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EDITORIAL

New forms of finance and funding in the cultural and creative industries. Introduction to the special issue

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Abstract
This Special Issue seeks to address the perennial question of support options for the cultural and creative industries (exacerbated due to the impact of COVID-19) by bringing together articles that examine and explain various dynamics in CCI financing and funding. The articles in the Issue are diverse in their approaches, methods and data. They range from conceptual, qualitative, and case studies, to analyses based on survey data and granular 'big data'. The articles mainly address digital fundraising technologies and investment practices. Strikingly absent in this collection of studies are modes of funding in which governments and public providers occupy center stage. Innovation in financing and funding appears to be more the result of new modalities (i.e., technology-driven) than of fundamental shifts in thoughts about how the cultural economy could be approached and how the CCI should be financially sustained. The articles in the Issue suggest the emergence of a new funding paradigm, which steps away from a clear demarcation between public and private in terms of interests and financing modes. This new paradigm embraces collaborative funding mechanisms such as crowdfunding, incubator and accelerator finance, and other pooled investments, as well as digital fundraising technologies that facilitate new modes of asset finance and tokenized funding. Future research themes are being suggested: the merging of project funding with structural budgets, the emergence of new business models and improved labor market conditions due to technology-driven aids, shifts in transaction costs, and issues related to regulation and legislation.

Keywords Finance · Funding · Creative industries · Innovation · Technology · COVID-19

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1 Introduction

The first quarter of the twenty-first century has challenged the world with epochal changes affecting every aspect of our communities, including the arenas in which the Cultural and Creative Industries (CCI) operate (Borowiecki et al., 2016). These changes continue to accelerate with the ongoing developments and possibilities in digitization and intelligent technologies, and as new players and instruments have become a feature in the CCI. Markets in the CCI are undergoing dynamic change, driven by globalization, technological and societal developments, and a more entrepreneurial-oriented system of public funding. The coronavirus pandemic has further reinforced these developments. Cultural products and services, as well as the demand for artistic/creative content, are being reshaped. New players in the digital economy have entered markets. Cultural taste and consumption have shifted, and cultural production is being redesigned (Betzler & Leuschen, 2021). The rules of the game in the CCI are being reinvented, and evoking changes in the behavior of market participants.

This also affects the procurement of resources. Financing and funding in the inefficient markets of the CCI (characterized by suboptimal resource allocation, uncertain demand behavior, and market failure) have traditionally relied on a combination of various public and private resources. Concurrently, existing participants and new entrants to the creative economy face renewed opportunities and new types of risks. For example, low interest rates have attracted investors to innovative companies backed by venture capital funds, incubators (including publicly funded ones), and the services of numerous crowdfunding providers (Block et al., 2018). Novel technologies, including reward-based crowdfunding and peer-to-peer lending on platforms (Tosatto et al., 2019), and virtual currencies processed through the blockchain technology (Patrickson, 2021; Peukert, 2019), can be expected to increase the efficiency of entrepreneurial finance by reducing transaction costs and information asymmetries, also in the CCI. Individuals and firms operating in the CCI are known to show reluctance in using "other people's money" (Sigurdardottir & Candi, 2019, p. 4), while professional funders express distrust of artistic and creative producers (Lee et al., 2018; O'Dair & Owen, 2019), indicating that a new funding paradigm does not emerge per se.

The Special Issue focuses on new forms of finance and funding, and their implications for organizations and markets in the CCI. The Issue seeks to address the perennial question of support options for the CCI by bringing together articles that examine and explain various dynamics in CCI financing and funding. The CCI span sectors as diverse as the performing and visual arts, music, film, TV and radio, gaming, design and fashion, publishing and advertising, museums, crafts, literature, and heritage.

The Issue comprises an article examining access to finance as experienced by innovative firms in the creative industries, on the basis of primary data collected through a questionnaire issued in the United Kingdom (Di Novo et al., 2022).

It includes two articles dealing with crowdfunding: one that conceptually relates the phenomenon of crowdfunding to important themes in cultural economics (Handke & Dalla Chiesa, 2022), and one that examines the determinants of a very specific form of crowdfunding (remote donations via a platform) in the case of street performers, based on secondary data generated by the platform (Elkins & Fry, 2021). Additionally, the Issue comprises two articles that address funding by means of cryptocurrency, highlighting the functionalities of initial coin offerings (Knott et al., 2022) and NFTs and contracts (van Haaften-Schick & Whitaker, 2022).

This introduction provides a brief outline of recent developments in public, private, and hybrid funding in the CCI, before overviewing the articles. It discusses how the articles take up a role in foregrounding a new funding paradigm that encompasses collaborative mechanisms such as crowdfunding, incubator and accelerator funding, online public feeder investment markets, and social funding, as well as the technologies that enable new forms of funding.

2 Background

2.1 Cultural and creative industries

The CCI, or those industries that require creativity as a key production input, have been depicted as social network markets ruled by complex incentive schemes and multifaceted interactions between demand and supply (Potts et al., 2008). Some scholars articulate the centrality of intellectual property and CCI concerns about "the exchange of finance for rights in intellectual property" (Handke et al., 2018; Lash & Urry, 1994, p. 117; Loots, 2017; Towse, 2017). It is commonly acknowledged that the CCI, besides economic value, also yield cultural and societal value (Hutter & Throsby, 2008; Klamer, 1996).

In recent years, in many national legislatures the CCI have simultaneously experienced an attenuation of direct government assistance and an increase in support for creativity-driven and innovative entrepreneurship. Both trends have been motivated by the belief that the CCI are a source of job creation and economic development. Segments of the CCI, such as the publishing industry, are primarily oriented toward national markets, with sovereign states seeking to develop subsidized survival strategies to ensure cultural diversity (Betzler, 2020; Smiers, 2003). Other industries, such as the gaming, film, and music industries, are global winner-take-all markets, in which a small proportion of large firms reap astronomically high returns on investment while other producers barely make ends meet (De Vany & Lee, 2001; Elberse, 2013). The labor markets in CCI face enduring challenges (Abbing, 2002; Baldin & Bille, 2021; Menger, 1999). Entry barriers to all roles within the CCI are generally low, whereas the risks for newcomers and incumbents alike can be high (Caves, 2000). These conditions are changing, given that the production and distribution of cultural content have dematerialized, the competition for consumers has intensified, and funding via platforms and crowd-sourcing mechanisms has increased

(Aly-Tovar et al., 2020; Duffy et al., 2019; Hennig-Thurau et al., 2021; Kübler et al., 2021; Mendes-Da-Silva et al., 2016; Peukert, 2019).

