult to track its creative legacy. Under these conditions, identifying and crediting millions or billions of creators would be practically impossible.

That said, several avenues are being explored. Let's bet that traceability will improve as technological tools become more sophisticated and widespread (see Chapter 6). These solutions, however, rely on a voluntary basis, which calls for copyright policies. Copyright policies should therefore take account of these difficulties identifying and tracing the solutions envisaged (United States Copyright Office, 2025a). One solution would be to take into account the temporality of the measure, with a phasing-out of certain requirements when the market works (as mentioned before).

There are also *difficulties in measuring the value* of an input in an AI model. Such value depends on several parameters, which makes it difficult for parties to reach a mutually acceptable agreement.

The value of an input depends on its contribution to model performance, bearing in mind that inputs do not contribute equally to model performance (Bensamoun and Goffre-Charrier, 2024; Blain and Farchy, 2024; Liu, Liu, and Osmani, 2021). Each input may have a statistical weight in the model different from the millions, or billions, of existing works. For example, the weight of media archives such as the *New York Times* may be different from that of online news discussion forums such as Reddit in the performance of an LLM. Similarly, the weight of 'clean' sources may be different from that of pirated sources (for example, Adobe's Firefly on Deepseek) (Bensamoun and Goffre-Charrier, 2024; Blain and Farchy, 2024; Longpre et al, 2024; United States Copyright Office, 2025b). There is so far no reliable method for determining the statistical weight or contribution of an individual input (a particular novel, the lyrics of a song) in a dataset to the performance of a model and a given output. So, even if a creator knows that his work has been used, once ingested it is impossible to identify its value in a given output. That said, several calculation criteria can be taken into account:

- Input value decreases with the learning time, as the model learns continuously ('life-long learning'); after a certain point each additional piece of data has a weaker effect on the model's performance (Liu, Y.H., 2024). As an outcome, the price of an individual data would depend on the temporality of an AI model, with higher price at the early days of an LLM, then lower price for post-training techniques.
- Input value depends on its degree of substitutability: the less substitutable the data, the greater its value. And its degree of substitutability depends on the AI phase concerned. The pre-training phase (learning on a large amount of data) requires a low level of data selection, so the data is substitutable.

The training phase (specialization, fine-tuning) requires more specific data, so the data are less substituable. The deployment phase often requires high-quality data, so the data are even less substitutable (Bensamoun and Goffre-Charrier, 2024; Blain and Farchy, 2024). As an outcome, the price of an individual input could be fixed depending on the phase concerned.

- Statistical weight of an input is not necessarily quantifiable depending on the phase of the model. In the first and second phases (data collection and training), it seems quantifiable since it allows the system to be trained. In the third phase (deployment), however, it seems less quantifiable, or even non-existent, since the inputs are ingested, transformed into simple information (for example, point clouds) in the model parameters, and no longer necessarily interpolated during content generation. The content seems to be generated independently of the inputs (see Chapter 3). This has an impact on the possible remuneration models (as explained below). As an outcome, the price of an individual input could be fixed accurately for 1–2, depending on its statistical weight, but only with approximations or proxies for 3 (for example, playing on their popularity on social networks). For Ghibli images for instance, it is the consistency of the Ghibli style across all images that forms a concentrated mass of this 'style' as opposed to the disparity of all input (and eventually other 'styles' of other inputs). So, if with Ghibli 99.99 per cent of image generation requests ask for 'Ghibli style' with implicit feedback requesting regeneration, the models become (learn to become) experts in this generation because, for them, by generating images of this style, they are sure to satisfy 99.99 per cent of requests.
- It is also difficult to reach a mutually acceptable agreement depending on the type of AI models. It will in fact be easier to negotiate and find a mutually acceptable agreement with bounded models, where inputs are easily identifiable (for example, scenario generator trained on scripts from the same programme and audience data) or small language model (SLM) using small quantity of quality inputs. On the other hand, it will be more difficult to find a mutually acceptable agreement with unbounded models, where inputs are not identifiable, for example, a model based on a large volume of texts retrieved from the web. That model gives rise to high transaction costs and LLMs that can use billions of inputs and parameters (United States Copyright Office, 2025a).

Output protection

Providing for input protection does not resolve the issue of outputs, in particular their protection and the risk of over-protection and reduction of the public domain or, conversely, the risk of under-protection and substitution on human creation.

First, with output protection, there is a *risk of over-protection* as tools are parameterized and the public domain decreases (Mantegna, 2024). As a solution, the courts should be examining the degree of creative intervention and the degree of proof to avoid over-protection and a reduction in the public domain.

Conversely, there is a *risk of under-protection* of outputs as tools become automatable and automatically generated with no human intervention. This under-protection creates a risk of synthetic content replacing human creations, since synthetic content is unprotected and a priori 'free', whereas human works are protected and a priori chargeable. A growing number of companies could turn to AI models to produce content that has historically been the product of human labour. This could lead to a drying up of human creation and, correlatively, an impoverishment of culture (Bensamoun and Goffre-Charrier, 2024; Blain and Farchy, 2024). If authors and performers involved in creation are no longer called upon to do so, many will cease to create. This phenomenon of replacement has economic consequences that are already beginning to be felt in certain areas, from large-scale productions (translation, sound systems in certain shops, ambient playlists) to more sophisticated productions (*Elle* magazine, Spotify music group Velvet Sundown). Repeated exposure to synthetic content also increases its public appreciation: as people are exposed to a type of creation, they will appreciate and demand more of it (economic principle of marginal utility). Ultimately, exposure to synthetic content generates economic risks with employability problems (replacement of human creative work), as well as social and cultural risks (cultural diversity).

Second, the substitution effect can have both negative and positive economic effects. *Negative effects* include loss of income and loss of incentive for human creations. The substitution effect is obvious whenever the output is more accessible and less expensive than a human work. For instance, when, in music, AI models produce pieces of sufficiently high quality that are less expensive than a human composition (for example, Spotify music group Velvet Sundown). AI models can also devalue human works, for example, by producing an altered version of copyright-protected content, like an article marked as belonging to the *New York Times* but containing misinformation, thereby degrading the original's perceived value, since consumers can confuse the original with the altered version and be less willing to pay for the original (United States Copyright Office, 2025a). AI could also reduce human experimentation (Yang and Zhang, 2024). If AI models enable the creation of new experiments, it can produce predictable and standardized works, with the risk of reducing creations that encourage experimentation. There is also the risk of models degenerating.

Positive effects include benefits for the consumer. Synthetic outputs lead to lower prices and facilitate consumption that would not otherwise have taken place, like an exact copy of a work that would never have been purchased or a production of a record that would otherwise never have been recorded (Aguiar and Waldfogel, 2018). Positive effects include benefits for creators. AI models facilitate creation, reducing costs and increasing the productivity of artists to create in less time and with fewer resources (helping authors press articles, books or screenplays to work better, produce more, improve quality in less time and with fewer resources). This echoes the changes brought about by digital technology, with the proliferation of illegal copies reducing industry revenues while promoting the production, distribution, and promotion of creative works (Waldfogel, 2017 and 2019). AI works that replicate existing styles (for example, in the Ghibli case, Chapter 4) could even encourage original artists to think outside the box and explore new avenues, and sometimes even increase the market value of an artist as mentioned before. This also echoes the changes brought about by other technologies such as photography, whose invention replaced portrait painters but promoted new forms of artistic expression and paved the way for cinema.

Thus, AI induces changes that can have both positive and negative effects (social value for consumers, reduction in consumption and production costs), so that isolating a single effect could give a misleading picture (United States Copyright Office, 2025b). However, while the benefits are clear for consumers, they are less so for creators. Increased productivity means fewer creators for the same number of works, which reduces the demand for labour in this sector (United States Copyright Office, 2025b). Furthermore, the idea that productivity gains enabled by AI models will free up time for other activities (leisure, travel, socializing) may not materialize, and instead be offset by longer working hours and increased production. In other words, we produce and work more thanks to AI instead of converting this gain into free time (the productivity paradox, or Solow paradox).

Third, the question of protectability of output raises several *practical difficulties*. It is difficult to distinguish between *AI-generated works* and *human-generated works* (including *AI-assisted works*). There is a wide spectrum of uses, ranging from assistance with spelling to the production of sophisticated productions. There is a point along the spectrum at which a work is considered to be more AI-generated than human-generated due to minimal control over the result, but drawing the line is very difficult (Mantegna, 2024), especially for content in the grey area (see Figure 3.1). Due to this difficulty, human-generated works will be based primarily on the creators' self-declaration (United States Copyright Office, 2025b), while a permanent doubt may remain in the minds of the public. For example, the Ghibli case led to the Internet being flooded with AI works in the Ghibli

style. Assuming that the original rights holders Ghibli wish to produce new original creations, the public may well doubt the authenticity of these new creations, having become accustomed to AI works and assuming by default that all works in the style of Ghibli are non-original AI works. The main difficulty will be practical. Developers or users will have to prove their creative contribution (for example, based on the parameterization of the AI tool), so that the technical functioning of the tools will be scrutinized in detail in the procedures and the burden of proof will fall on the person claiming copyright (for example, developers or users). This burden of proof will be tricky, given that we will see more and more hybridization, human-machine combinations, which will require artists to prove their creative contribution.

One additional difficulty associated with the lack of protection of AI-generated works is that when such an AI work is performed by a performer, that performance will lack protection in jurisdictions conditioning performer's rights on the protection of the underlying work (European Commission, 2022b). Conversely, when an AI work is produced by a producer, this production should benefit from phonogram rights, since this production may qualify as a 'fixation' (Art. 2 let. c WPP). In order to prevent producers from turning to AI works (unprotected) for money savings, courts could interpret neighbouring rights in the sense that producers would enjoy phonogram rights only if their production involves a minimum level of investment (and not merely the act of recording and marketing an AI work). Also, to avoid an unequal treatment between performers with no performer rights and producers who benefit from phonogram rights in relation to AI works, courts could waive the requirement for performers to prove the underlying work condition for their performance, at least in jurisdictions conditioning performer rights on the protection of the underlying work.

One additional difficulty associated with AI-generated works is *attribution* (that is, the link between AI results and the specific training data that influenced them). Who deserves credit (and remuneration) when AI is built on thousands, millions of works of others, so that everyone, the entire world could claim credits. Unlike copyright detection, which simply flag similarities or infringements, attribution aims to establish causal relationships between input data and results. Which training data most influenced this result? How can the influence of each piece of data be quantified, bearing in mind that AI models do not directly copy fragments from training data, but rather absorb concepts at a more abstract level through multi-layered architectures, making attribution exponentially more complex (explained before). Currently, there is no 'perfect' attribution system but there are innovations in the field of licensing and attribution agreements, for instance for musical AI (for example, Sureel AI, Musical AI, Soundverse

AI, Lemonaide Music, LANDR, SourceAudio, Human Native). Each attribution system carries inherent value judgments about which musical elements deserve (or do not deserve) attribution and compensation, which may influence revenue distribution for years to come (Hu, Flores, and Spielburg, 2025).

It is also difficult to link the output with individual input, in other words to know the statistical weight or contribution of an input in an output, at least when the AI models are deployed and in use (third phase of deployment). Indeed, in the first and second phases (data collection and training), it seems quantifiable since the input remains traceable. However, it is less quantifiable for the third phase (deployment) since the content seems to be generated independently of the inputs (as explained before). This has an impact on the possible remuneration models. As discussed previously, as an outcome, the price of an individual input could be fixed accurately for phases 1–2, depending on its statistical weight, but only with approximations or proxies for phase 3 (for example, playing on their popularity on social networks) (for AI payment models for all phases, see Figure 4.4).

Intermediate conclusion

Copyright policies should take into account the practical advantages and disadvantages of each legal solution (maintaining strict copyright protection or aiming for a balance between protection and access to inputs), with regard to the transfer of economic value from creators to developers, but also with the creation of social value. They should also consider when to adopt legal solutions (temporality of the measure). When the difference between several solutions (for example, input protection or exceptions) is unclear and legal uncertainty has a significant cost, it is preferable to make a quick decision, even with the risk of choosing a suboptimal option, rather than prolonging indecision. On the other hand, when solutions have potentially significant consequences, legal uncertainty has a low cost, and more accurate information is likely to emerge in the short term, it may be justified to delay the decision (United States Copyright Office, 2025b).

With regard to outputs, protectability depends primarily on the feasibility of solutions, given that it is difficult to distinguish between AI-generated works and human works. In our view, courts should avoid overprotecting results due to the risk of reducing the public domain, which means remaining demanding in terms of the degree of proof of human creative input. Under-protection of results and the risk of substitution must also be qualified by the fact that results have not only negative effects (for example, when they are quasi-identical copies of human works) but also positive effects (when they are creative, innovative, or facilitate creativity).

With regard to inputs, having accepted the principle of protection for inputs, we believe it is preferable to provide for a statutory right to remuneration 'regulated' by mandatory collective management, rather than an exclusive right and free individual negotiation. This is in order to reduce management costs and avoid value capture by platforms due to the asymmetry of power relations, as already seen with streaming. In the absence of collective management, the price of inputs risks being set so low that the management costs of a right to remuneration could exceed the royalties paid to rights holders (Mantegna, 2024). As for the amount of remuneration per input, the solution envisaged should not be generalized but specific to the use made of the data (no one size fits all).

These findings call for several solutions. *First*, one idea is to provide support throughout the value chain and avoid value capture by a few intermediaries. This requires a non-transferable right to remuneration for rights holders whose inputs are used. This right to remuneration shall be extended both to the informational value of the work and to digital workers (explained below). Moreover, contracts and technological measures shall be used in order to trace and ensure a better value distribution its multiple dimensions (for example, social, cultural, educational), so that one can speak of contractualization of remuneration as a governance tool for remuneration and its dimensions (explained below). *Second*, these measures must be supplemented by additional measures of direct support (state subsidies, streaming tax) and profit-sharing on the capitalization of companies as well as alternative models that adequately cover all players in the long tail (Chapters 5 and 6). Indeed, copyright was neither designed to compensate for job replacement, or displacement (for example, with large-scale productions replacing artists day job) nor to provide a 'salary' to the artists for past works.

Rethinking copyright in its distributive and collective functions

Foundations of copyright

This section considers how copyright can be rethought in its distributive and collective functions. It is organized into three strands: first, doctrinal debates about the foundations of copyright; second, institutional innovations to strengthen value distribution through rights to remuneration and participation in the informational value of creative works; third, the limits of such rights, which justify exploring an alternative approach based on contractualizing value distribution.

Copyright was born out of a technological revolution (printing) and has always adapted to successive technological revolutions (photography, radio and TV, Internet, smartphones), seeking a balance between incentives for the production of new works and access to these works (Lessig, 2004; Piquard,

2024, interviewing A. Bensamoun). For example, photography reduced the cost of portraiture, streaming eliminated physical distribution costs, and file sharing led to piracy in the music and audiovisual industries. Each time, copyright has adapted, for example by recognizing new rights or interpreting the existing legal framework. There is no reason why copyright should not adapt to streaming and AI models.

It is important, however, to go back to basics to see to what extent copyright needs to adapt to the changes brought about by digital technology.

Balance between multiple divergent interests

According to copyright theories, the main purpose of copyright is to stimulate artistic creation for the common good, by finding a balance between multiple divergent interests (author, intermediaries, public) (Strowel, 1990).