2.2 Public, private and mixed funding

Over the past 50 years, a substantial literature has developed in which the ongoing challenges facing the arts and cultural and creative industries have been addressed with the tools of economic theory and analysis (Ginsburgh & Throsby, 2006). One prominent theme has been support for the arts, in which the welfare economics of public support, with questions as to government grants, cultural trade and regulatory protection, have taken center stage (Ginsburgh & Throsby, 2006; Peacock, 1994). Privatization tendencies in many sectors of the economy have been intensifying. At present, there is a tripartite division between public, private, and hybrid or mixed funding, among which the boundaries are starting to blur. Shifts from direct public funding to the indirect support or support of entrepreneurship by governments, accompanied by the rise of new sources of private funding, are leading to a new funding landscape, also in CCI.

Firstly, in terms of public funding, there is an observable shift from direct support, as in the form of lump sum subsidies, to indirect support. For example, in 2018 the European Council agreed to allow reduced VAT rates on e-publications, in line with the lobbying and recommendations voiced by one of the editors of this Special Issue (e.g., Borowiecki & Navarrete, 2015, 2018; Borowiecki et al., 2016). This important and underappreciated indirect support in the form of reduced VAT rates has been a tremendous success in supporting European CCI and the EU digital sector, and in increasing cultural consumption.

Another shift in terms of public funding has moved toward the promotion of self-employment and entrepreneurship. Founder loans, trade fairs, innovation and export promotion, and the provision of business advice are increasingly used by different levels of government. Incubation and start-up funding programs, initiated by national or regional economic development agencies, are aimed at supporting commercial entities operating in the CCI. Government venture capital funds are projected to yield financial gains and societal benefits, in the form of regional development, job creation, and other positive externalities (Block et al., 2018). Local authorities have started to collaborate with networks of impact driven financiers, private investors, banks, foundations, and venture capital firms, with the aim of effectively equipping local (social) entrepreneurship ecosystems. Examples of multi-party funding can be identified at all levels of government (Dalle Nogare & Bertacchini, 2015). In Europe, for example, the European Union and the European Investment Fund guarantee banks' loan portfolios to the CCI.

Secondly, in terms of private funding, low interest rates have steered investors toward innovative ventures in several sectors. Investments are facilitated by venture capital funds, incubators, and crowdfunding providers (Block et al., 2018). In the CCI, friends, family, and optimistic speculators play a key role in helping individuals make their creative dreams come true via the provision of equity finance. As a mode of altruistic giving by which single funders pool money for a project via internet-based platforms, crowdfunding is on the rise. Because of the absence of collateral, the uncertainty that comes with the novelty of many creative products ('nobody knows'), and the lack of data, micro-firms and SMEs in the CCI find access to banks difficult and therefore frequently rely on 'bootstrapping' (van Blitterswijk et al., 2019). Corporate venture capital is buoyant, under the conditions of financial returns and low-risk access to new markets (van Blitterswijk et al., 2019). Individual 'angel' investors and 'angel' networks are on the lookout for early-stage ventures with growth potential (Block et al., 2018). However, the extent to which the CCI benefit from private funding in its various forms needs further clarification.

Thirdly, the distinction between public and private support is attenuating, and several contemporary funding instruments combine aspects of a grant, a debt, and equity financing (Brabham, 2017; van Blitterswijk et al., 2019). Examples of this include government venture capital funds operating by means of hybrid private–public funds (Block et al., 2018), and social venture capital funds that provide seed-funding to social entrepreneurs with the dual aim of generating financial returns and social payoffs. Accelerators and incubators rely on mixed financing to offer start-ups financial resources, space, mentorship, access to networks, and other economies of scale (Vanderstraeten et al., 2016). In turn, the revenues from such micro-clusters of innovation and knowledge are split between the funders and start-up. The funding of innovative start-ups and the more traditional cultural organizations in the CCI is becoming of an increasingly mixed composition.

Not only is systematic knowledge of new forms of financing in the CCI limited, but the academic literature on many developments in entrepreneurial finance is in its infancy (Block et al., 2018). With this Special Issue, the guest editors wish to open up this important topic of research in the CCI from a cultural economics perspective.

3 Overview of the articles

The articles accepted for inclusion in the Issue are diverse in their approaches, methods and data. They range from conceptual, qualitative, and case studies, to sophisticated analyses based on survey data and granular 'big data' derived from a platform's user data. The latter is expected to become increasingly common in empirical cultural economics research for the study of consumer and producer behavior (e.g., Behrens et al., 2021), yet is not exempt from ethical and legislative concerns. With automated (streaming, charts, backing) data collection, revealed rather than stated preferences in mass and niche consumption across socio-economic groups can be surveyed. Access to finance, crowdfunding and tokenized funding are the key themes of the Issue.

3.1 Access to finance for innovators

The first article examines the relevant theme of access to finance, in particular in relation to innovation. In their paper, Di Novo and co-authors (2022) explore the extent to which creative industries firms engaging in innovative activities apply for and, when they seek it, are able to access finance, including which kind of funding is available for these firms. It is well known that many firms in the CCI are highly innovative, but their innovative activities may not be covered by traditional definitions of R&D. Due to the nature of the products and services of the CCI, their innovative quality cannot be signaled through patents and prototypes, which is common in most other industries, but rather through other protection mechanisms such as copyright, trademarks, and registered design rights. Therefore, Di Novo and co-authors are interested in understanding whether engaging in innovation makes a difference in signaling a firm's potential to providers of finance. They raise the following main research question: Are CCI companies that have previously engaged in innovative activities more or less likely to receive funding (i.e., any funding, be it internal or external)?