It should be recalled that the purpose of copyright is not to guarantee creators a 'salary,' but rather to incentivize the production of new works, in line with the two main legal traditions of copyright, common law copyright and civil law author's right (Bently, Davis, and Ginsburg, 2010). This view, however, requires some qualification: the history of copyright also reveals attempts to recognize artists as genuine economic actors and to have their salaries reappear in the form of copyright royalties. For example, in France, the 1936 Jean Zay law sought to reform copyright by presenting authors as 'intellectual workers' (Young, F., 2022). It should be also recalled that copyright is very useful for protecting easily reproducible creations (non-excludable, non-rivalrous), typically in CCIs. Copyright, on the other hand, is less useful for unique creations (excludable, rival), typically in visual arts. These creations are in fact characterized by a direct and local experience as well as public engagement (see Chapter 3). Copyright therefore offers effective protection in the CCI, less so in cultural sectors for which other complementary measures, such as public support, must be ensured.

More specifically, copyright must accommodate *three divergent interests* (authors, intermediaries, and the public) to fulfil *three objectives* (the cultural, economic, and social) through *three functions* (the creative, distributive, and educational) (Guadamuz, 2024): (1) the author fulfils a cultural objective by creating works, of which is the copyright holder, thus contributing to culture; (2) the intermediary fulfils an economic and distributive objective by disseminating the works to the public and distributing a reward to the author; (3) the public fulfils a social objective by using the created work for intellectual development (Benoliel, 2007).

Traditionally, copyright was limited to two interests (at least since the end of the 18th century): the author and the public, with publishers defending their interests under the guise of authors' rights: some spoke of 'hidden

interests' and 'publishers' rights' (Strowel, 1990). Industrialization and mass culture led to the splitting of the interests of authors and publishers and to the recognition of new rights. Publishers and performers became aware of the increased possibilities for exploiting works and the need for direct protection of their own performance that would no longer be derived from author rights (Strowel, 1990). Performing artists became aware of the need to protect their interests in the face of new competition brought about by innovations such as records, cinema, and radio (early 20th century), which profoundly changed the world of entertainment. Their performances could now be recorded, reproduced, and communicated without limitation, causing performing artists to lose absolute control over their work. At the same time, record producers became aware of the need to protect their interests with the advent of phonograms, the widespread use of records by radio stations and, later, the ever-increasing recording possibilities available to the public. Radio broadcasters, too, gradually felt the need to be protected from the reproduction of their programs by third parties (Mettraux Kauthen, 2020). Thus, over time, copyright has expanded to include a third category of interests: economic intermediaries, in particular phonogram producers and broadcasters. Today, copyright interests can be grouped into three actor categories: authors, who contribute to culture through their creative works; intermediaries, who actively participate in the distribution or promotion of works; and the public, who enjoy works for educational purposes (Hart, 1983).

Redistributive justice

This search for a balance between different interests exists in the different traditions of copyright (for example, copyright and author's right). It is also part of a broader concept of distributive justice.

In Europe, copyright has moved from an author-centred conception to an expansion of the interests in the creative process. Traditionally, since the end of the 18th century, copyright has been based on the author's right as a subjective right – inherited from civil law, in particular from the Napoleonic Code and German Romanticism – generally placed above all other interests. However, copyright has been continually expanded with the recognition of new rights and interests: publishers', performers', producers', and broadcasters' (as explained above). It seems to have partially lost the advantage of the qualification of subjective right to appear as a legitimate interest, since copyright holder sometimes needs to prove damage in order to win a case (Strowel, 1990). This expansion of different interests has led civil copyright law to balance these different interests.

In the United States, copyright is in tension between economic efficiency and distributive justice. Traditionally copyright is based on economic

efficiency, which aims to maximize social utility through economic incentives for the creation of new works (Benoliel, 2007). However, this approach is often questioned in favour of a more equitable approach of distributive justice. Distributive justice is a general philosophical and ethical concept that aims for the equitable distribution of burdens and resources among community members to ensure fairness and collective well-being. There are many bases for this, ranging from egalitarianism (equal distribution of resources among all individuals) to utilitarianism (distribution aimed at maximizing the well-being of the greatest number) to theories of justice (unequal distribution is justified only if it benefits the most disadvantaged) (Benoliel, 2007).

In copyright, *distributive justice* aims to reconcile the protection of creators with social equity. It aims for a better distribution of copyright between, on the one hand, original authors and, on the other hand, less deserving creators, independent creators, and users, for example through limits such as limited duration of protection, limited subject matter, the form of ideas, and fair use exceptions. Distributive justice thus has an economic but also a cultural distributional effect, in particular subsidizing disadvantaged authors and enabling them to participate in creation (Rachum-Twaig, 2022).

However, distributive justice can have negative economic effects. The redistribution of value via copyright can generate high administrative costs and potential litigation. It can also lack precision and lead to unforeseen results without guaranteeing that the benefits will reach the targeted beneficiaries. It can generate inefficient social costs, such as a decrease in incentives for creation, an increase in copyright violations and a market disruption for the creation and distribution of works (Benoliel, 2007). If these negative economic effects are likely to exceed the expected benefits of redistribution, distribution via copyright is inefficient and other, more effective means must be used, such as tax, social employment and subsidy policies in the CCS to improve access for disadvantaged populations (Benoliel, 2007).

Thus, these two traditions of copyright converge towards the search for a balance between divergent interests and, more generally, towards a redistribution of value among all stakeholders. However, if copyright fails to achieve this, for example because the measures are ineffective or have negative effects, other means must be used.

Copyright imbalance due to digital and AI technologies

Digital technology has *upset* this balance. It has strengthened the control and power of intermediaries: intermediaries decide the conditions of access to works as well as the distribution of value (Webster, 2019). For example,

streaming and sharing platforms decide in which format and under what conditions the work is displayed, which allows them to capture most of the value to the detriment of individual creators and the public. Consequently, platforms concentrate all functions. They combine creative and distributive functions to the detriment of the author. This is reminiscent of the two-sided market position of cable operators and broadcasters, which earn money on both sides (from the public with subscriptions and from advertisers with advertising revenues). They also combine educational and social functions to the detriment of the public, by deciding the conditions under which the public can access the works, often in a restricted way with temporary access instead of a purchased copy that can be accessed indefinitely (Strowel, 1990; Towse, 2019).

AI has reinforced this imbalance. Copyright's creative, educational, and distributive functions are captured by a few intermediaries to the detriment of authors and the public (Strowel, 1990). Regarding the creative function, intermediaries alone determine the datasets that can drive the machine and the interfaces that can generate creations, for example, which configurability options or datasets form the basis of an output. Regarding educational functions, intermediaries alone determine the contractual and technical conditions under which users can access models. Finally, the function of value redistribution between the different interests is unbalanced because only a few actors share the economic value of copyright's redistributive justice (Benoliel, 2007). Only the platforms and a few rights holders participate in the economic value, while performers and other CVC participants often transfer their rights upstream of the CVC, forgoing any downstream value.

Consequently, copyright has difficulties in maintaining a balance between multiple divergent interests, and solutions must be considered to rebalance copyright in its creative and distributive functions. Worse still, the evolution of copyright – marked by the expansion of rights and interests – appears to be leading to its distortion. Today, it allows a few intermediaries to capture the value generated by creation. In the field of streaming, the segmentation of revenues risks weakening independent artists and labels, which play an important role for cultural diversity. In the field of AI, admitting the protection of inputs risks generating high management costs. With remuneration based on inputs, there is a risk that these costs will increase and that only a few artists, or even a handful of superstars, will receive any money after management fees have been deducted by CMOs and other rights holders. To take another example, in telecommunications, billing for text messages could cost more than sending the messages themselves (the cost of issuing invoices and tracking payments compared to the technical cost of sending the text messages).

It is therefore possible that we are deluding ourselves with the fantasy of paying everyone for streaming and AI models. In terms of streaming,

assuming that all participants are entitled to remuneration, this is likely to be negligible for most participants, except for a few superstars. When it comes to AI models, assuming that we can trace in detail and determine the statistical weight of each input (for example, for an image, the weight of a photo of a dog compared to the weight of a Picasso painting), setting up a remuneration system for thousands or even millions of inputs would be astronomical. We would end up with the same problem as Spotify, which pays only small sums to artists. So, to solve a real problem, we would end up with the same problem we have today. We therefore need to find another way to remunerate differently.

Rebalancing copyright to improve distribution

Due to the copyright imbalance in the digital and AI era, copyright needs to be rebalanced in its creative and distributive functions (Benoliel, 2007). The aim is to take the entire chain into account, in other words to guarantee a fairer distribution of value among all the players in the chain, which in turn will stimulate creativity and encourage the production of new works. Solutions may involve legislative interventions, or a 'simple' interpretation of the current legal framework (as explained below). Regardless of these solutions, additional measures will also be needed (Chapters 5 and 6).

Rights to remuneration for creative workers collected by CMOs

One solution is to ensure support along the entire value chain and to rebalance creator rights (Lacourt, Radel-Cormann, and Valais, 2023; Bouvard, Cooper, and Thomas, 2024). This could be achieved through a right to remuneration for creative workers covering all digital exploitation of the work, whether for streaming and sharing platforms, or AI models. Indeed, when it comes to AI models, the principle of input protection should be recognized (as explained below). This would allow creators to determine whether their inputs can be used by AI models and, if so, which ones and with what thresholds (see Chapter 6). It would also prevent a result from copying an artist's style without remunerating them for their inputs, since copyright would apply upstream of content generation, at the stage of input ingestion. For example, Studio Ghibli could have objected to the ingestion of its inputs and thus prevented the model from copying its style or, conversely, accepted that the model copies its style but obtained compensation for the ingestion of its inputs. With regard to the remuneration model, we believe that the pro rata model is the fairest, especially since we assume that the traceability of inputs will be possible in the near future (as explained below).

The right to remuneration may take the form of an exclusive right for authors and performers (*opt-in*) (1st option) or a new right to remuneration

governed by collective management (*opt-out*) (2nd option). The opt-in exclusive right (1st option) is conceivable for experienced sectors with well-referenced catalogues and pricing practices like music. Conversely, the opt-out right to remuneration (2nd option) is to be preferred for sectors with little pricing practices like visual arts. These solutions make it possible to balance the protection of creators with the public interest in fostering ethical AI innovation for scientific and cultural advancement (Geiger, 2024). The right to remuneration could be limited to artists who have transferred their rights in order to preserve contractual freedom for independent and self-produced artists (see above). It should be noted that introducing a remuneration right subject to mandatory collective management would require legislative amendment, an approach currently contested by the tech industry at EU level in ongoing litigation in Belgium (see above). An alternative solution would be to rely on contracts, introducing a remuneration right and channelling the value chain through contractual mechanisms. Finally, temporality may shape the measure itself, phasing out the mandatory remuneration right once the market is functioning and substituting it with an opt-in exclusive right (see above). And to avoid conflicts of applicable law, which are common in a globalized CVC, the relevant jurisdiction could provide that such remuneration is mandatory (see above).

Journalists have a comparable right to remuneration advocated here. This comparison is relevant since journalists often produce highly creative, narrative, and investigative content in the image of the CCS, so much so that the United Kingdom considers them as artists in certain contexts, particularly with regard to tax benefits and support for the creative industries. It is therefore interesting to compare the solutions recommended for journalism with those for CCS, and to consider whether it is relevant to extend one to the other sector. In EU law, journalists receive an 'appropriate share' of the revenues that aggregators collect from publishers for the use of their publications (Art. 15 para. 5 CDSM). This is a 'residual remuneration' that publishers must pay to journalists in addition to their salary. The 'appropriate share' residual remuneration is set as a percentage and varies from one country to another (Italy 2–5 per cent, Bulgaria 20 per cent). It is generally administered by CMOs that negotiate on behalf of journalists (Germany, Belgium, Sweden, Croatia), sometimes non-transferable (Slovenia), sometimes non-assignable (Belgium, Greece). However, its implementation is delicate because it depends on transparency, in particular the often-opaque remuneration aggregators pay publishers. Journalists therefore face similar practical obstacles in assessing remuneration (Furgal, 2024).

In both cases, it is recommended that CMOs be used, whether under optional or compulsory schemes, given the massive use of works on streaming

platforms and by AI models. This collectivization of copyright is part of a long tradition of copyright that has gradually evolved towards the recognition of collective interests. On the author side, mass culture transformed an individualistic copyright regime into a collective one managed through CMOs (Strowel, 1990). On the operator side, mass culture has led to the development of cultural enterprises in which multinationals have replaced publishers and booksellers and brought together large numbers of workers, which has led to collectivising the interest of workers. On the public side, the public is expanding its consumption of cultural goods with easier access and lower purchase prices for books, radio and TV, the Internet, and streaming. The public is being transformed into a multitude of individual 'consumers'. The classic philosophy of the public with whom the author had an almost personal relationship is transformed into a market bringing together a group of individuals pursuing their own satisfaction through a series of anonymous exchanges regulated by an abstract price adjustment mechanism (Strowel, 1990). These conflicting interests ultimately contributed to the transformation of the author's exclusive right into a right to remuneration (via non-voluntary licensing). This shift illustrates both the erosion of the exclusive right and the rise of legal interventionism, marking the socialization of copyright.

This collectivization of copyright echoes two other instruments rooted in collective bargaining logic – copyright tariffs and collective labour agreements (CLAs) – both of which aim to improve creators' remuneration and working conditions. Copyright tariffs are the price of copyright licences negotiated between rights holders and users of works (for example, radio, television, digital platforms) to guarantee fair remuneration for creators; they are then implemented by CMOs such as SACEM, SUISA, or GEMA. CLAs, for their part, are agreements negotiated between trade unions and employers in a given sector that establish wages, working conditions, social rights, and benefits; they are then validated by a supervisory authority. These two instruments, copyright tariffs and CLAs, are closely linked, in particular because both are subject to supervision and may include provisions on artists' pay. In some sectors (audiovisual, theatre), CLAs even establish minimum fees for performers regardless of the copyright royalties received, thereby improving artists' remuneration. In France, they have gone further by creating a specific status for performers, the *intermittent du spectacle*, which combines employment income with copyright protection.

However, a possible right to remuneration raises issues of copyright and contract law, particularly due to the dissociation of exclusive rights and remuneration rights as well as the freedom of contract (as explained above). It will also not resolve the broader issue of the overall size of the

pie discussed above (see Chapter 1), particularly as it does not extend to all value-generating layers like the metadata and user data (see Chapter 3). It therefore seems more important to supplement such a right to remuneration with mechanisms that ensure creators' participation in the informational value of the work.

Participation of creative workers in the informational value of the work

One solution is to ensure that creative workers participate in the informational value of the work, by allowing them to access and/or to exploit the data generated by the exploitation of the work (metadata and usage data) (Benabou and Farchy, 2021). Legally, this can be achieved through special transparency rules or, in the absence of such rules, through an interpretation of copyright.

This participation can be implemented through a *transparency obligation or a right of access* for artists to complete data on the use of their works. Such a transparency obligation is often already provided for in general contract law, such as publishing, agency, or business contracts, requiring the artist's contractual partner to provide them with information on the exploitation of the work (sales statements or other reporting obligations). However, this transparency obligation is limited to contractual partners, meaning that artists cannot enforce it against platforms with which they have no direct contractual relationship. It is also limited to certain types of contracts (publishing, agency, business), typically concluded by independent artists, but not by artists who are employees. Such a transparency obligation may also be provided for by special rules. This is the case, for example, in the EU with sectoral rules (on copyright) and horizontal rules (on data sharing). In terms of sectoral rules, one example is the transparency obligation of the CDSM Directive (Art. 19 CDSM), which requires operators of the work (label, producer) and sub-operators (platforms) to provide artists with detailed information on the exploitation of the work. Another example is the best-efforts obligation of sharing platforms under CDSM to ensure unavailability of specific works (Art. 17 SMAC), which requires sharing platforms to provide artists with relevant information on works affected by unavailability (for example, descriptive metadata) (Art. 17(4) CDSM; Senftleben et al, 2022). In terms of horizontal rules, one example is the Data Governance Act (DGA), which encourages data sharing through data intermediaries. And even if the DGA excludes such intermediaries from providing services for copyright-protected works (Art. 11 para. 11 and rec. 29 DGA), it could be argued that metadata does not mediate the copyright-protected content itself, but only the metadata of the content (Valk, 2025). Thus, authorities could finance

an intermediary (centralized or decentralized) to function as a metadata centre (copyright infrastructure) and manage the data repository on EU copyright (Järvekülg, 2024; Valk, 2025).

In the absence of special rules, data is shared only on a voluntary basis (for example, Spotify for Artists or Deezer for Creators). This often results in reluctance to share, for the reasons noted above (see Chapter 3). To overcome this reluctance, and given the absence of specific rules, a *reporting obligation* could be considered as *inherent to copyright*, in particular as an extension of moral rights. This would be justified in order to rebalance copyright and ensure distributive justice. Indeed, authors have a personal connection to their works and should have the right to know what happens to their works, how they are exploited, and under what conditions. This right inherent in moral rights would be comparable to the right of access in data protection, which allows any individual to request access to their personal data in order to verify the lawfulness of its processing (for example, Art. 15 GDPR). It would operate independently of any transfer of economic rights to third parties. It would guarantee that artists would not be deprived of their right to have a say in the commercial exploitation of their creations. In particular, it would allow artists to determine how their work is actually exploited, including in AI models, where applicable, in order to exercise their right to opt-out. However, this interpretation presupposes the existence of moral rights, which is not the case in all jurisdictions. It also presupposes a broad interpretation of copyright by the courts, which could lead to divergent interpretations from one jurisdiction to another. Therefore, it seems more promising to look to other solutions, such as contractual mechanisms combined with shared governance, the blueprint suggested below.

Limits of new rights to remuneration

Extending copyright's distributive functions to digital and AI contexts faces obstacles. Legally, introducing a new right to remuneration subject to mandatory collective management would require legislative amendment, an approach already contested by the tech industry in ongoing litigation, particularly on the ground of contractual freedom (as explained above). Proposed extension to the informational value would require legal interpretations, which may vary, particularly in copyright versus author's right traditions. Economically, collective remuneration risks reproducing the 'Spotify problem', with negligible payouts diluted across thousands or millions of contributors and high administrative costs borne by CMOs or other intermediaries.

Finally, this solution will not resolve work outside the scope of copyright, whether metadata and user data, invisibilized creative labour of data

engineers and cultural mediators, or the less creative labour of digital workers (Vallas, 2019; Mantegna, 2024). This is why we propose a hybrid approach combining copyright and contract law.

Contractualizing value distribution across the chain

Licensing models extended to the informational value, coupled with data trusts

Beyond statutory remuneration rights, contractual tools can be designed to channel the multiple dimensions of value. To that end, we suggest the following *blueprint*: licensing models extended to the informational value coupled with collective governance instruments such as data trusts (Benhamou, Y., 2021).

The *licensing models* would be granted to creative workers and would extend to all categories of data generated by the exploitation of a work ('source work'), including metadata that may fall under distinct legal regimes such as copyright and data protection. Metadata could be defined in the licence, by analogy of personal data (for example, article 4(1) GDPR), as 'any information relating to a work', insofar as it is identifiable and inherently linked to that work. Accordingly, any metadata derived from the source work would remain attached to it and be shareable with the artist. This copyright–personal data analogy is not meant to equate metadata with personal data in a strict legal sense but to provide a contractual framework for attaching informational value to a source work. Unlike personal data, metadata does not always present the same risks of re-identification or privacy intrusion. The purpose here is therefore normative and operational – to ensure metadata remains contractually traceable and shareable with the artist – rather than to claim a doctrinal equivalence with data protection law. Moreover, such a construction is consistent with data protection laws since the sharing relates to the informative value generated by the work (see Chapter 3), and not to user data. This distinction makes it possible to aggregate user data and to benefit from exceptions of data protection laws (for example, Art. 5.1 and 89 GDPR allowing derogations for statistical processing).

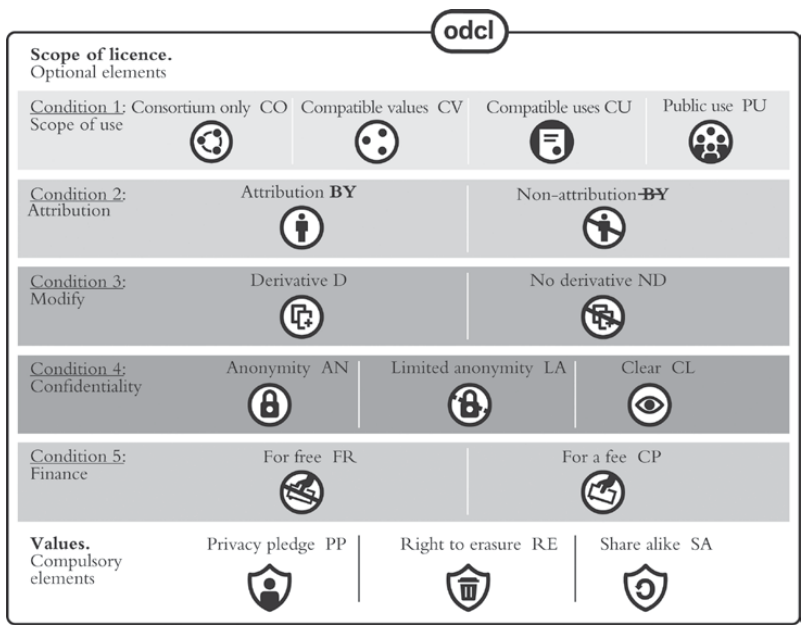
Methodologically, this *reverses the current contractual logic*: rather than platforms (licensees) imposing their ToS unilaterally to the users (licensors, being the creative worker as copyright owner, or data subject), licensors would set their own terms for access and use of data, by selecting standard terms (Benhamou and Dulong de Rosnay, 2025). Governance and enforcement would be entrusted to data intermediaries, in particular data trusts, acting collectively on behalf of rights holders, as explained below.

The standard contracts would be modelled on *commons-based copyright licences* in order to capture all kinds of data generated by the exploitation

of a work. Indeed, some commons-based copyright licences intend to propagate their contractual terms to all copies and copyright derivatives with a copyleft or 'Share Alike' clause, by obliging to include the same terms in further distributions of the object (Guadamuz, 2004; Branco, 2013). Accordingly, these contractual terms would propagate in the AI era, as input data subject to such licences would carry their conditions into all aggregated training datasets and resulting outputs, thereby creating *de facto* commons. The standard contracts could also include compulsory clauses (for example, privacy safeguards) as well as modular optional clauses (for example, monetization conditions, scope of authorized users/uses), which enable the licensor to decide which values and common-based philosophy to safeguard (Benhamou and Dulong de Rosnay, 2025).

The combination of the various *compulsory and optional elements* to be selected by licensors may look as follows, illustrated by the pictograms in Figure 4.2, inspired by legal design techniques like the Creative Commons. These pictograms do not ambition to offer an ultimate and final solution but aim to contribute to the global debate and to facilitate the emergence of global standards for a commons-based copyright licence. Further work requires collaboration with other stakeholders and possible ongoing initiatives.

Figure 4.2: Icons for a commons-based copyright licence, so-called 'Open Data Common License' (ODCL)



The model shall be *combined with collective governance instruments* to improve effectiveness and enforcement (for example, licensor opt-out, necessary for moral rights and user data). Collective governance instruments is a widely discussed model allowing to strengthen the protection of individual data and to redress the power asymmetry. It consists for a data subject to rely on a third party (for example, 'data intermediaries' [DI] like 'data trusts' [DT], or 'data rights intermediaries' [DRI]) to provide data management services. These data intermediaries could leverage data rights to obtain terms and conditions from service providers (Benhamou and Dulong de Rosnay, 2025). For AI remuneration on input data, they could endorse the role of opt-in platform and of negotiating the licences (Chapter 4).

There remains the question of feasibility, in particular the adoption and scalability of such open licensing models. This requires first to set-up *universal, or thematic DI* (for example, per sector, such as social media with social media data, music platforms with user data). Then, for data already collected and in use by stakeholders, DI would exercise mass access requests towards providers to retrieve the data and licence them back under the licence (or similar open licensing schemes). For data not already collected, setting up universal or thematic DI would incentivize platforms to voluntarily adhere to such terms.

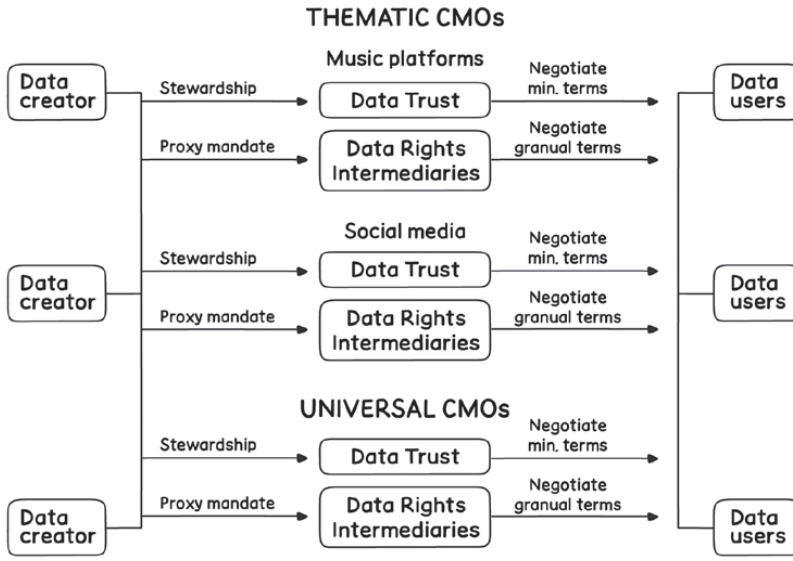
Figure 4.3 shows visually the blueprint for data intermediaries for a better control over artistic data.

As an institutional model, CMOs provide a relevant analogy: they already negotiate tariffs, distribute royalties, and administer extended collective licences (ECLs) in jurisdictions recognizing such ECLs. Similarly, data trusts or data rights intermediaries could leverage collective bargaining to redress the asymmetry of power vis-à-vis platforms (Benhamou and Dulong de Rosnay, 2025). This approach is also consistent with recent EU law on trusted intermediaries (Data Governance Act) and with UK proposals for a 'Creative Content Exchange' (CCE) as a trusted licensing marketplace (UK Government, 2025). Blockchain infrastructures could further enhance traceability and secure exchanges (Benabou, Zolynski, and Cytermann, 2018).

There remain some caveats regarding the limits. For limits related to *non-transferability of moral rights*, certain safeguards are necessary. Given the non-transferability of moral rights, the licensor shall have an opt-out right at any time, at least for any future use (*ex nunc*). For limits related to the right to be forgotten/erasure, the licensor shall have an irrevocable right to withdraw consent or erase (like for copyright for jurisdictions with non-transferability of moral right). However, unlike copyright, the withdrawal right shall apply retroactively (that is, to use copies done in the past) (*ex tunc*) (Benhamou and Dulong de Rosnay, 2025).

In sum, such a framework would allow for the management of complex datasets, greater data sharing, and enhanced trust and control by rights

Figure 4.3: Blueprint for data intermediaries for a better control over artistic data



holders, while correcting power asymmetries in the current system by offering the licensor the ability to decide the terms.

Extension to digital workers

The mandate of the data intermediaries or CMOs could be extended to digital workers for usage data on sharing and AI platforms (Helfer and Priora, 2023; Benhamou et al, 2024). In this way, DI or CMOs would also manage user data to divert an essential part of the value captured by platforms and redistribute it to creative workers and digital workers.

This is justified commercially and legally. *Commercially*, because personal data has a value that is captured by platforms. Just think of the estimated value of Spotify or TikTok, whose business model is based in part on user data (see Chapter 3). In a standard business model for the internet, data is used by the online platforms (for example, streaming and sharing platforms, search engines) to offer targeted advertising for other products or services. Although data protection authorities are reluctant to consider personal data as a simple commodity, economists talk about the value of personal data and contractual practices treat data like property rights (Benhamou and Dulong de Rosnay, 2025).

Legally, because the use of personal data is comparable to the use of copyrighted material, which justifies, in my view, applying the same

copyright licensing rules to digital worker usage data. In both cases, the subject of the licence is an absolute subjective right (copyright and data protection). The terms of the common-based licence can be attached to the object (the copyright work, the personal data), which makes it possible to extend the contractual rights to any user, thus creating a contractual relationship between the data subject and any downstream user, who would then become a data controller or data recipient. This contractual chain would strengthen the position of data subjects who would be able to determine their own terms of use and, in the event of non-compliance with the licence conditions, enforce them by invoking a tortious or contractual breach. However, one aspect distinguishes personal data from copyright: unlike copyright, granting access to personal data involves an inherent risk of the data subject being re-identified, a fortiori in the case of sensitive data relating to health or research. The analogy is therefore not entirely valid. While copyright is generally a win-win situation, personal data is more complex for the rights holder to manage. This argues in favour of robust enforcement and control of the open licence on personal data. This could be achieved by combining this licence with technical tools (for example, robots.txt on a website) and a collective governance structure such as cooperative data trusts (Benhamou and Dulong de Rosnay, 2025). Lastly, distributive justice provides an additional normative justification for extending value-sharing to digital workers (for a definition of distributive justice, see above). Digital workers give their times and efforts, to participate in the platform and AI value chains, while receiving little in return: extremely low salary for platform workers who work hardly; nothing but access to the service and some visibility for internet users who provide their personal data and/or unpaid UGC. At the same time, platforms and AI models raise huge sum of money and investments in return. This can be qualified an unequitable distribution of burdens and resources, that the notion of distribution of justice aims at correcting.

Channelling the multiple dimensions of value through a social licence

The proposed blueprint can also accommodate the *multi-dimensional nature of value*. Creative and digital workers could select contractual terms along a spectrum, from full openness to restricted conditions (for example, specifying authorized users or uses). Such mechanisms safeguard the commons and prevent unilateral appropriation (Choucair Visozo and Byrnes, 2023).

This approach acknowledges that creation cannot be reduced solely to its economic dimension (the revenue it generates). Creation also carries social and subjective value (its significance for social groups, its embedding in daily life, its role in identity and community) (Glevarec, Nowak, and

Mahut, 2020; Riom, 2023). For instance, digital access and subscriptions have decreased the scarcity of music but reinforced its subjective embedding in daily life and identity (Glevarec, Nowak, and Mahut, 2020), while simultaneously generating shared cultural references within communities (Benhamou, F., 2017). Similarly, video games, particularly multiplayer formats, are more than entertainment (Saint-Jevin, 2018). They foster social ties and civic participation (Molyneux, Vasudevan, and Gil de Zúñiga, 2015). They generate social capital both in the form of bonding (trust, cooperation, and reciprocity within close-knit communities) and bridging (new connections across diverse backgrounds). Such capital, in turn, broadens perspectives and supports civic engagement, from volunteering and public debate to participation in associations (Molyneux, Vasudevan, and Gil de Zúñiga, 2015). The modular clauses enable communities to decide and foster their values.