They investigate the question by drawing on data from a survey conducted on behalf of the UK Creative Industries Council in 2017, covering 575 firms, which the authors argue makes a nationally representative sample of the UK creative industries. The creative industries are broadly defined in terms of the DCMS definition. The dataset contains information on the firms' operations, including funding and management structures. A firm's innovation status is self-reported: (1) has the business introduced new products or services in the past three years, (2) has it carried out organizational improvements over the same period.

Based on this dataset and estimating two-equation Heckman models, the authors reach a number of interesting results about funding in the creative industries (Di Novo et al., 2022). Firstly, their results indicate that prior innovative activities do not appear to provide a strong signal to providers of external capital. When there is a signal, it appears to be negative. Secondly, they find that companies engaged in complex innovations (having realized product and business improvements) appear more likely to rely on personal and information capital to meet their needs.

The results confirm and further enhance the existing knowledge. It is harder for firms in the creative industries to access funding than it is for innovative firms in other industries. Additionally, informal and personal capital as a source of funding for innovative businesses in the creative industries plays an important role. Both results point to the need to identify and develop new forms of finance and funding to help creative businesses grow, which is the exact subject of this Special Issue. Di Novo and co-authors refer to instruments such as "start-up or IB-backed loans, specialist equity and crowdfunding approaches", but do not go into greater detail (as it is outside the scope of their paper).

3.2 Crowdfunding the cultural and creative industries

In comparison with more conventional modes of raising up-front capital, crowdfunding may overcome the separation of investors and users. Crowdfunding may be a superior method of financing the production of artistic goods and services that have public-good attributes (generally considered of less value by commercial investors) and to attract funders who are widely differentiated in terms of their willingness-to-pay (Handke & Dalla Chiesa, 2022). Hence, crowdfunding is believed to solve the problems that are typically associated with the private provision of public goods (Hudik & Chovanculiak, 2018). The first is the assurance problem, which refers to the possibility that individuals will not contribute to funding a public good because they believe others will not contribute (Sen, 1967). The second is the free-rider problem, which refers to the possibility that individuals will not contribute to funding a public good because they believe others will contribute (Samuelson, 1954).

Handke and Dalla Chiesa (2022) discuss crowdfunding from a theoretical cultural economics perspective. They highlight the CCI as one of the most important areas for the application of crowdfunding. Innovative business ideas in the CCI have often led to application in other areas. While much empirical work exists on complementarities and substitution between crowdfunding and alternative means of financing cultural production, Handke and Dalla Chiesa extend our understanding of crowdfunding by addressing three fundamental questions: (1) Under what circumstances is crowdfunding a superior alternative to traded means of financing innovative projects? (2) What types of crowdfunding are best suited for specific CCI? (3) What is the potential of crowdfunding for cultural and creative industries?

Based on eight themes, Handke and Dalla Chiesa convincingly argue that cultural economics provides a useful structure for explaining much of the crowdfunding phenomenon. These themes include: the cost structures of supplying existing creative goods to additional users, quality and demand uncertainty, differentiated products and preferences, the attributes of experience goods and public goods, socially interdependent demand formation, the intrinsic motivation to create, the diverse values of creative works, and crowding effects. The authors further discuss several benefits of crowdfunding as compared to other costly means of funding cultural production. Handke and Dalla Chiesa stress that many economic characteristics of the CCI are associated with market failures and that crowdfunding attempts to solve these by reducing allocative inefficiencies and/or promoting cultural diversity. Much of their discussion focuses on the complex interactions between the various consequences of crowdfunding, while acknowledging that looking at specific market failures in isolation can be misleading.

Based on theoretical discussions, Handke and Dalla Chiesa (2022) make the fundamental point that cultural economics *as it is* can help better explain crowdfunding and inspire further development of crowdfunding practice and related policy. Considerable scope for future research encompasses the mapping out of theoretical and empirical work. The authors suggest empirically exploring the extent to which crowdfunding is able to promote allocative efficiency and diversity in the CCI and addressing potential change in the market while crowdfunding platforms and relevant technologies mature. Furthermore, the authors recommend scrutinizing the appropriate approach to statutory regulation, given that crowdfunding has grown and expanded largely free from regulatory constraints.

A very specific case of crowdfunding is that of remote donations in the form of cashless tips to street performers via a platform and a payment app. In their article "Beyond the realm of cash: street performers and payments in the online world", Meg Elkins and Tim Fry (2021) explore how street performers transition away from the use of cash as a form of an exchange and toward generating income via digital platforms. The study provides a fascinating account of a transition process toward the digital realm, likely one of the biggest disruptions in a centuries-old practice of performing in public.

The article makes several contributions to the literature on funding. The most relevant for the Special Issue is the distinct contribution to the cultural crowdfunding literature: the article provides a unique study of the determinants of digital payments and how they matter for the online earnings and careers of street performers. Novel data from a digital platform for street performers enables the authors to study the earnings (online donations) received by more than 3,700 active buskers in North America, Europe, and other parts of the world. The data is then used to illuminate the factors that influence the received incomes. In particular, determinants such as the artist's genre, online platform characteristics, regions, and the digital payment methods used for income creation, are surveyed.

The value of a study of street performers should not underestimated, for several reasons. Firstly, buskers contribute to the creative fabric of a city by making it a more vital and attractive space. This is usually appreciated by tourists, and often also by locals. Secondly, arts labor markets are notoriously competitive and poorly paid. Therefore, being able to present their work in public in exchange for financial support is an opportunity welcomed by many performers, emerging and established alike. Thirdly, street performance provides an opportunity to test works, plays or songs in front of an audience, and serves as a stepping stone toward more permanent positions in the creative industries (Elkins & Fry, 2021).