This model draws on precedents in sustainability governance, notably the Model Contract Clauses (MCC) developed by the Responsible Contracting Project (RCP). These models allow companies to integrate human rights, labour, and environmental standards into supply-chain contracts with suppliers and subcontractors. Transposed to the CCS, such model clauses could embed value redistribution in sectoral contracts.

In practice, this could take the form of a '*social licence*', a contractual arrangement negotiated by stakeholders specifying conditions of access and reuse of works. These agreements originate in the extractive industries as 'social licences to operate' (SLOs) in the 1990s (mining, oil and gas, then extended to agriculture, energy, and tourism) (Verhulst, Sandor, and Stamm, 2023). The goal is to avoid social conflict and to guarantee a sustainable business by integrating the concerns of local populations (environment, employment, respect for human rights) (Verhulst, Sandor, and Stamm, 2023). Applied to the CCS, social licences could specify the permitted uses of works, users, or communities, and be monitored by data trusts or intermediaries (Benhamou and Dulong de Rosnay, 2025).

Such social licences echo statutory remuneration rights, administered collectively, much like the rights to remuneration suggested previously (Chapter 4), private copying levy in Europe or SoundExchange royalties in the United States. The difference, however, is that statutory remuneration rights are formal legal mechanisms, codified in law and administered collectively, whereas social licences are informal, sociopolitical arrangements that rely on community acceptance rather than legal entitlement.

These mechanisms would *re-empower creators*, facilitate bottom-up creativity, and recognize the social and subjective values of creation beyond market metrics. They also offer legal tools to address cross-border conflicts of applicable law (Benhamou and Dulong de Rosnay, 2025). They would also

allow sectors to organize alternative models outside dominant platforms. In music, for instance, artists could withdraw their works from mainstream streaming services, particularly those demonetized due to thresholds (middle or long tail artists) (Mulligan, 2025), and redistribute them via alternative platforms with customized remuneration schemes. Analogous mechanisms could apply in AI, where artists would decide whether, and under what conditions, their works enter training datasets, including the possibility of remuneration thresholds (see Chapter 6).

These proposals *echo historical shifts* where contractual innovation reshaped value chains, often under pressure of social struggles. Just as class struggles and workers' demands reshaped the value chain, CCS have also acted as catalysts of social changes: music, cinema and pop culture promoting diversity, fashion and design promoting eco-responsible products and processes. Outside CCS, workers' movements have transformed value chains by embedding respect for environmental, ethical, and societal conditions throughout production. Yet such gains remain fragile and could be reversed by other political powers. In 2025, described as a profoundly unstable year, some countries push back social progress and long-standing social acquis. Against this backdrop, proposals such as model sustainability contracts or social licences in the CCS could reverberate outward, influencing other industries from entertainment to automotive. At the same time, they offer legal tools for grappling with persistent challenges such as conflicts of applicable law in global markets (Chapter 4).

Tracing and calculating the value

Finally, because digital technology enables traceability along the entire value chain, it is possible to determine who in the creative process should be paid how much. The feasibility depends on the information to be traced.

On *streaming and sharing platforms*, copyrighted works can be systematically traced through standardized identifiers such as ISWC (musical works), ISRC (sound recordings), ISBN (books), or ISSN (journals). These identifiers ensure that each play, stream, or reproduction is correctly linked to the appropriate rights holder. Usage data can be traced too. Yet tracking technologies lack such universal identifiers and are usually tracked through proprietary platform-specific tools like account-based tracking (cookies or data linked to a user's device, or profile, adTech identifiers).

On *AI models*, several avenues are being explored for identification and traceability of input data. For identification, AI detectors are being developed, for example, in the form of audio, text, or image recognition systems (for example, by OpenAI or MIT like YouTube's Content ID robot). However, these recognition systems are not enough, because they focus on output,

not on the entire CVC and because AI models can generate content that has been modified just enough to slip under the radar. For traceability, more granular detection systems are also being explored and implemented across all CVC, from creation to distribution (for example, Audible Magic, Pex, Rightsif, SoundCloud, Vermillio, Musical AI). This is done by marking in the metadata in all part of the creation. These systems enable to searching and detecting any synthetic elements as well as to suggest and to automate micro-licensing and micro-payment for the use of copyrighted works. For instance, Vermillio TraceID and Deezer internal tools flag AI-generated tracks as they are uploaded and shape how they surface in search and recommendations, to label these tracks as such and to reduce their visibility in both algorithmic and editorial recommendations. These tools are positioned as a replacement for YouTube's Content ID, which often fails to detect subtle or partial imitations (Buehrer, 2025). Other companies go even further upstream to the training data itself. By analysing what goes into a model, their aim is to estimate how much a generated track borrows from specific artists or songs. That kind of attribution could enable more precise licensing, with royalties based on creative influence. The idea echoes old debates about musical influence, like the 'Blurred Lines' lawsuit, but applies them to algorithmic generation. The difference now is that licensing can happen before release, not through litigation after the fact. Spawning AI's DNTP (Do Not Train Protocol) is pushing detection even earlier, at the dataset level (Buehrer, 2025). Some voices consider these tools as still fragile with a risk of hybrid works (part human, part AI) blurring all boundaries. The result is a fragmented but fast-growing ecosystem of companies treating the detection of AI-generated content not as an enforcement tool but as a table-stakes infrastructure for tracking synthetic media (Buehrer, 2025).

That said, data-tracking technologies just help players to get better information. Yet it does not solve the real problems of recognizing new rights to remuneration, of calculating and negotiating the fees. These problems are rather a matter of interest groups in case of legislative projects and market forces to set a price in case of individual negotiations. So, we do not claim technological solutionism. We just claim that tracking technologies enables traceability for better remuneration when they are implemented by players. Once the data has been accurately tracked, the question of calculating remuneration remains.

For *metadata and usage data*, most debates are around data protection. But one key question is of value.

How much value did Spotify get from its advertisers and advertising agencies in exchange of usage data? And what is the licensing value of usage data for OpenAI when reusing them for training purposes?

Given the difficulties in pricing the data, calculation could be inspired by methods for calculating reasonable royalty damages in intellectual

property, such as the Royalty Rate Method, as well as the economic methods of discounted cash flow method (DCF) or the financial indicative running royalty model (FIRRM). Case law about fair, reasonable and non-discriminatory (FRAND) licence terms for disputes about the licensing of standard essential patents (SEP) may also be relevant to set reasonable royalties (Benhamou and Ferland, 2021). We believe that each method gives a useful index value for the courts and policy makers, a sort of benchmark for pricing the data, and that the solution consists of a combination of these methods. This path is in line with the increasing complexity of use of data, for example, training data with different values at the training phase and deployment phase without visible loss or lost profits. Finally, given the difficulty in pricing the data precisely, there will certainly be a 'flat-rating' of data usage (*barémisation*, 'lump-summing'). Personal data is a valuable asset, but the actual value of any given data is context-dependent; their value varies, in particular, according to (a) the category of personal data (for example, basic usage data, such as age, gender, ethnicity, and zip code, have been estimated at USD 0.005 per record; data regarding credit history, criminal records, bankruptcies, or convictions have been estimated at USD 40 per record) and (b) the business models from the stock value of a firm or profit per record (for example, usage-based pricing, package pricing, flat pricing, and freemium; the value per record of a big data broker is about USD 1 per record) (Benhamou and Ferland, 2021).

For *input data*, most debates are around copyright law. But one key question is of value. How much value did OpenAI get from Studio Ghibli training data without paying? What is the licensing value for the training data? What is the value from user growth thanks to the viral hype? Based on the previous findings, the following criteria can be envisioned for input remuneration:

- Negotiation is likely to succeed depending on the type of input and model, for example for 'bounded' models and SLMs, less for with LLMs with so many input that would dilute the royalties and split the revenue into thousands or even millions of players (see Chapter 3). However, the argument of royalty dilution and split among multiple players will no longer be valid, as technological solutions will enable micro-licensing and micro-payments as well as avoiding unrecovered revenue (like the black box MLC) (explained before).
- Price will be set depending on the quality and rarity of the data. It will probably be set below known usage levels because the work is not used directly for its own sake. Next, it will be important to take all the variables into account by design. Experience shows that small design decisions regarding remuneration can have major consequences. In streaming, the market-centric remuneration model has favoured certain catalogues. Also, protective measures, such as minimum payments or caps, have been

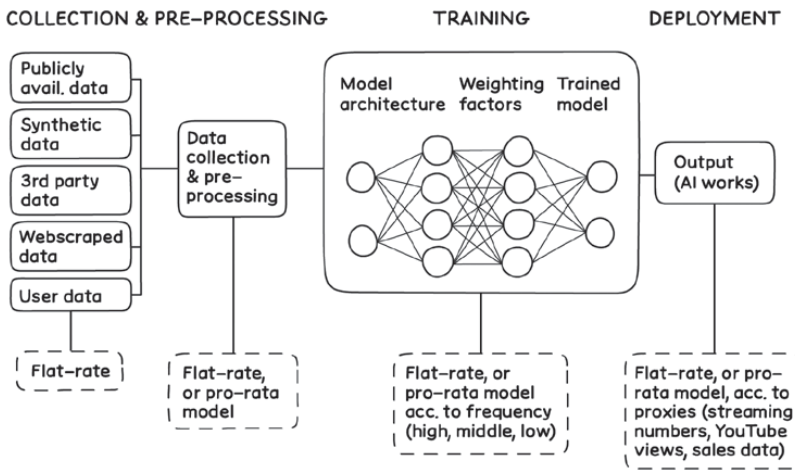
necessary to avoid the 'winner takes most' effect at the expense of small artists (Hu, 2024). This involves taking into account a differentiated price according to the type of models, the criteria, and variables influencing the value of the inputs.

- The impact of an input on a given output is highly variable, with each individual input having a different statistical weight in relation to the others. For all phases, there could be a threshold, to be fixed by CMOs or data intermediaries, after which remuneration is triggered. For the collection and training phases (1st and 2nd phases), there could be a simple formula based on the frequency with which an input appears in the learning corpus. For the deployment phase (3rd phase), given the breakup between an output and an input, a solution could be to replicate the formula applied for the training phase. This would allow the model to get around the difficulty of assessing the exact contribution of each input to the outputs. Then, as the model learn continuously, the frequency should be calculated again at a later point of the deployment phase in order to recalculate the weight of the input and to apply this new weight to the input. Given the difficulties in quantifying the exact contribution of an individual input, calculation could be based on proxies to approximate its influence (such as streaming numbers, YouTube views, or sales data). Similar systems already exist in different sectors. This is comparable to radio, where CMOs distribute royalties based on audience statistics. It also resembles the advertising market, where payments are calculated according to impressions, clicks, or reach. Likewise, it is similar to Google Analytics or Google Books' Ngram analysis, which remunerates or measures visibility based on keyword frequency. In this sense, AI remuneration schemes could be inspired by methods already used in advertising, broadcasting, and digital analytics.
- Lastly, the royalty could be based on the revenue generated by the model, not the turnover. This would allow startups to pay royalties only once they have commercialized the model (Liu, Liu, and Osmani, 2021) (see Figure 4.4).

Implementation challenges

Implementation challenges remain though. Legally, copyleft-type clauses cannot easily extend to non-copyrightable elements like AI models, at least in the deployment phase, as AI works usually do not contain nor reproduce training data (except for the cases of memorization of training data) (Szkalej, 2024) (explained before). Moreover, the AI works are often not copyrightable when there is a lack of human authorship (explained before). These concerns should be qualified. Copyleft clause would apply on a contractual basis, not on the basis of exclusive copyright. Accordingly, the model should precisely specify that it extends its contractual terms to non-copyrightable elements

Figure 4.4: AI payment models



and implement technical ways enabling licensees to agree on the contractual terms (Benhamou and Dulong de Rosnay, 2025). In EU law for instance, the Ryanair decision confirmed that, when a database is not protected by copyright or a *sui generis* database right, the website owner can rely on the online terms of use to prohibit data scraping by a lawful user (*Ryanair v PR Aviation*, Case C-30/14, [2015] ECR-I 15). More generally, contractual terms are usually considered valid and enforceable, provided that users have been given reasonable notice (e.g. browsewrap, sign-in-wrap, and clickwrap agreements) (Benhamou and Dulong de Rosnay, 2025). The licensing extension to user data may seem delicate as well, given that the data subject has continuous control rights in several privacy laws across the world, like the right to access and to withdraw consent at any time (similar to unwaivable moral rights in continental copyright laws). These concerns should be qualified as well, as technical opt-out solutions exist to ensure enforcement of such terms, such as indicating the terms under which the data can be used (for example, robots telling data crawlers and data scrapers whether or not to use certain data); this is a growing practice since the reservation of right of Article 4 of CDSM (Keller, 2024; Benhamou and Dulong de Rosnay, 2025).

Operationally, this blueprint requires strong coordination among heterogeneous stakeholders (artists, platforms, users, intermediaries), enforcement and oversight mechanisms that are costly and potentially bureaucratic. They may also work for small, local communities but harder to extend to global platforms with millions of works and users. Economically, platforms and large intermediaries may resist, since this blueprint redistributes value and reduces their capture of rents, while smaller artists and communities may lack the leverage to impose their terms on dominant global platforms.

A value distribution to a large number of artists or internet users could result in high management costs with minimal redistribution to each. There is also a risk of co-optation, as data intermediaries could themselves replicate concentration or exclusion.

Technically, traceability and valuation tools remain fragile and difficult to scale to thousand, millions, even billions of players (in the case of input data and digital workers). Even if redistribution occurs, it may remain largely symbolic, a kind of royalty dilution.

Economically, the blueprint alone cannot resolve the entire 'size of the pie' problem (see Chapter 1) or the challenge of job replacement (see Chapter 3).

These concerns should be qualified though. CCS seems today much more responsive and coordinated than before, which increases its bargaining power and ability to scale up solutions. Moreover, the suggested blueprint with thematic and universal data intermediaries may improve feasibility and scalability. Lastly, royalty dilution should not be a justification in itself for refusing to improve the chain's remuneration, even if the amounts are low. There are technical solutions like those enabling micro-licensing and micro-payments as well as collective governance with pre-defined terms (see Chapter 5).

Interim conclusion

In order to rebalance copyright and ensure distributive justice, two complementary avenues emerge. The first is the recognition of a right to remuneration, coupled with participation in the informational value of the work. Should such a right prove difficult to implement, whether for reasons of non-compliance with national copyright law or legislative resistance, a second avenue consists in contractualizing value distribution along the chain, coupled with collective governance instruments such as data trusts. This second contractual avenue has the advantage of aligning with the principle of freedom of contract, while extending to a broader range of stakeholders, including digital workers, and of capturing the multiple dimensions of value, economic, social, and cultural.

Yet, these two avenues will not solve all problems. They will not increase the 'size of the pie'. The pie will simply be shared differently among many players with high management costs and low remuneration at the end of the chain, in other words, greater energy spent for ever smaller gains.

The effectiveness of distributive justice is consequently doubtful (on distribution justice, see Benoliel, 2007). Beyond copyright and contract, the value redistribution will have to be done by complementary political and individual solutions (Chapters 5 and 6).