The use of digital platforms in order to generate revenue is becoming increasingly common in our lives, and it is encouraging to see that this is also the case in the CCI (e.g., Regner, 2021; Tosatto et al., 2019). In the digital age, consumers carry less cash and often prefer digital transactions when consuming, including arts and cultural goods and services. Digitizing payment has been enabled by various technological advancements over the past decade or so, but the impact of COVID-19 has greatly accelerated the transition to digital, contactless transactions.

3.3 Tokenized funding

The digital age has also created a number of investment vehicles with the potential to alter entrepreneurial financing. Initial coin offerings (ICOs) and non-fungible tokens (NFTs) are two forms of tokenized funding, both part of the cryptocurrency industry. As a programmable system for secure digital ownership and greater transparency of trade, the blockchain and blockchain-inspired technologies are likely to affect an artist-centric digital ecosystem of the CCI (Patrickson, 2021).

Firstly, ICO (also referred to as 'token offering') represents a novel form of entrepreneurial finance, sharing many features with the mechanism of investment-based crowdfunding. ICO works via the internet, with firms or individuals making an open call for funding through cryptocurrencies (Fisch et al., 2021). As transactions take place via the blockchain technology, they are transparently displayed and trackable. In the article "Uncovering potential barriers of using Initial Coin Offerings to finance artistic projects", Knott et al. (2022) argue that ICOs appear promising as a way to finance artistic projects, but have not yet become widely adopted. In-depth interviews with knowledgeable informants have led to key insights on the subject.

ICOs provide investors with tokens that can be traded like shares. Similar to crowdfunding, ICO is a form of crowd investment widely accessible to various categories of investor, from venture capital investors to fans with limited budgets. Its (global) accessibility is partly due to the imperfect legislation regulating the investments, unlike regular crowdfunding practices that are subject to legal constraints and country barriers (Lazzaro & Noonan, 2021b). While ICOs are relatively less vulnerable to direct regulatory intervention, they are exposed to the policy uncertainty constitutive to the blockchain (Zhang et al., 2021). ICO also differs from most crowdfunding by the presence of a collateral: investors receive tokens as a monetizable equivalent value. These tokens are immediately tradable on a secondary market after the conclusion of the ICO, and they may provide a return on the initial investment (Fisch et al., 2021; Knott et al, 2022).

The article contributes to the theme of the Special Issue by the identification of four key barriers to the further adoption of ICOs. A first pertinent barrier comprises the legal shortcomings of ICO, leading to a conflict between blockchain's immutability and data privacy rights. A second barrier, and this seems to be the more multifaceted one, is what the authors refer to as "investment restrictions". For example, having been able to raise cryptocurrency does not imply that project organizers dispose of cash to pay all production costs, nor are they permitted by national legislation to spend capital raised at their own discretion. As a consequence, projects reliant on ICOs suffer a poor reputation owing to investors who quickly cash out or deviate their share of the project to more lucrative industries. In addition, price fluctuations resulting from coin volatility are not favorable to the reputation of ICO. The absence of consumer interest is identified as a third barrier, and the resistance of intermediaries serves as a fourth barrier. Indeed, the transparency of the blockchain technology may not be something that all intermediaries in creative industries embrace, because it may make them lose market power and control over the access to important resources such as information, consumers and networks.

While the examples of creative projects that Knott et al. (2022) provide are taken from the media and entertainment industries, ICOs can, in principle, be accessed as a financing resource for small-scale artistic projects. ICOs may have the potential to reduce the information asymmetries so typical of creative production (Caves, 2000). Key benefits to artists and producers of ICOs could be the format of the smart contract (securing ownership and the clearance of intellectual property rights), relatively lower transaction costs, and the obsolescence of intermediaries in artistic production. However, while some transaction costs may decrease, they are not outweighed by new forms of transaction costs (administration and preparation) and the uncertainty that arises with this new financing form. The same holds true for investors, who, due to coin volatility, may see some risks reduced but other risks emerge. Existing intermediaries lose rather than win, and new intermediaries step forward to accommodate financial transactions. The authors suggest that regulation and perhaps a third party (a new intermediary) needs to be set in place before ICOs gain ground in the financing domain (Knott et al., 2022). However, the "ICO rush" has also been criticized, leaving doubts about its sustainability as a fundraising practice (Patrickson, 2021).

A second form of tokenized funding potentially beneficial to artists and other creative producers is the non-fungible token (NFT). In their article "From the Artist's Contract to the blockchain ledger: new forms of artists' funding using equity and resale royalties", van Haaften-Schick and Whitaker (2022) elaborate on how NFTs relate to digitized forms of (smart, self-executing) contracts between visual artists and buyers. In the United States, the *Artist's Reserved Rights Transfer and Sale Agreement* (more colloquially the 'Artist's Contract', issued in 1971) conceptually entails a powerful funding mechanism via its resale royalties terms.[1] In its current state, it is poorly applied, though. In practice, it comes with potentially high transaction costs owing to the administrative burden of registering the consecutive ownership of artworks. NFTs based on blockchain technology implemented via digital arts trading platforms (e.g., SuperRare) may lower these transaction costs and alter the risks of incomplete contracting, opening up new sources of funding for artists.

Using the example of the artist Hans Haacke, and by presenting summary statistics of his works sold at auction (1987–2020), the authors show that the application of the (analogous) Artist's Contract had no significant economic impact on the art market. The authors suggest that the very low number of Haacke's contracted works being resold can be explained by the contractual restrictions. Even if the contract secured the artist's rights (to reproduce, rent, or exhibit), the intended financial impact (royalties in the event of resale or up to 15% added value) did not materialize.