5

Political Solutions

Since copyright and contract alone cannot address all challenges – such as the problem of the 'size of the pie' or the risk of replacing certain artists' jobs – complementary political measures are essential.

After introducing different models of state intervention, we distinguish *three clusters* of political measures: support and protection, promotion of cultural diversity, and redistribution and regulation. Within each cluster, we move from more moderate and realistic options to more radical and hypothetical ones. Because each measure has inherent limitations, we then suggest complementary approaches, particularly the creation of framework conditions for the creative value chain (CVC). While presented separately, these measures are not mutually exclusive. They often overlap and can reinforce one another. The point here is not to assume that all will materialize but to map a spectrum of possible interventions that can be combined or adapted to different contexts.

State intervention: two models of cultural policy

State intervention depends on the traditions of cultural policy which have prevailed (Benhamou, F., 2017). *Two distinct models* are usually given as examples. First, the European model, which can be described as interventionist and manages subsidies directly through its public institutions. Funds generally come from taxes and the state budget. Depending on the country, cultural policy is decentralized to the regional level or is under the central government (for example, copyright, film subsidies, tax policy) (Benhamou, F., 2017). The interventionist European model dates back to ancient times, from antiquity, then in the 16th century with monarchs protecting artists and collectors (Benhamou, F., 2017). The Anglo-Saxon model, which is not as interventionist, manages grants through independent bodies responsible for distributing them to applicants. In this model, the state plays a facilitating role rather than a

financing role, and tax incentives and patronage play a prominent role. For example, the UK Arts Council or the US NEA grant applicant institutions that are able to fund private patrons, thus stimulating private support through public aid. The money generally comes from private individuals (private patrons) who benefit from tax breaks. The Anglo-Saxon model, for example, the UK Arts Council, which was founded around 1940, aided artists who were victims of the economic crisis, and it encouraged people to enjoy themselves through art. Later, public agencies were funded totally dedicated to supporting the arts, for example in the US, the National Endowment for the Arts in 1960. To put it simply, there are two models: the fiscal model (Anglo-Saxon) and the subsidy model (European). These two models have inspired several countries, like Australia, Brazil, and Chile to adopt liberal policies of tax incentives and market and private partnership approaches. Mexico has a hybrid system, with a combination of public subsidies and tax incentives.

Several *theories justify state intervention*. According to the theory of fundamental rights, there is a fundamental right to culture, defined as the strengthening of social ties and human and social experiences (see Art. 27 Universal Declaration of Human Rights UDHR). The principle obliges the state to guarantee the right of access to cultural life and to combat the liberalization and commodification of the cultural and creative sectors (CCS) (Romainville, C., 2014). According to the theory of liberalism, state intervention is justified by extrinsic economic and social reasons, in particular, to preserve the positive effects of culture on certain disadvantaged neighbourhoods and to combat unemployment among artists (Romainville, C., 2014). According to the theory of public goods, cultural goods must be regulated by public intervention and not just by the market because of their characteristics as non-excludable and non-rival public goods. Additionally, state intervention is merited because of free riding; individuals are tempted to benefit from them without contributing to their production (Romainville, C., 2014).

In both models, states intervene in various ways to safeguard culture and promote cultural diversity. Such measures include regulations (for example, fixed book pricing to encourage literary creation and consumption), audiovisual quotas (for example, France's requirement that 40 per cent of songs broadcast be in French), tax incentives (for example, France's video game tax credit allowing studios to deduct up to 30 per cent of production costs), and direct financial support (Benhamou, F., 2017). Direct financial support can take many forms. These include fiscal measures, such as taxes on streaming platforms (for example, in France, a 1.2 per cent levy is planned on streaming revenues), or more radical proposals such as a universal income (Mantegna, 2024) or profit-sharing based on company capitalization when losses are declared (Chapter 3). Subsidies remain

the most common instrument. On the supply side, they fund artistic creation, residencies, training, and distribution outlets such as venues, festivals, and fairs. On the demand side, they appear as cultural vouchers (for example, France's Culture Pass for 16- to 18-year-olds) or as public commissions of artworks for installation in public spaces, particularly in the visual arts.

Set of measures

Support and protection: artist status and remuneration

Cultural professions are often *characterized* by atypical employment**,** reduced social protection, and lower-than-average incomes as discussed above. On the other hand, CCS lacks skilled workers for technical and specialized professions (International Labor Organization, 2023). Artists must therefore be able to acquire skills that they can use interdisciplinarily. They must also adapt to the digital transformation of CCS like globalization, new modes of production, distribution, and consumption, new forms of entrepreneurship and business models (Chapter 3). It is therefore necessary to adopt measures that address these changes, including that improve working conditions in the cultural professions (International Labor Organization, 2023). Numerous measures exist, which can coexist. These include measures to improve the status and remuneration of artists.

With regard to *status*, it is essential to ensure that creative professions enjoy social security comparable to other professions. One approach is to establish a special legal framework, as in France with the status of *intermittents du spectacles*, which provides performing artists and technicians with a tailored contribution system granting easier access to benefits during periods of inactivity. Belgium has adopted a similar mechanism with the status of *travailleurs des arts* – professionals in one of eight artistic fields certified by the *Commission du travail des arts* – who benefit from social rules adapted to the specific characteristics of their work. In Switzerland, artists benefit from another tailored measure: the doubling of their initial unemployment contributions, enabling them to meet the contribution period required to qualify for benefits (Benhamou, Y., 2022).

Another approach is to operate within the existing legal framework by standardizing unemployment insurance fund practices to better reflect the atypical work situations prevalent in the CCS (Benhamou, Y., 2022). Social partners can also play a key role, through collective agreements, supported where appropriate by public authorities, in guaranteeing income continuity during periods of inactivity. In Sweden, for example, the *Swedish alliance system*, established by social partners and co-financed by the Ministry of Culture, ensures that freelance theatre, dance, and music professionals continue to receive a wage between engagements (EU Study, 2021). Given

the diversity of national solutions, the European Union (EU) has launched a draft European status for artists aimed at creating a common legal framework to improve the working conditions of CCS professions within the EU (Parliament, 2023).

With regard to *remuneration*, it is important to ensure compensation that reflects the realities of each sector, including invisibilized work like artistic research and other creative or technical tasks. One approach is to support professional associations in developing and finalizing pricing recommendations that account for the entire chain, from artists and cultural mediators to technicians, researchers, and organizers (Benhamou, Y., 2022). Compliance with these recommendations could be encouraged by making public support conditional on their application, or by creating a support fund to cover the gap between recommended and previously applied tariffs. In the Netherlands, for example, the Mondriaan Fund incentivizes visual arts institutions to apply artists' fees by covering up to 50 per cent of the recommended standard fee (*Kunstenaarshonorarium*) (Benhamou, Y., 2022).

A more radical approach is to provide an *universal income*, that is, unconditional financial allowance granted regularly to all citizens, regardless of employment status, aimed at providing a stable economic foundation that can also support creative activity. Pilot projects have been tested in several countries, such as Finland's 2017–18 basic income trial, Germany's *Mein Grundeinkommen* lottery-based initiative, and the Spanish region of Catalonia's 2023 pilot programme, which granted monthly payments to a randomly selected group of residents (Van Parijs and Vanderborght, 2017).

Promotion of cultural diversity

Cultural diversity has become a pressing issue in the digital and AI era (Chapter 3) and is the focus of numerous initiatives and studies at international, regional, and national levels (for example, Franco-Quebec's ICDCE, UNESCO's International Federation of Coalitions for Cultural Diversity [IFCCD]).

Most studies recommend policy makers to ensure *discoverability* on platforms, the ability of online content to be found even by users not actively seeking it (Ministère de la Culture du Québec, 2020; Benhamou et al, 2024). This often involves promoting specific content, such as indigenous works and human creations in the face of AI works (European Parliament, 2024). Several policy measures already address discoverability. These include pooling open databases to standardize metadata for music identification (International Standard Recording Code [ISRC], International Standard Name Identifier [ISNI], International Standard Musical Work Code [ISWC]; Canadian Radio–television and

Telecommunications Commission (CRTC), 2 January 2023), or ensuring manual curation on digital platforms (see below).

Discoverability requirements could be *legally* grounded in the fundamental right to digital self-determination, understood as citizens' ability to decide how they access information. Authorities would be responsible for ensuring its implementation, either through the interpretation of existing legal frameworks (for example, the right to digital self-determination) or through specific legislation, such as the European Digital Services Act (DSA), which introduces a new right to parametrability (Art. 38, limited to VLOPs though). However, such a right risks being ineffective. Just think of the experience with cookies, which Internet users do not read. A more robust approach would be to establish an *obligation of parametrability*, requiring providers to offer users alternative recommendation systems, much like Microsoft was once compelled to offer a choice of browsers alongside Internet Explorer. Yet most users lack the expertise to evaluate or select recommendation tools beyond simple trust. One possible solution would be the creation of a certification or labelling system for recommendation services, comparable to quality marks. Such rules could be advanced through standardization or certification procedures (Del Blanco, 2023; European Parliament, 2024). Their promotion and oversight could fall to international institutions that safeguard cultural and fundamental rights (United Nations Educational, Scientific and Cultural Organization [UNESCO], Council of Europe, European Court of Human Rights [ECHR]). On this background, a more ambitious and radical approach would be to require a dissociation between recommenders and distributors. In other words, to dissociate recommendation and distribution and leave it up to users and creators to decide on the methods of recommendation to which they are exposed. Such an approach would give both users and creators greater control over how cultural content is recommended and accessed (Benhamou et al, 2024).

Another possible strategy for public intervention is to provide *quota policies* aimed at ensuring representativeness. Such measures could require the inclusion of indigenous works not only on streaming platforms, as is already the case in the audiovisual sector in the EU (AVMS Directive), but also in AI models with training datasets (see AI Act 10[3]–[4] requiring representativeness in datasets).

Quota policies have a long history. In the 20th century, many EU countries – including Spain and France, introduced cinema screen quotas to protect domestic films from Hollywood dominance. For instance, under the 1948 French–American Blum–Byrnes agreements, French cinemas were required to reserve a quota of screenings for local films and to levy a 10 per cent tax on cinema tickets aimed at French film production. Similar approaches were later adopted in Korea, Germany, and elsewhere. In

1989, France extended screen quotas to television, mandating that half of programming consist of European works, including 40 per cent in French. Other countries are adopting this type of cultural exception, particularly jurisdictions where the market is not large enough to amortize production costs because indigenous production is not profitable (Benhamou, F., 2017). In Switzerland, for example, a cultural exception exists since 2007 for Swiss TV, with an obligation for TV broadcasters to invest 4 per cent of revenue in Swiss cinema and to allocate 50 per cent of airtime to Swiss or European works (LRTV).

With digital technology, these protectionist provisions have become obsolete. Audiences increasingly turn to on-demand and free platforms such as YouTube, Netflix, or Amazon, which have the scale and resources to produce their own content. Netflix alone, with 300 million subscribers, produced 6,000 hours of programming in 2024 and even placed films at Cannes in 2016 and 2017, raising tensions with traditional producers who argued such works should first be released in cinemas (Benhamou, F., 2017).

The digital shift has prompted calls to extend quotas policies to streaming platforms (European Parliament, 2024). In Europe, for example, the so-called *Lex Netflix* requires platforms such as Netflix and Disney+ to include at least 30 per cent European works in their catalogues – some countries set higher thresholds such as up to 50 per cent in France and Lithuania – as well as to reinvest part of their national revenues into domestic cinema (for example, 26 per cent in France, 20 per cent in Italy). To ensure quotas are effective, platforms must also make indigenous works visible in catalogues and recommendation banners (AVMS Directive, rec. 35: 'Enhancement may be ensured by various means, such as providing a specific European works section on the homepage or in the search tool, promotional campaigns and incorporating the quota in the recommendation banner') (Grece and Tran, 2023). If the quota obligation is not met, it is converted into a tax dedicated to supporting indigenous film production, acquisition, or commissioning. Without such rules, local receipts tend to flow abroad, financing foreign industries rather than local production. Similar approaches exist outside Europe. In Canada, certain platforms with annual revenues above CAD 25 million must contribute 5 per cent of revenues to support indigenous creation. This requirement is being contested by major music (Amazon, Apple, Spotify) and video (Netflix, Prime Video) platforms, which argue that funding indigenous creation exceeds the authority granted to the CRTC under the new law (Vlassis, 2025). Quota systems can be reinforced by diversity indicators like tracking genres, languages, independent artists, and production locations, and by technical tools such as open databases and standardized metadata, which facilitate automated content classification and monitoring (ISRC, ISNI, ISWC; CRTC, 2 January 2023).

Redistribution and regulation: competition law, turnover tax, profit-sharing

Competition law could also be used to address power asymmetries between players and access to metadata (Slater, 2025). Restricting access to data, whether due to high switching costs or contractual transfers, may amount to abuse of dominance under doctrines such as the 'essential facility' (metadata as indispensable for market participation) or 'relative dependence' (artists or clients cannot realistically migrate their data) (Benhamou and Tran, 2016). Therefore, denying creators access to data about their works excludes them from negotiation and valuation processes and may be unlawful. Likewise, preferential treatment of major rights holders – through privileged access to information, visibility, or commercial terms (kind of payola, discussed above, Chapter 2) – risks discriminatory practices (MusE, 2025).

More radical policy solutions can be envisaged such as value redistribution through employee profit-sharing linked to company capitalization and turnover taxes on platforms and AI models. Such measures appear justified given that many firms report ongoing losses while continuing to attract substantial investment (Riom, 2024). These solutions address the broader 'size of the pie' problem by considering the overall corporate value, mostly generated thanks to creative and digital workers (see Chapter 1), rather than narrowly focusing on subscription revenues or balance sheets.

The first radical policy solution of *employee profit-sharing* linked to company capitalization enables workers and other participants to share in financial or strategic results, for instance through tax incentives (Benhamou et al, 2024). States could encourage companies to let workers and other participants share directly in financial or strategic results, for example through tax-incentivized schemes. Models already exist. To name a few, Michelin grants employees bonuses tied to financial performance; Mondragon (Spain), John Lewis (UK), and Danone (France) run employee share-ownership schemes under which employees can acquire shares on advantageous terms; tech firms like Alphabet (Google) or OpenAI offer stock options or equity bonuses. These schemes not only distribute profits more fairly but also increase employee involvement in governance and, in some cases, foster co-ownership.

The second radical policy solution of a *turnover tax* on platforms and AI models enables to channel revenues into a public fund to support artistic creation and improve working conditions in CCS (Benhamou et al, 2024). France, for instance, already applies a 1.2 per cent tax on the turnover of streaming platforms. This approach seems particularly relevant for AI models, where invoicing each input individually is both impractical and inefficient, especially for large language models (LLMs) or other large-scale models using massive datasets. The same approach could be extended to cultural heritage, much of which falls in the public domain yet remains vulnerable to

appropriation. A dedicated 'public domain tax' could therefore help finance independent producers and the creation of new works (Richard, 2025). The same reasoning extends to user data: attempting to remunerate each Internet user is unrealistic, as the statistical value of individual contributions is too low to offset administrative costs. By contrast, a turnover tax provides a simpler redistributive mechanism. Beyond correcting inequalities – such as the precarity of platform workers or the risk of diminishing human creativity – such funds could finance projects of social interest, from public-service social media to data trusts tasked with stewarding cultural data (Benhamou and Dulong de Rosnay, 2025).