Van Haaften-Schick and Whitaker (2022) argue that blockchain-based platforms using NFTs address some of the shortcomings as well as the challenges of the artist contract in the digital world. Resale terms are listed on selected blockchain platforms (Monegraph, UppstArt, SuperRare, Nifty Gateway, OpenSea) and percentage share of revenue to artists and collectors is publicized on SuperRare (Franceschet, 2020). NFTs possess the capacity to make ownership transparent, limit attempts at counterfeiting and fraud, and protect intellectual property. They can be traded as digital assets, and their digital environment enables fast and transparent sales processes that reduce transaction costs when contracts are signed. The authors see potential in NFTs and blockchain-based sales platforms to revolutionize traditional art market conditions. Because these platforms operate outside the taste-forming systems of traditional art markets, and can appeal to new groups of buyers who are not socialized by the usual hierarchies of taste and aesthetic conventions, they could lead to an expansion of the art market and new sources of income for artists (van Haaften-Schick & Whitaker, 2022).

The article makes two main contributions to the theme of the Special Issue. Firstly, the authors show that blockchain-based NFT technology opens up new models of rights management in the arts market, increasing the importance of the private artist's contract. Contractual relationships between buyer and seller change

[1] The principle of resale royalties has been in force and harmonized in Europe since 2006 for living artists and since 2010 for estates. In some other countries, the United States and Canada for example, resale royalties are implemented by private contracts.

fundamentally when the trustworthiness of knowledge in registered data replaces trust in gatekeeper institutions. In this respect, the article contributes to a deeper insight in digitized sales processes and contracting, and provides a basis for new contract-theoretical approaches in cultural economics research.

Secondly, the authors convincingly demonstrate that the artist sees the opening up of diverse direct funding models, because blockchain technology holds the structural potential to radically lower transaction costs and to enable micropayments through new financial structures of tokenization and smart (that is, self-executing) contracts. NFT technology facilitates more complete contract systems by enabling sales tracking, transparent registration of works in progress, and displaying artists' achievements and careers (van Haaften-Schick & Whitaker, 2022).

Undeniably, the COVID-19 pandemic has stimulated various digital processes worldwide and the cryptocurrency art market has experienced a boost (Statistia, 2020). Whether the technology will be disruptive and lead to an actual transformation of the art market and to business model innovation, is yet to be seen. Van Haaften-Schick and Whitaker (2022) suggest that the potential of smart contracts and blockchain technology for the art market is far from exhausted. It is imaginable that via smart contracts artists could receive a portion of museum admission tickets or royalties on publications about their work, or that they set up collaborative investment trusts and pool resale royalties (Whitaker & Grannemann, 2019).

Pooling resources such as rights is a form of shared ownership, which, as digital assets, has the potential to be bought and resold at any point in time (Patrickson, 2021). This volatility can be a cursed blessing, as also suggested by Knott et al. (2022): more funding may become available, from a diversity of funders, but with no guarantee of permanence. In this manner, emerging technologies such as that of tokenized funding (ICOs and NFTs, for example) have the potential not only to transform the funding, and thus sale, distribution, and ownership of creative goods and assets. By having an impact on the nature and origin of funding sources, the pooling functionality of digital technologies may also affect the production of artistic content. The specific role of traditional intermediaries in these new possibilities remains to be seen (Table 1).

4 Contribution of the special issue to the theme of financing and funding

This Special Issue reveals a certain preponderance of private over public or hybrid forms of financing the CCI, while the *creative* (more commercially-oriented) industries do not receive significantly more coverage in the articles in comparison with the *cultural* industries. The lack of articles about new modes of public funding is probably due to the limited extent of innovation in the public support of the CCI. Innovation in financing and funding appears to be more the result of new modalities (i.e., technology-driven) than of fundamental shifts in thoughts about how the cultural economy could be approached and how the CCI should be financially sustained. It seems significant to note that four out of five articles in the Issue discuss new forms of financing that would not have arisen without the existence of recent

Table 1 Summary of the articles in the Special Issue

	Sector	Focus	Research Question(s)	Methods and Data	Contribution to Cultural Production
1. Starving the Golden Goose? Access to finance of innovators in the creative industries (Di Novo et al., 2022)	Cultural and creative industries, DCMS's definition	Explores the extent to which CCI firms that engage in innovative activities are able to access finance when they seek it.	The question of whether companies in the CCI that have previously engaged in innovative activities are more or less likely to receive internal or external funding.	Methods: Regression analyses, estimating two-equations models (Heckman). Data: Survey among 575 firms. The dataset contains information on the firms operations, including funding and manager characteristics.	Prior innovative activities in CCI do not serve as strong signals to providers of external capital, and where there is a signal, it appears negative. Companies engaged in complex innovations appear more likely to rely on personal and informal capital to meet their needs.
2. The art of crowdfunding arts and innovation. The cultural economic perspective (Handke & Dalla Chiesa, 2022)	Cultural and creative industries (CCI)	Crowdfunding via online platforms; online financing of projects by means of open calls for contributions.	Three fundamental questions: (1) under what circumstances is crowdfunding a superior alternative to traded means of financing innovative projects? (2) What types of crowdfunding are best suited for specific CCI? (3) What is the potential of crowdfunding for the CCI?	Theoretical discussion paper	Several benefits of crowdfunding are revealed, relative to other costly means of funding cultural production. The complementarities and substitution between crowdfunding and alternative means of financing cultural production are discussed.

Table 1 (continued)

	Sector	Focus	Research Question(s)	Methods and Data	Contribution to Cultural Production
3. Beyond the realm of cash: street performers and payments in the online world (Elkins & Fry, 2021)	Performing arts (street performance), music, circus	Developments in modern technologies that increase fans' (financial) engagement with street performers.	The question of whether the type, popularity and self-marketing of an artist affect the number and value of donations.	Methods: Regression analysis using Heckman's selectivity model. Data: Characteristics and donations (number and value) on street performers from the online platform Busk.co	Street performance is positioned as a commercial performance opportunity for emerging and established artists to test the market.
4. Uncovering potential barriers of using Initial Coin Offerings to finance artistic projects (Knott et al., 2022)	Cultural and creative industries (CCI)	Initial Coin Offering (ICO) as a novel form of reward based tokenized crowdfunding, promising to fund artistic projects, yet not being adopted in the CCI.	The question of the barriers to the adoption of ICO as a novel form of funding projects, from the viewpoint of creators.	Methods: Interviews Data: 35 semi-structured interviews with artists and makers in the CCI, as well as software developers engaged in building ICO applications (for the CCI).	Artistic projects are framed as a speculative investment. Investors appear to frequently reallocate capital, causing uncertainty for project initiators. Intermediaries appear to block this new form, and consumers (yet) lack knowledge of, and interest in ICO.

Table 1 (continued)

	Sector	Focus	Research Question(s)	Methods and Data	Contribution to Cultural Production
5. From the Artist's Contract to the blockchain ledger: new forms of artists' funding using equity and resale royalties (van Haaften-Schick & Whitaker, 2022)	Visual Arts	Developments of sales contracting with artists through the emergence of blockchain technology.	The question of whether blockchain can create new funding models reliant on the principles of the Artist's Contract.	Mixed methods of database research (e.g. archival records of sales and revenue data), literature review, descriptive statistics/data on private and public sales. Case studies (the artist Haacke and the platform SuperRare).	The monetization of artistic products is contingent on copyright regulations and contractual conditions such as royalties, a process into which NFTs could play a role. Platform providers serve as new gatekeepers; the future role of current gatekeepers is questioned.

	Contribution to the theme of the Special Issue	Contribution to Cultural Economics theory	Future prospects
1. Starving the Golden Goose? Access to finance of innovators in the creative industries (Di Novo et al., 2022)	The paper suggests the need for new and innovative financial instruments to help CCI businesses innovating and growing.	The paper contributes to insights in the difference between "strong" signals of past innovation activity, such as patents and prototypes, and "weak" signals, such as copyright, trademarks and design rights.	The roles of social capital and personal wealth in funding and innovation; new funding instruments for the CCI; subsectoral heterogeneity in the CCI and funding opportunities; heterogeneity in access to funding in relation to personal features.

Table 1 (continued)

	Contribution to the theme of the Special Issue	Contribution to Cultural Economics theory	Future prospects
2. The art of crowdfunding arts and innovation. The cultural economic perspective (Handke & Dalla Chiesa, 2022)	The paper focuses on the pioneering features of online crowdfunding platforms and financing campaigns supportive of innovative cultural projects.	Eight central cultural economics topics in the crowdfunding literature are identified, as well as the economic characteristics of CCI associated with market failure. Crowdfunding is deliberated as a case in point that offers more efficient solutions than other means of financing creativity, by reducing allocative inefficiencies and/or promoting cultural diversity.	The extent to which crowdfunding promotes allocative efficiency and diversity in the CCI; potential change as the market for crowdfunding platforms and relevant technologies mature; the appropriate type of statutory regulation; the usage of crowdfunding data to develop empirical insights beyond crowdfunding.
3. Beyond the realm of cash: street performers and payments in the online world (Elkins & Fry, 2021)	The paper focuses on the implications of the dying nature of cash transactions, including the reduction of the interaction between street performers and fans. The emergence of online donation platforms allows fans to donate digitally, as well as potentially build a relationship with the artist by providing contact details.	The paper addresses the CCI as a market of supply and demand, highlighting that the platform is able to increase/maintain demand. If cash is the only form of payment, numerous consumers disappear, because their willingness (or ability) to pay any price in cash is inexistent.	The role of (similar) apps in a cash-free world, and applicability to regular theatre or other CCI; changes in the activity on donation-platforms as a result of COVID-19.
4. Uncovering potential barriers of using Initial Coin Offerings to finance artistic projects (Knott et al., 2022)	The problems of ICOs as perceived by artists are highlighted (the emergence of speculative investment bubbles, weak legal and regulatory control, limitations of fractional ownership, efforts and risks for artists). Risks shift rather than diminish. The lack of regulation on the blockchain causes coin volatility, price fluctuations, risks, and potential losses for investors.	While some transaction costs may decrease, they are not outweighed by new forms of transaction costs (administration and preparation) and uncertainty. ICOs may have the potential to reduce the information asymmetries typical for creative production (Caves, 2000). New forms of intermediation are suggested.	Data privacy rights; legislation and regulation for cryptocurrencies; new forms of ex ante funding of cultural projects; the complementarity (or substitution) of digital fundraising technologies; roles of traditional and new intermediaries.

Table 1 (continued)

	Contribution to the theme of the Special Issue	Contribution to Cultural Economics theory	Future prospects
5. From the Artist's Contract to the blockchain ledger: new forms of artists' funding using equity and resale royalties (van Haaften-Schick & Whitaker, 2022)	Blockchain-based NFT technology could change basic conditions of the art market (increase the importance of the artists' contract), by facilitating sales tracking, transparent registration of works in progress, and of artists' achievements and careers. Digital payment systems and procedures facilitate the payment of royalties and other forms of income.	Blockchain-based NFT technology may reduce information asymmetries and lower transaction costs. Contractual relationships between buyers and sellers change, as the trustworthiness of knowledge in registered data replaces trust in gatekeeper institutions. The paper contributes to a deeper knowledge of digitized sales processes and contracting, and provides a basis for new contract-theoretical approaches.	Blockchain's potential of lowering transaction cost and automation of royalty payments in various art domains; beneficiaries of micropayments through tokenization and smart contracts; distribution of income generated through blockchain technology; changes in transaction costs; new models of rights management.

digital technologies (Elkins & Fry, 2021; Handke & Dalla Chiesa, 2022; Knott et al., 2022; van Haaften-Schick & Whitaker, 2022) and two articles offer a detailed treatment of *investment* in the CCI (Di Novo et al., 2022; Knott et al., 2022).

4.1 Digital fundraising technologies

The articles in the Issue elucidate how automated systems secure either (micro)payments to, or the financing of, a wide range of culture providers: from street performers to music bands hoping to release their first album, fashion designers eager to market a collection, to large media companies. While the CCI have long been affected by the rise of digital *production* technologies, followed by digital *distribution* technologies that allow the virtualization of many aspects of culture (Peukert, 2019), the Issue documents the emergence of a third digital turn in the shape of a broad palette of 'digital *fundraising* technologies'. These digital fundraising technologies allow financial transactions at a global scale, which may benefit not only the digital production and distribution of cultural content, but also the production and distribution of physical content, *tangible* in the case of goods and *live* in the case of services.