Limits of state measures

As mentioned, these measures are not mutually exclusive and may coexist, but their adoption depends on several criteria, including the prevailing national tradition (subsidy, or fiscalist model), as well as the feasibility of each measure. Some measures are realistic and implementable in the short term (for example, artist status, subsidies), while others are more radical and suited to long-term structural change (for example, universal income, turnover tax). Policy makers should therefore prioritize measures by distinguishing short-term, realistic solutions from longer-term, transformative ones. That said, the measures have inherent limitations that must be acknowledged.

Both the subsidy and the fiscals models have *limitations*. The *subsidy model* can have *anti-distributive* effects. Demand-side support (for example, Pass Culture) tend to benefit the wealthiest generations, who finance the consumption of future generations (Benhamou, F., 2017). Supply-side subsidies (for example, public subsidies) often finance works with limited audiences. The granting of subsidies, often decided centrally by an institution, may reflect the biases of experts or politicians rather than the general interest. A more decentralized approach could better reflect citizens' preferences, for example through direct democracy tools such as referendums or public consultations. However, even with these tools, voters may prioritize short-term popularity over long-term cultural preservation (Benhamou, F., 2017). In Switzerland, an initiative *Musikvielfalt* aimed at providing greater support for contemporary music over classical music has just been rejected, illustrating these tensions. The *fiscalist model* also has drawbacks. Rooted in liberal individualism, it struggles to address *cultural diversity* and differences, treating citizens equally in principle but overlooking distinct cultural identities (Romainville, C., 2014).

Measures that support artists like the French *intermittents du spectacle* or Belgium *travailleurs des arts* are often criticized for their high cost to the

unemployment insurance system, administrative complexity, and perceived inequalities between covered artists versus others (Benhamou, Y., 2022). Direct subsidies are also viewed with varying degrees of criticism. In France, for example, support is provided for both artists and producers, which seems to be bearing fruit. Conversely, in Canada, support for artists is sometimes criticized on the grounds that it encourages a certain amateurism, even mediocrity. Likely, more radical proposals such as universal income are often criticized for their high fiscal cost, the risk of reducing work incentives, and uncertainties about their effectiveness in addressing inequality compared to more targeted support (Van Parijs and Vanderborght, 2017).

Discoverability requirements may affect only a subset of users, those who passively rely on algorithmic recommendations. By contrast, they have little impact on the many active consumers on platforms (around 70 per cent on streaming services) who do not rely blindly on algorithms and who are willing to spend money outside platforms to engage with artists through live performances, merchandising, and other experiences (see Chapter 2). Discoverability requirements also face resistance. Many users prefer algorithmic recommendations or familiar styles and are reluctant to be redirected toward other content (see Chapter 3). Platforms, for their part, resist on several grounds. The opacity of algorithms makes guarantees difficult. Platform also claim that the definition of 'indigenous content' lacks precision and they already expand artists' reach via streaming. They further argue that content is driven by user choice rather than discrimination against foreign works, and that royalties paid to artists already support production (extract from Spotify's intervention at the CRTC's public hearings on 29 November 2023, Gatineau, Quebec).

Competition law also has limitations. Enforcement is both time-consuming and resource-intensive, and requires a complex market analysis with multi-sided platforms. Moreover, approaches vary across jurisdictions. Competition law usually relies on *ex post* analysis of abuses of dominance, while in some cases it adopts an *ex ante* approach imposing predefined obligations on designated 'gatekeepers' like the EU Digital Markets Act (DMA). This requires international coordination to ensure comparable conditions for all market players (Benhamou and Tran, 2016).

Turnover taxes and other interventionist measures are not suited to all models, particularly to the fiscal model (Anglo-Saxon). Moreover, state measures face international constraints. Strict measures in one country bear a risk of talent and market drain toward jurisdictions where rules are less restrictive. Conversely, regulatory flexibilities and/or support measures in favour of CCS (for example, creative hubs and cities) can attract talent from abroad. For instance, if one jurisdiction imposes a tax on AI models

or requires royalty payments for training data, an AI company may shift its operations to another country without such obligations, thereby avoiding regulatory costs while still marketing its services globally (Riles, 2014). Even if the tax applies to a company as soon as it targets a market, regardless of its physical presence, such extraterritoriality of laws faces national resistance, as illustrated by the recent objections of the United States to European measures (US Memorandum, 21 February 2025: 'American businesses will no longer prop up failed foreign economies through extortive fines and taxes').

To avoid this *risk of regulatory competition*, *several strategies* are available. First, jurisdictions should intensify international coordination. At the international level, institutions such as World Intellectual Property Organization (WIPO), Organisation for Economic Co-operation and Development (OECD), or UNESCO provide platforms to align rules across jurisdictions (Riles, 2014). Regionally, the EU offers a powerful model, with instruments such as the CDSM Directive reducing fragmentation within the single market. Second, states may seek to extend the extraterritorial reach of their policies, applying rules to companies located abroad (as with the GDPR, AI Act, or DSA) (Riles, 2014). This approach is particularly effective in large markets (EU, US) with strong bargaining power, but less so for smaller jurisdictions. Third, states may rely on incentives rather than obligations. Examples include offering subsidies or tax credits to firms that comply with fair remuneration and cultural policy rules. Other examples include measures that incentivize platforms to invest their budgets into domestic CCIs (local producers, studios, crews), as provided by the *Lex Netflix*.

That said, these limitations should rather call for coordinated advocacy, not for inaction (Fair Muse, 2025). These limits also lead us to suggest a hybrid third model: to rethink state intervention through the creation of framework conditions (as explained below).

Rethinking state intervention: framework conditions for bottom-up creativity

A third model of public intervention consists of creating framework conditions for CVC. By framework conditions, we mean a set of legal, institutional, and economic measures that support and enable all actors in the chain, including intermediaries, to contribute sustainably to the CCS. Unlike direct support, which tend to benefits only the most organized individuals, framework conditions tend to reach all actors in a sector, professionalize them, and improve value distribution (Bing, 2024). They also help local creative workers to withstand international competition. Creative economies like in Africa, Asia and Latin America could become more and more resilient. The measures may include collective bargaining

agreements, tariff recommendations, and strengthened social security, all designed to improve value distribution across CVC (as explained below).

The idea of framework conditions is not new. Many professions rely on regulatory framework that ensures stability and quality. Lawyers and doctors, for instance, are governed by law and professional standards that safeguard practice conditions. In Switzerland, the steel industry benefits from state measures such as reduced tariffs and transport subsidies to safeguard its sustainability. CCS can draw inspiration from such examples.

The intervention must be *tailored to the dynamics* of each value chain, distinguishing between creation, production, distribution and consumption. A liberal approach may suffice where a market exist such as the sale of visual artworks, while subsidy models are more appropriate in areas without market mechanisms, such as artistic research. In music, support measures should concentrate on creation, production and, where relevant, distribution, particularly by strengthening intermediaries such as independent labels, tour managers, and small grassroots venues. Less intervention is needed on consumption, since listeners seem willing to support; however, recent signs of fan concern about artist remuneration suggest that involving consumers in value redistribution could become viable. In video games, as a market-driven sector, support should focus on creation and production, especially creative workers and publishers, rather than consumption, where users are already willing to pay. In visual arts, a speculative market already exists, resembling real estate (Gérard-Varet, 1995). Intervention should therefore focus on production conditions, while leaving consumption largely to market forces. As one interviewee, a cultural institution manager, commented to me: 'A painter must be able to paint in the right conditions; if not, he/she does not fulfil the conditions of the market, he/she is no longer a painter.' Remuneration models could also vary by context: one-off payments in speculative markets, or copyright royalties in mass markets.

Framework conditions can be implemented through *collective bargaining agreements (CBAs)*, which exist in many economic sectors but has been little explored in the CCS. CBAs are agreements between employer and worker unions to establish working standards across a branch or company, covering wages, tariffs, and conditions. In Switzerland, for example, the performing arts CBA sets a minimum monthly salary of CHF 4,500 (EUR 4,800) for employees of theatres under the Union des Théâtres Romands (Benhamou, Y., 2022). While theatre and dance are relatively well organized, sectors like music and video games are less structured and could benefit from public support to build such collective frameworks. Strengthening artist-support structures (cooperatives, production entities, independent labels, studios) is also crucial. These structures provide administrative services, promote salaried employment, and improve redistribution of value (International

Labor Organization, 2023). By enhancing entrepreneurial and technical skills, they also contribute directly to the professionalization of artists and creative workers.

Finally, framework conditions must anticipate *structural changes* such as the impact of AI. Policy measures must accompany these changes, particularly the replacement or displacement of certain cultural professions. Higher education institutions and art schools have a key role in preparing future creators to adapt to new creative labour markets (International Labour Office [ILO], 2023; Piquard, 2024; Ritter, 2024).

This model inevitably opens a 'breach in liberalism' by requiring state involvement in CCS. Yet coexistence between culture and the market is not only possible, it is essential. Recognition in the arts often derives from market dynamics (Merhai and Pasquier, 2022) (EU Study defining visual artist as 'who defines himself as such and is defined as such by some of his peers'). Market logics can improve artists' living conditions and increase the dissemination of works, even if they also risk privileging economic over cultural value. Supporting CCS as a value-creating industry means embedding framework conditions that accompany artistic creation at every stage – from upstream conception to downstream distribution.

Interim conclusion

Given the inherent limits of each policy measure, policy makers should prioritize interventions by distinguishing between those that are realistic in the short term (for example, artist status, transparency obligations, subsidies) and those that are structural and long-term (for example, universal income, turnover taxes). In this book, we advocate for a hybrid model that rebalances power and value across creators, intermediaries, and the public.

That said, as with any cultural policy instrument, each measure carries the risk of producing unintended effects, such as being captured by interest groups or favouring certain actors over others. For example, artist status schemes may benefit established elites or specific categories of artists while excluding other cultural workers. It is therefore essential to plan periodic evaluation to ensure that the measures effectively contribute to cultural diversity and fair value distribution.

Taken together, these political solutions illustrate how states can complement copyright and contract by shaping the broader framework conditions of CVC. The following chapter turns to technological and market-based innovations that interact with these political interventions.

6

Individual and Technological Solutions

In addition to copyright, contract and policy measures, there are numerous individual initiatives and technological innovations that seek to promote fairer value distribution and imagine alternative digital futures. Some are pragmatic and already implemented (for example, opt-in versus opt-out), others are more radical (for example, collaborative governance and fractional royalties), or even utopian (for example, input-as-commons). Some of them could therefore be implemented easily, while others should be treated as exploratory avenues to be assessed empirically before widespread adoption.

Algorithmic resistance: historic revolution – the new digital strikers

The growing concentration of power by platforms and of economic inequalities have triggered calls for algorithmic resistance, forms of struggle against the hidden infrastructures of the digital economy (Durand and William, 2020; Monnin, Tannier, and Thomas, 2023). To justify such algorithmic resistance, some denounce the privatization of knowledge by elites and corporations, calling for its liberation and redistribution for the common good (Swartz, 2011; Monnin, Tannier, and Thomas, 2023). Others advocate economic alternatives such as digital distributism, in which resources are redistributed through decentralized, collective models of ownership such as cooperatives (Berners-Lee, 2024; Westenberg, 2025). Cory Doctorow captures this spirit in his call to 'make Big Tech smaller', warning that 'If we cannot reclaim the means of digital production, we will have lost' (Doctorow, 2025).

These approaches echo earlier revolutions. Just as the great historical revolutions, French, American, agricultural, and industrial, sought to

overthrow unjust systems, today's calls for resistance respond to economic inequalities and the dominance of platform powers (Westenberg, 2025). Likewise, just as the printing press and industrialization transformed society, digital technology, and now AI, represent a new 'information revolution' (Slobodian, 2025).

Yet, unlike industrial workers, digital workers cannot blockade factories. Historically, strikes and lockouts, from 19th-century English textile workers to 20th-century coal miners and journalists, forced employers to negotiate through economic disruption (Kuster Zürcher, 2004). These struggles contributed to the development of trade union rights, notably improving working conditions and supporting the adoption of collective labour agreements (CLAs) (Kuster Zürcher, 2004).

Today, however, the 'means of production' are immaterial. Platforms can decide to close individual accounts, to shut down or withhold services, leaving creators without direct leverage. The social struggle is therefore not between traditional social partners but between creators and platforms that capture much of their value. Instead, resistance takes new algorithmic forms. In Los Angeles, screenwriters secured a 148-day strike agreement ensuring AI tools cannot undermine creative teams (Bensamoun and Farchy, 2020), while in San Francisco activists protested autonomous cars by disabling and even torching vehicles. Around the world (for example, Mexico, China, India, Spain, Italy, Switzerland), platform workers like Uber drives coordinate in online groups to develop algorithmic resistance like demanding access to their data to prove subordination and requalify their employment status (Benhamou, Y., 2021).

Other movements seek to reimagine digital culture itself. Activists denounce the 'enshitification' of the web – the deterioration of online services in favour of advertising and extraction – and call for alternatives such as open-source and decentralized servers (Fédiverse, Framsaft), or even 'permacomputing' – reusing old hardware and running low-energy, solar-powered servers (Socialter, 2024). Still others denounce the attention economy and call for resistance as reclaiming attention: treating it as a scarce resource, resisting its capture by techno-capitalism, and cultivating new forms of collective attention and agency through digital literacy, collective attention, that is, to pay attention together to the same object, to cooperate towards a common goal (Socialter, 2024), or collaborative governance (as explained below).

In sum, algorithmic resistance is the digital heir to past social struggles. Where once workers blocked machines, today creators and users contest algorithms. 'Where there is algorithmic power, there is algorithmic resistance' (Renwick and Gleasure, 2019). It is less about shutting down factories than about reappropriating infrastructures, reconfiguring platforms, and reclaiming agency in the digital sphere.

Set of measures

Poisoning datasets

Artists are organizing to fight what they call the theft of their work, whether through legal or technological means. Examples of *legal resistance* include ongoing litigation initiated by creators. One of the most emblematic is the *Andersen v Stability* case. In January 2023, three American illustrators lodged an appeal with a California court, arguing that text-to-image models such as Stable Diffusion were taking advantage of their work. At issue is the AI models' use of LAION, a German organization that develops datasets that are open to the public, so that AI providers such as OpenAI, Google, and Meta are not the only ones with access to large quantities of training data. These are colossal datasets (5.85 billion images for Laion-5B), which often collect the content of image banks such as Getty Images or ShutterStock, as well as platforms for sharing artistic creations such as DeviantArt, without authorization. According to the artists, the developers steal human creativity and then reduce it to the level of training data. The judicial investigation phase is underway (Le Van, 2025).

Algorithmic resistance using poisoning techniques fights the scraping industry, which saturates servers by ignoring the rules of robots.txt files and crawling without authorization or remuneration (United States Copyright Office, 2025a; Heikkiläarchive, 2023). These techniques use trapping software (Nepenthes, Iocaine), which sends crawlers into an infinite maze of static files ('tarpits') and provides them with unusable data ('poisoned data'). The aim is to waste AI resources (cost in computing power and bandwidth) and to disrupt the quality of AI models by providing them with unusable data. The creators of poisoned data and tarpits are not necessarily seeking to destroy AI models but to protest its imposed use. They denounce a technology that mainly serves big business to the detriment of content creators and web users.

As other examples of algorithmic resistance, artists also turn to tools like Glaze (for images), HarmonyCloak (for music), and Nightshade (for more offensive distortions), which mislead and dissuade AI models from ingesting training data, for example, by contaminating the data, or by making them untreatable by AI models, like perceiving an apple instead of a cat (Heikkiläarchive, 2023; Le Van, 2025; United States Copyright Office, 2025a).

Making content visible or invisible

Activist groups use other algorithmic techniques to resist and reshape visibility on platforms (Tarleton, 2018). For example, Facebook's removal of breastfeeding photos spurred mothers to organize and repost images until the policy was revised. LGBTQ+ and sexual health advocates similarly

contested takedowns that misclassified their content as obscene, reframing them as discrimination. On TikTok, users bypass censorship and amplify marginalized voices by strategically using creative tactics such as metaphors, altered spellings, emojis, or viral trends (for example, musical and dance challenges, hashtags, #BlackLivesMatter, #StopAsianHate) to reach a global audience and make their content more visible). This allows platform users to bypass the limits imposed by the platforms and open up discussion forums around sensitive subjects. It is a modern form of struggle against the invisible power structures wielded by algorithms. It illustrates how users can regain control of their visibility, expression, and narratives, often with creativity and ingenuity (Tarleton, 2018).

Similarly, with AI models, artists could act on and *fill AI databases* to increase their influence (Masure, 2023a). State or non-state actors infect AI chatbots to influence public opinion. For instance, 'Pravda', a Moscow-based disinformation network has infiltrated Western AI tools (for example, ChatGPT, Gemini, and Copilot), flooding them with pro-Kremlin propaganda (Sunlight, 2025). As a result, massive quantities of Russian propaganda (3,600,000 articles in 2024) are now integrated into the results of Western AI systems, polluting their responses with false claims and propaganda. Why shouldn't artists do the same? By acting on AI datasets, they could increase their influence, invite the public to see and experience new things, objects, forms and experiences.

Opt-in versus opt-out

Another field of action for artists is the creation of a healthy digital ecosystem. Between Meta and X's decisions to use users' content, including photos, to train their respective AI models, and DeviantArt's decision to embrace generative AI as a social media for artists, some artists are advocating to opt-in or opt-out their works. Some prefer to form an alliance with tech companies, like 'Spawning Have I Been Trained?', a site to identify whether or not their work is included in the Laion-5B dataset, and if so, to *opt-out* of the training models (EUIPO, 2025). The site is based on the principle that AI companies will always need data and that it is preferable to find ways of letting them obtain it without causing harm to artists. This compromise approach has been criticized, because it allows AI companies to continue to steal creative labour by default and leaves only a small opt-out for the few artists who are sufficiently informed. As a result, other artists prefer their works to be 'opt-out' from the outset, leaving it up to artists to *opt-in* if they agree to their works being used as inputs. They prefer to turn to websites and social networks that prohibit the collection of works posted online by web crawlers and rely on opt-in works only (EUIPO, 2025).

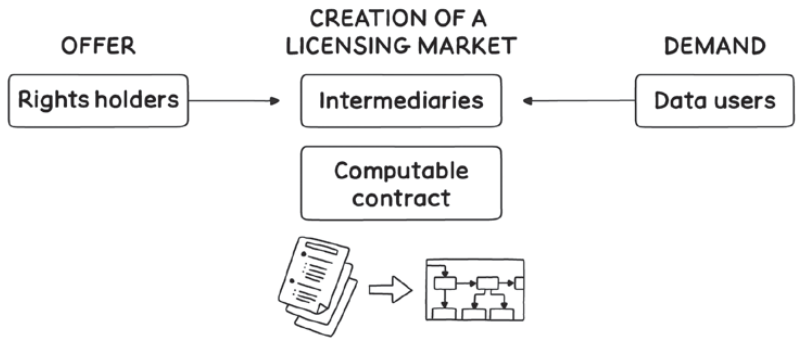
Fractional royalties and collaborative governance

One of the most promising avenues for reshaping the creative economy lies in the integration of Web3 technologies into CVC – blockchain, smart contracts, and decentralized autonomous organizations (DAOs) (Savelyev, 2018). These tools can automate payments, enable fractional royalties, and foster collaborative governance, potentially reducing dependence on traditional intermediaries (De León and Gupta, 2017; European Commission, 2017; Dardayrol and Martin, 2018; Favreau, 2020; Masure, 2023c).

Automated payments and fractional royalties. Technologies can be implemented to support remuneration and rights management. In streaming, blockchain-based solutions are being tested to monitor plays and distribute remuneration in real time (for example, SACEM with Tezos; TikTok with Audius on Ethereum via the Audio token) (Centorrino, Naciti, and Rupo, 2022; Clarke and Boersma, 2017). Proprietary systems also exist to manage music rights (for example, Amra and Kobalt as an independent global royalty collection system) (see Chapter 2). For AI models, combining Web3 with AI makes it possible to calculate and distribute revenues proportionally to the inputs that contribute to an AI work (Masure, 2023a). Tools like ProRata and Reward Simulator trace inputs to allocate revenues to contributors (Mercier, 2025). Blockchain reinforces this by certifying metadata and ensuring traceability, techniques already used in retail (for example, Walmart) and increasingly recognized in courts (for example, Court of Marseille, 20 March 2025, n° 23/00046) (Binois, 2025). Music majors like Universal and Connex are testing similar systems for credit management (Dalugdug, 2025). Likewise, Allfeat has developed a blockchain-based metadata database with a validation protocol (proof of metadata), whereby only certified actors (labels, publishers) can write to the chain. Revenue flows can also be automated: to public funds (for example, Teia.art with donations for creative software), to artists (for example, Rare Governance token), or to communities and click workers (for example, Botto, where community voting drives payments). To address the practical difficulty of attributing value across millions, or even billions, of inputs, thresholds may be introduced to keep such systems workable, triggering attribution and payments only above certain levels, as in Spotify's payout model.

Computable contracts. Another innovation is the use 'computable contracts', that is, machine-readable rules that allow automated systems to process pre-defined licensing terms. AI agents can then search for datasets that meet specific licensing terms – for instance, commercial-use only or under Creative Commons – reducing transaction costs and making large-scale dataset licensing feasible – something crucial in the AI value chain, where data volume and diversity are immense (Benhamou and Dulong de Rosnay, 2025). This helps rights holders and data users match their needs

Figure 6.1: Licensing market



automatically. Ultimately, this could facilitate the emergence of new licensing markets for AI training.

Figure 6.1 shows visually how the licensing market could be facilitated by computable contracts, instead of intermediaries, matching the needs between rights holders and data users.

Collaborative governance. Web3 also offers a toolkit for new governance models (Catlow et al, 2017; Potts and Rennie, 2019; Ohlhaver, Weyl, and Buterin, 2022; Lee and Ejiofor, 2023). Smart contracts automate rule enforcement, while DAOs allow communities of artists, developers, and users to self-organize and make collective decisions transparently (Buterin, 2014; Ohlhaver et al, 2022). These systems can distribute voting rights, resources, or revenues more equitably, reducing reliance on centralized platforms (Buterin, 2014).

Smaller-scale experiments already exist, aiming to strengthen ties between artists and their publics (Benhamou et al, 2024). In the analogue field, examples include the Festival Réel in Villeurbanne, or the Nouveaux commanditaires company, which lets the public decide which works to promote. In the digital field, SoundCloud, for instance, enables users to publish their work and earn points by sharing others' tracks, creating a cycle of collaboration and mutual support. Patreon fosters direct relationships between artists and their fans. Other initiatives experiment with privileged or exclusive access, such as the NFT-based project *Stoner Cats* (2021).

Other initiatives include new licensing protocols encapsulated in NFTs – such as token-bound licences or the Remix NFT model – which links rights directly to token ownership and automate royalty distribution whenever works are resold or remixed. These mechanisms extend copyright into programmable, transparent frameworks that ensure ongoing revenues for creators (Ohlhaver, Weyl, and Buterin, 2022).

In the same spirit of nurturing smaller communities combined with token-bound licences, the World Knowledge Dialogue (WKD), notably through its *Web3 for Better Remuneration* working group, has developed the concept

of Temporary Autonomous Art Zones (TAAZ). Instead of competing with global platforms, TAAZ cultivate local 'bubbles': token-based ecosystems where artistic exchanges reflect the values of a community and circulate within decentralized exchange systems such as Uniswap. Tokens are generated through market transactions or as payment for services rendered to artists (for example, legal advice), and can then be exchanged for other works of art without conversion into traditional currency. In this way, artworks gain value from their negotiability within a thriving local enclave, encouraging circulation as part of a living cultural economy rather than as static assets. It fosters an environment grounded in community exchange and mutual aid (Benhamou et al, 2024).

WKD also proposed a redistributive payment system called FAIR (federated art international redistribution). The protocol uses blockchain and smart contracts to standardize how payments to artists are shared across the value chain. When a work of art is sold, the initial payment can be automatically divided among multiple beneficiaries, such as artists, developers, charities, or other designated funds, according to predefined conditions. Smart contracts make it possible to encode complex arrangements, for example co-ownership structures or royalties on future sales (similar to the resale right, *droit de suite*). By formalizing redistribution in this way, FAIR addresses gaps in social protection for artists. For instance, it could be designed to generate a recurring monthly income from transaction flows, effectively providing emerging artists with a form of basic income and older artists with retirement support (Benhamou et al, 2024).

In short, Web3 offers bold tools for redistributing value and empowering creators. That said, their success will depend less on technological sophistication than on their capacity to integrate into broader cultural ecosystems, gain legitimacy, and remain accessible to the very artists they aim to serve (see limits below).

Limits of individual measures

Technological resistance like *poisoning datasets* is subject to criticism. It has a social cost, as it leads to the deterioration of AI models and leads to a cat-and-mouse game between developers and rights holders (United States Copyright Office, 2025a; Heikkiläarchive, 2023).

Indeed, OpenAI and other AI companies are already working on countermeasures to prevent tarpits and data poisoning techniques. It is also possible that these techniques will become ineffective if AI models manage to filter out useless data or turn to other sources, such as paid content or other media partnerships. Heavy use of tarpits may also increase AI's energy consumption, by forcing crawlers to work unnecessarily longer. This may make them counter-productive, as they contribute to increasing the overall energy load of the web (Belanger, 2025).

Techniques like *making content visible* illustrate how users can regain control of their visibility, expression, and narratives, often with creativity and ingenuity. Yet they depend on platforms that have already been deployed, with the underlying market forces and bargaining logics. So, it is a way of mitigating market logics and playing with existing interfaces, but it does not change the fundamentals and the interfaces themselves.

Web3 solutions face technical hurdles (scalability, cost, interoperability), governance questions (legal enforceability across jurisdictions), and accessibility barriers for artists unfamiliar with blockchain. Many initiatives remain fragile, financially precarious, or too complex to attract widespread adoption. For such models to thrive, they require support from trusted institutions (for example, public foundations) and sustained efforts in education, usability, and design (Benhamou et al, 2024).

These limits lead us to suggest new models, particularly to rethink value distribution through alternative models.

Rethinking value distribution through alternative platforms and input-as-commons

Alternative platforms for the long and middle tail

Alternative platforms for the low and middle tail on streaming platforms (described before) are needed to ensure that small players do not compete on an uneven playing field with superstars. A useful analogy is the *Liste Art Basel* satellite fair, which supports emerging galleries and promising artists at early career stages. Rather than replicating the pro rata streaming model, which risks reproducing 'superstar dynamics' on a smaller scale, the idea is to devise models structurally independent of streaming logics (Mulligan and Cirisano, 2024).

A *first cluster* of measures relates to *curation and pricing models*, as suggested by MIDiA. Alternative platforms could prioritize manual curation and playback credits that users top up at will (one credit = one listen), ensuring a fixed remuneration rate per stream (similar to Getty Images' credit system). Artists and labels could set discretionary prices, requiring more credits for certain tracks while offering others for free to attract listeners, analogous to royalty-free photo libraries. Access could also be combined with curated freemium models, supported by advertising and radio-style broadcasts, for example, interviews, reviews, and editorial curation reminiscent of Apple Music Radio or Bandcamp. These mechanisms would rebalance discoverability in favour of smaller artists while preserving flexibility in monetization.

A *second cluster* of measures involves *direct payments from fans*. Alternative platforms could integrate tipping, direct purchases, and virtual goods into Shopify-style artist shops (Mulligan and Cirisano, 2025). This model fosters a more transparent alignment of incentives, reducing dependence on opaque pro rata pools. Legally, it also echoes the principle of contractual

freedom: artists regain control to set thresholds and decide remuneration models vis-à-vis their audiences.

A *third cluster* of measures would draw inspiration from *gaming monetization* strategies (see Chapter 2):

- *Microtransactions and add-ons*: free listening combined with purchasable extras (virtual concert tickets, customizable 'skins', VIP badges, or randomized 'loot boxes' granting exclusive tracks or remixes).
- *Battle pass subscriptions*: seasonal subscriptions offering exclusive mixes, behind-the-scenes content, or limited collectibles.
- *Live streaming and events*: integrated virtual concerts, listening parties, and festivals.
- *Play-to-earn (P2E) models*: users earn or acquire digital tokens through engagement (for example, fan governance rights, exclusive access to releases), tradable on secondary markets.
- *Peripheral revenue and brand collaborations*: merchandising, brand partnerships, and cross-media collaborations with fashion, gaming, or film franchises, supported by integrated advertising on artist pages or playlists.

These mechanisms diversify revenue streams and create differentiated value propositions tailored to fan engagement levels, moving away from 'one-size-fits-all' subscriptions.

Finally, in case of success, there could be *remuneration and usage threshold*, after which artists could leave the alternative platform to go (back) to the traditional platforms to compete with the big players. Inversely, in case of under-exploitation, artists on traditional platforms could opt-out, regain control over their rights to place them on alternative platforms. This echoes the EU CDSM revocation right (Art. 22). Authors and performers, who have transferred their right, can claim them back when their works are not or insufficiently exploited after a reasonable time, so they can seek a new partner to exploit the work. This 'use it or lose it' rule prevents works from sitting unused and to give creators a second chance at commercial use. With the long tail, we could define a non-exploitation threshold (for example, three clicks), after which artists can claim their rights and transfer them to alternative models of platforms.

Such alternative platforms could be collectively governed as cooperatives, like Subvert, a music marketplace collectively owned by musicians, labels, and individual supporters who purchase memberships (see Chapter 2).

The same could apply to AI models. These would be AI models whose inputs would come from emerging artists or those wishing to participate in such a model. The remuneration threshold could also be raised, as Spotify and YouTube already do. For example, inputs would be remunerated and credited only when they reach a certain statistical weight in the outputs. This would

increase the income per artist, while reducing management costs. This would finally be in line with the CDSM directive, since the remuneration would be deemed appropriate and proportional to the economic value of the service provided, including for artists who do not reach the statistical weight sufficient to trigger remuneration.

AI input-as-commons

While long-tail platforms address imbalances within existing markets, a more radical approach is to reconceptualize the very infrastructure of AI as a public good. Under the 'input-as-commons' model, the data feeding AI systems would be treated as a *collectively managed resource*, governed by the community of contributors and users rather than proprietary platforms (Berlant, 2016; Dulong de Rosnay and Stadler, 2020; De Clippele, 2023). This echoes alternative platforms like Subvert, governed as a cooperative (see Chapter 2). In this sense, AI is positioned alongside other common goods and cultural commons, echoing the legal notion of 'common heritage' that requires shared management and protection against over-appropriation.