Questions remaining unaddressed include the way in which payment applications that enable spontaneous patronage, crowdfunding, financial compensations based on self-executing contracts through the blockchain, and ICOs, will relate and react to one another. Will such digital fundraising technologies converge into one overarching system for efficient transactions, or diverge and remain very specific modes for specific applications? Will they become tools that merely facilitate transactions already in place, or will they create their proper, new markets in which new-fangled types of transactions occur (cf. the NFT art marketplace for collectible digital assets)? Technological developments like these will likely affect the reconfiguring of the production, distribution, and monetization of cultural content that was already happening as a result of the *platformization* of cultural production in many aspects (Duffy et al., 2019; Peukert, 2019).

4.2 Investment practices in the cultural and creative industries

For various reasons, investment (the traditional mode of raising up-front capital through credit or sales of equity) in the CCI is not a given (Caves, 2000; Di Novo et al., 2022; Knott et al., 2022). Owing to the difficulty of finding access to regular investors such as banks and venture capital, and to not being able to predict clear returns on an investment, CCI organizations and individuals looking for funding frequently rely on 'bootstrapping' (van Blitterswijk et al., 2019) or turn to the public provision of funding. In theory, it could be expected that investors would appreciate a cultural project as an asset that stores pecuniary value and yields competitive returns in future (Knott et al., 2022). However, the two articles to the Issue highlight that project investment in CCI is not evident. Even firms with a track record of producing innovations rely on their own networks, rather than a broad range of investors, in order to fund new projects (Di Novo et al., 2022). While potentially attractive to investors due to their flexibility and limited risk, investments in CCI projects by means of ICOs have been restricted by legislative barriers, a lack of knowledge and interest, and adverse intermediaries (Knott et al., 2022).

Crowdfunding is a particular case, and comes in various forms: pooled altruistic donations, crowd-sponsoring, pre-selling, or in the shape of a loan or investment with returns that are financial or shares, equity or the like (Röthler & Wenzlaff, 2011). Crowdfunding may overcome the separation of investors and users (Handke & Dalla Chiesa, 2022) owing to the 'emotional appeal' that projects might have on backers. This contrasts with ICOs, in which an emotional commitment to arts and culture is minimal, and investors speculate profitably on CCI successes. Other forms of investment (angel investors, clustered family or small business investment companies, mini-bonds, IP-investment funds) have not been addressed in the Special Issue, given that they are less common in the CCI compared with, for example, the social entrepreneurship domain. However, the ease with which digital fundraising technologies and tokenized funding allow for unconventional investors as well as investees to step into the process, may lead to more thorough modifications of CCI's funding patterns.

4.3 The immutability of public funding?

Strikingly absent in this collection of papers are modes of funding in which governments and public providers occupy center stage. In many countries, governments as well as quasi-public institutions are committed to supporting the cultural sphere financially, by means of direct and indirect subsidies funded by taxation. Governments' activity in cultural crowdfunding has been noted (ECN, 2018; Rykkja & Bonet, 2020), but real innovations in public funding fail to materialize.

It may be a matter of time before the various developments in the technological and social realms will affect public spending, decision making, and policy. Particularly in the aftermath of a pandemic, during which governments have been entrusted with preventing societies and sectors from collapsing (Banks & O'Connor, 2021; Betzler et al., 2020), it is yet to be seen whether or not, and how, innovative funding mechanisms come into being and how they affect the CCI. Europe, for example, is deploying a high level of resources on the CCI to help tackle major societal challenges (cf. the New European Bauhaus movement). For this purpose, the European Commission stimulates cross-sector partnerships that rely on mixed funding and may lead to scalable solutions with returns on the original investment, which could be distributed among the financiers.

5 The future of finance and funding in cultural and creative industries

The call for papers for the Special Issue invited theoretical, conceptual, econometric, and empirical studies, based either on primary or secondary data, which analyze new forms of cultural finance and funding and their implications for organizations and markets. The Issue sets out to explore how new forms of finance and funding affect the nature, perception, supply of, and demand for cultural goods and services. It wishes to inspect the effects of innovation in finance and funding, with regard to, for example, advocacy, justification and policy (Owen et al., 2019).

Furthermore, the editors have an interest in how, where, and why hybrid forms of funding come into existence. How can any potential economic problems, such as information asymmetries and the crowding out of sources of funding arising from the involvement of multiple parties, be addressed? Another theme relates to the emergence of new (intermediary) roles to facilitate the new ways of financing, and concomitant changes in the production and distribution of goods and services in the CCI. Taken together, the papers in this Special Issue address several of these themes. Adding to the above, there are other areas to be researched. These include issues related to budgeting, new business models, shifting transaction costs, and new regulation and legislation.

5.1 Merging project funding with structural budgets

The studies in this Special Issue primarily address project funding, and particularly funding for innovative projects. However, the CCI include cultural institutions where a major part of the need for funding is related to running costs (comprising salaries, rents, and so forth). In many cases these are sunk costs financed by public funding. The new funding instruments are not tailored to this, but rather to innovation and special projects. This means that new projects could become prioritized, crowding out regular cultural production. Far more research is needed in terms of the consequences of crowding out sources for funding and the efficiency of various funding instruments in a sector associated with market failure. Furthermore, there are interesting questions related to CCI catering for local versus global markets, and the need and opportunities for funding. What about the funding of more conventional cultural production modes? Adjusted roles of public funding and patronage in this cultural production? Non-western perspectives should be included.