The commons would be organized through decentralized technologies, notably Web3. Inputs collected from the internet or other sources would be *tokenized* (NFTs or fungible assets), providing guarantees of origin and traceability. These tokens would be immutably recorded on a blockchain, creating transparency and reducing risks of manipulation. Governance would be carried out by a *DAO*, where contributors and users hold voting tokens. This enables collective decision-making on contribution rules, quality criteria, ethical exclusions (for example, harmful content), and allocation of revenues from commercial use of AI models. Curation would be *open and collaborative*: any user could propose data, while reputation systems and peer validation mechanisms would ensure quality. Expert contributors could further structure the commons into specialized modules (linguistic corpora, image banks, sound libraries), tailored to different AI models. When developers or companies use these commons to train models, *micro-royalties* would be levied and redistributed to contributors, recognizing their role in building the data infrastructure and enhancing the collective value of inputs.

Several *implementation barriers* remain though (as further detailed below). *Technically*, robust infrastructure is required (for example, sidechains, sharding) to handle massive data volumes. Interoperability standards would be needed to integrate diverse data types and AI tools. *Legally*, harmonizing copyright, similar rights (for example, *sui generis* database right) and data protection across jurisdictions poses major challenges, requiring an international framework flexible enough to accommodate commons governance while ensuring enforceability.

Notwithstanding, adopting an input-as-commons framework would shift AI from a centralized and opaque system toward a decentralized, participatory model. It would democratize access to AI technologies, redistribute benefits more equitably, and embed transparency and accountability in data use. Positive externalities (shared knowledge, cultural enrichment) would be maximized, while negative externalities (concentration of power, exploitative data capture) could be addressed through inclusive and participatory governance. This approach is in line with, and extends the logic of cultural heritage into the digital age: AI training data, like cultural artifacts, generate collective value and therefore require collective management and protection against excessive commercial appropriation (MacMillan, 2022). This model opens the way to a new era in which every internet user can become a stakeholder in the construction of a regulation and development of AI systems.

Implementation challenges

Implementation challenges remain though. Regarding the alternative platforms, operationally, they may struggle to finance themselves without strong network effects and without institutional support, while bearing high administrative costs (for example, for manual curation). Legally, the platforms may face compatibility issues with different contracts (as artists and their representatives set their own terms), coupled with different consumer protection and copyright laws (for example, the 'three clicks' proposal with the CDSM's revocation right). Regulatory pushback is also likely, especially against monetization strategies already scrutinized in gaming (for example, loot boxes, play-to-earn).

Regarding *AI input-as-commons*, operationally, Web3 technologies mean governance complexity, with a risk of low participation and capture by dominant actors. They also mean high transaction costs (administering payments to thousands of contributors), offsetting redistribution benefits. They also mean open contributions with a major risk of low-quality, biased, or harmful data, or a free-rider who might use commons input without contributing back if enforcement mechanisms are weak. Legally, they mean possible intellectual property (IP) conflicts (determining ownership on millions of data), conflicts with data protection laws (tokenizing data risks conflicts with control rights like the right to be forgotten versus immutability of blockchain) and jurisdictional enforcement (decentralized governance clash with traditional contract and liability frameworks).

Without minimizing them, these concerns should be qualified. Operationally, CCS seems today much more responsive and coordinated than before, which increases its bargaining power and ability to scale up solutions (see Chapter 4). The previously suggested blueprint with

thematic and universal data intermediaries may improve feasibility and scalability (see Chapter 4). These proposals should work with institutional support only, which means getting policy makers more involved, for instance in setting-up thematic and universal data intermediaries (see Chapter 4). Technically, solutions evolve and become more accessible (Chapter 6). These proposals may be seen as a kind of utopia or wish for a better digital future, which can only be achieved with everyone's commitment, from policy makers to all stakeholders of CVC.

Interim conclusion

This chapter examines bottom-up and technological strategies to rebalance value distribution in the digital and AI era, ranging from pragmatic opt-in/opt-out tools to radical reconceptualizations of infrastructure. Algorithmic resistance is framed as the digital heir to historical social struggles, where creators and users contest algorithmic control (for example, dataset poisoning, visibility hacks, and collective opt-outs). Web3 solutions (for example, token-bound licences, fractional royalties) explore how blockchain and DAOs can automate payments, foster collective governance, and sustain artistic ecosystems beyond market logics. A key innovation is the extension of licensing to the informational value of creative works, governed through data trusts, which inverts current contractual asymmetries by letting creators set their own terms. More radically, the input-as-commons model reconceptualizes AI training data as a collectively managed heritage.

That said, cross-cutting barriers remain significant. Economically, many models face high management costs and uncertain revenue streams, with redistribution at risk of being symbolic unless supported by institutional funding. Legally, there is a structural mismatch between decentralized governance (DAOs, blockchains) and territorial copyright, contract, and data protection laws, making enforcement complex and uneven across jurisdictions. Operationally, coordination among heterogeneous stakeholders, ensuring participation, and preventing capture by new intermediaries (for example, data trusts replicating platform power) remain difficult. Finally, many models risk remaining at the margins, without incentives for major platforms or AI developers to engage. These challenges do not discredit the proposals but highlight the need for careful sequencing, institutional support, and pilot experiments before scaling.

Based on this, stakeholders, particularly policy makers should draft a roadmap, by prioritizing which is most suited and achievable given their current ecosystem, and by distinguishing between immediate, medium-term, and long-term measures (for example, short-term contractual templates vs long-term input-as-commons). Together, these measures

provide a continuum of solutions: from pragmatic tools ready to deploy, to experimental ideas requiring testing, to radical visions for a better digital future. What they share is a commitment to rebalancing power and value in CVC, giving creators and communities greater agency over the data and works they produce. Ultimately, it is about everyone's better digital future.

Conclusion: Myths and Demystification

To summarize, we propose to list the ten challenges identified in Part I, which are often cited by the press and interest groups in a narrative bordering on myth, and to contrast them with counterarguments that debunk them. The idea is to provide nuance in preparation for the solutions presented in Part II:

1. The *platform economy* transforms online interactions into value and exploit many of the actors involved in the creative process, including platform and digital workers, without paying them or by underpaying them. However, this value capture is not inevitable, as solutions are possible for sharing value better.
2. The *AI economy* exploits creative labour without authorization or remuneration. Numerous actors participate in the creative process without being remunerated properly. However, AI comes in many different models and uses, which makes it difficult to apply a general and cross-disciplinary solution.
3. There is a concentration of power in platforms and machines. However, there is also a *multiplication of players* involved in the creative process, from individual creators to audiences and intermediaries, whose role remains central to promoting creation.
4. The cultural and creative sector (CCS) seems to focus on the creation itself to understand the capture and distribution of value. However, there are *multiple value-generating layers*. It is not only about the creation itself but also about all practices, creative or less creative, involved in producing something new, as well as all associated information (metadata of the work and usage data) whose value can be commercial, cultural, social, or educational.
5. Creativity spreads throughout the entire creative value chain (CVC), with multiple players, so that we can speak of *fluidity*, or even a gaseous state of creativity. This fluidity also blurs the boundaries between producers and consumers, the tangible and intangible, creativity and technology, old and new industries, individuals and communities, digitized and

natively digital objects, buying and renting goods, physical and virtual locations, local and global presence. This fluidity also leads to the crossing of sectors, in particular the use of several media to tell a story or create a coherent artistic experience (transmedia), or the use of the same work across several media (cross-media).

6. There is a *tension*, or at least a coexistence, between the materiality and immateriality of cultural goods. Creative digital and analogue forms complement and nourish each other.
7. For some, there will be a *dynamic of intermediation* with many existing or new intermediaries (streaming platforms, social media, AI models), while for others there will be a dynamic of disintermediation (decentralized platforms with Web3). However, there seems to be a coexistence of the two dynamics. Especially after the utopia of decentralization and power to the artists, there is a trend towards the recentralization of platforms.
8. *CCS* can be described as a *catalyst* for societal, economic, political, and legal change like new economic models and shared governance.
9. Challenges regarding employment and the *distribution of value* require multiple nuances.

   Value is being captured by platforms. At the same time, there is a proliferation of intermediaries involved in the creative process, which means that revenues are fragmented among many players. That said, interest groups seem to have learned the lessons from the challenges of the internet in the 2000s and appear better prepared to address the challenges of the AI value chain than they were with the platform value chain two decades ago.

   Copyright is often called upon to help artists. But copyright is not a salary for artists. It is intended only to encourage production, and it seems exceptional, today as in the past, to make a living through copyright income. Other solutions are therefore possible and necessary.

   AI technologies can be a threat to the creative economy. But AI tools also make art more creative and experimental. And creativity has always adapted to technological change, so it seems that we should be moving more towards human-machine coexistence than true replacement. Moreover, if AI models could have a substitution effect with synthetic content, human creation cannot be fully replaced or automated, for example, the human being doing the work of mediation, selection, contextualization, and verification. In addition, the inflation of AI works runs the risk of leading to 'AI fatigue', 'AI slot', and 'AI collapse ultimately, so that human creation will still be needed. That said, there is a real risk that AI models will replace humans to create mass production. Yet humans may well be the only ones capable of creating artistic works with high added value. Finally, solutions exist for remuneration on inputs.

However, to take account of different models and uses, a graduated solution seems preferable.

10. Challenges regarding *cultural diversity* require nuances too.

We are heading towards a 'self-driving culture' dominated by platforms and AI models. But this doesn't have to be the case, an alternative will promote bottom-up creativity, including with technology that can serve better cultural diversity.

As solutions, Part II proposes several avenues, which are not mutually exclusive and can coexist. These solutions take account of the creative process, focusing mainly on sharing value in relation to platforms and generative AI, two themes leading to a high concentration of value. These solutions are derived not only from copyright law but, given its limitations, also from other fields:

1. The *first solution* relates to the area of *copyright and contract*. It is proposed to rethink copyright in its distributive and collective function, with a view to sharing value better. This could be achieved through a right to remuneration for creators, coupled with a right to participate in the informational value their works generate, extended to digital workers (*a priori* through data cooperatives). To achieve this, I suggest a blueprint for fairer distribution, particularly to contractualize value across the chain as follows:
   - A model of commons-based copyright licence should be used, in order to extend to all kinds of data like the informational value of the work as well as to digital workers and, thus fostering an open and inclusive open data ecosystem. The model should include modular clauses to take into account the multiple dimensions of value, and be implemented by a social licence and technological tools. This is reminiscent of class struggle and worker demands that led to the transformation of value chains, in CCS and other sectors;
   - The model should be combined with collective governance, particularly existing CMOs or new data intermediaries, to improve effectiveness and enforcement.
2. As a *second solution*, beyond copyright and contract, *political measures* are proposed. These range from improving working conditions of creative workers to more radical interventions such as turnover taxes and profit-sharing schemes based on company capitalization. More broadly, we suggest rethinking state intervention in terms of improving creative framework conditions that support bottom-up creativity across the value chain, including for intermediaries.
3. As a *third solution*, *individual and technological measures* are proposed. These range from algorithmic resistance, reminiscent of earlier labour struggles

to automation of governance and revenue flows, enabling communities to self-manage and determine their own values and redistribution mechanisms. Finally, we propose rethinking value distribution through alternative platforms, collectively owned and governed, for the low and middle tail and through 'input-as-commons' approaches, both of which open pathways toward more equitable digital futures.

Glossary

AGI	Artificial General Intelligence
AI	Artificial Intelligence
AI Act	Artificial Intelligence Act, Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonized rules on artificial intelligence and amending Regulations.
AIE	Artistas Intérpretes o Ejecutantes Spanish, i.e. Collective Management Organization (CMO).
ASCAP	American Society of Composers, Authors and Publishers
AV	Audiovisual
Blockchain	A decentralized, distributed ledger technology that securely records transactions across multiple computers, ensuring transparency and immutability.
BMI	Broadcast Music, Incorporated
BNF	Bibliothèque Nationale de France
Buy-out	A one-time payment for the full rights to use a creative work, with no future royalties owed to the creator.
CCE	Creative Content Exchange
CCI	Cultural and creative industries
CCS	Cultural and Creative Sector
CDSM	Copyright in the Digital Single Market
CISAC	International Confederation of Societies of Authors and Composers
CJEU	European Union Court of Justice
CMO	Collective Management Organization, i.e. specialized organizations administrating rights on behalf of multiple authors or rights holders, licensing uses and collecting and distributing royalties in a centralized manner.

CNM	French National Council for Music
CPI	French Code de la Propriété Intellectuelle
CRM Directive	Directive 2014/26/EU on collective management of copyright and related rights and multi-territorial licensing of rights in musical works for online use.
CVC	Creative Value chain
DDEX	Digital Data Exchange
DGA	Data Governance Act
Directive 2001/84/EC	of the European Parliament and of the Council of 27 September 2001 on the resale right for the benefit of the author of an original work of art.
DMA	Digital Market Act
DRM	Digital Right Management
DSA	Digital Services Act
DSP	Digital Service Provider
ECL	Extended Collective Licenses
GAN	Generative Adversarial Network
GDP	Gross Domestic Product
GEMA	German Collective Management Organization for Music
GTC	General Terms & Conditions
ICDCE	Intergovernmental Committee on Diversity of Cultural Expressions of UNESCO
ICE	International Copyright Enterprise
IFCCD	International Federation of Coalitions for Cultural Diversity of UNESCO
IFPI	International Federation of the Phonographic Industry
INA	Institut National de l'Audiovisuel
InfoSoc Directive	2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society.
Input	The data or information fed into an AI system or algorithm for processing and analysis.
IoT	Internet of Things
IPR	Intellectual Property Rights
ISBN	International Standard Book Number
ISO	International Standardization Organization
ISP	Internet Service Providers
ISRC	International Standard Recording Code for sound recordings.

ISSN	International Standard Serial Number
ISWC	International Standard Musical Work Code for compositions
LLM	(Large Language Model) A type of artificial intelligence model trained on vast amounts of text data to understand and generate human language.
Machine learning	A branch of artificial intelligence where algorithms learn from and make predictions or decisions based on data.
MCC	Model Contract Clauses
MMOs	Massive Multiplayer Online
MPAA	Motion Picture Association of America
NFT	Non-Fongible Tokens
OCSSPs	Online Content-Sharing Service Providers
Output	The result or product generated by an AI system, such as text, images, or other data.
PRS	Performing Right Society
RCP	Responsible Contracting Project
RIAA	Recording Industry Association of America
Rome Convention	Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (1961)
SACEM	French Collective Management Organization for Music
Safe harbour	Liability regime that exempts online platforms from responsibility for user-generated content, provided they meet specific statutory requirements such as notice-and-takedown procedures and good-faith compliance.
SAG-AFTRA	Screen Actors Guild-American Federation of Television and Radio Artists
SNEP	French National Syndicate of Phonographic Publishing
TDM	Text and Data Mining
ToS	Terms of Services
UDHR	Universal Declaration of Human Rights
UGC	(User-Generated Content) Content created and published by users rather than by professional creators or brands, often shared on social media and other online platforms.
UMAW	Union of Musicians and Allied Workers
USCO	US Copyright Office

VLOPs	Very Large Online Platforms
VR/AR	Virtual and augmented reality
Web3	Web 3.0, referring to the next generation of the internet that aims to be decentralized, user-owned, and powered by blockchain technology.
WIPO	World Intellectual Property Organization
WKD	World Knowledge Dialogue
WPPT	WIPO Performances and Phonograms Treaty (1996)

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