5.2 New business models and improved labor market conditions through technology

All being technological aids, the various modes of remote donations through platforms and tokenized funding differ considerably in terms of the predictability of the earnings of their beneficiaries. This is important in relation to how creativity is organized and marketed, and to business models and labor market conditions (cf. Duffy et al., 2019). Automated contactless platformized micropayments to buskers

(Elkins & Fry, 2021), as well as tokenized compensations for artists via smart contracts (van Haaften-Schick & Whitaker, 2022), deposit money on creators' bank accounts in unpredictable amounts and moments. The project financing generated through crowdfunding (Handke & Dalla Chiesa, 2022) and ICOs (Knott et al., 2022) is unlike earnings from patronage or copyright (passive income). Both systems aim at overcoming the high up-front costs of creation, and both require clear project campaigns and financial plans. Regardless of the opportunity costs of drawing up such plans and the uncertainty of the outcomes of the fundraising efforts, project initiators of crowdfunding and ICO campaigns have considerable control over the amount and timing of the financial means to be expected. What remains to be seen, however, is whether these digital fundraising modes have the potential to result in meaningful and repeated financial contributions to the earnings of individuals or the structural budgets of firms and institutions. Will they lead to business model innovation in the CCI, and significant additional earnings at the individual level?

5.3 Shifts in transaction costs

The digital era has transformed transaction costs, as is made apparent by the articles in the Issue. While it is regularly assumed that technology alleviates transaction costs, digital fundraising modes also install new forms of transaction costs. Prior to the advent of digital fundraising technologies, fundraising was an entirely different activity for the creators of artistic content. Previously, fundraising activities required human capital and thus physical meetings with potential financiers, and the mobility, time, and budgets to arrange these meetings. The 'scope' of earlier financiers was more limited – in institutional type, location and numbers – than that facilitated by today's technologies. Potentially, in large numbers, backers contributing small amounts of money to projects represent a global market.

However, to overcome the information problems of potential financiers as well as their search costs, today's producers of cultural content must invest in online presence beyond the regular website or viral campaigns. Online profiles and presences must be built and maintained. This may require investments, such as in recommender algorithms to model individuals' preferences (Klingner et al., 2021). In today's virtual marketplace, it is not only crucial to create highly satisfied consumers, but also to prevent that eventual consumers' dissatisfaction is signaled to potential investors (who have access to online product reviews). Individual producers in the CCI are obliged to engage in continuous online self-branding, which according to Duffy et al., (2019, p.4) only "exacerbates the *precarity* of career fields that are characteristically unpredictable and individualistic." While these workers were formerly stirred by the expectations of any next project awaiting them, they are currently "assured they're just an app-tap away from monetizing their side hustle." Such high levels of online connectivity can be demanding in emotional terms, and is costly, also from an opportunity cost perspective.

Finally, existing intermediaries may become obsolete in providing selected access to cultural content, in line with streaming platforms that have started to function as new gatekeepers, highly reliant on proprietary algorithms (Bonini & Gandini, 2019). New intermediaries may step forward to accommodate financial transactions through digital technologies.

5.4 Regulation and legislation

As highlighted, none of the articles explicitly addresses regulation or new forms of financing in the public sphere. Implicitly, some of the articles raise questions regarding regulation and legislation, mostly because these are not up to date, as in the case of crowdfunding (Lazzaro & Noonan, 2021a, 2021b). In addition, the blockchain is still associated with volatile and largely unregulated financial trade (Patrickson, 2021). The legal development of NFT markets lags behind the technological and market dynamics and faces multiple challenges, often tangential to national and supranational legal regimes, as van Haaften-Schick and Whitaker (2022) have shown in the case of resale royalties.

Other legal issues relate to questions of customer identification and verification, monitoring and compliance obligations, data security, transaction or investment rights. NFT platforms are often run by startups surrounded by and at risk from unethical behavior and moral hazard, such as pump and bump schemes, bidding scams, or untrustworthy storage. Meanwhile, a heated debate is raging among experts and government officials about the extent to which these markets have the capacities for self-regulation, or whether private and/or public governance systems in the forms of supervision or control bodies are needed (Pryor, 2021). The digital trade in artistic products is one particular area in which the effects of unethical behavior and moral hazard are still little researched. Experimental designs could explore which legal frameworks are best-suited to alleviate the information asymmetries surrounding digital distribution and fundraising platforms.

5.5 Moving beyond generalizations

The Special Issue does not feature comparative and longitudinal studies. At a time when finance is renewing, it would be interesting to see where, how, and why shifts in finance and funding occur, how these shifts affect budgets and spending behaviors of producers and consumers, how traditional institutions (museums, performing arts venues, broadcasting companies, commercial galleries, and so forth) evolve, and, ultimately, how and why new providers emerge. Cross-country or regional comparisons between financial trends that coincide with, for example, digitization, policy priorities in terms of fair practices (van Andel & Loots, 2021), and the observed social turn (Banks & O'Connor, 2021; Bonet & Négrier, 2018), may become themes for future research.

Furthermore, it is important that future investigations address sub-sector heterogeneity within the CCI. The CCI vary widely when it comes to their innovative potential as well as their access to different kinds of funding. These differences need to be explored further in order to develop new instruments that target the disparate needs and conditions of the creative industries' sub-sectors. A museum is undoubtedly very different from an IT-firm, and this heterogeneity needs to be further assessed.

6 Conclusion: the increased pressure of identifying new forms of finance and funding

Cultural and Creative Industries (CCI) face significant challenges threatening the efficiency and impact of their work. These include a decline in public funding, a lack of financial diversification strategies, structural financing issues, the need to develop new skills, and the capacity to tackle digital and green transitions. These challenges have exacerbated due to the impact of COVID-19. The outbreak of the pandemic and consequent lockdown measures have severely affected the production and consumption of art and culture. Among the many medium- to long-term impacts that the crisis will have on the CCI, the OECD foresees that their financial sustainability will be at risk, as a result of a reduction in earned revenues, charitable contributions, and sponsorships. This will be even more relevant for smaller cultural organizations, which are suffering disproportionally due to a lack of, or limited, structural governmental funding (Betzler et al., 2020).

When thinking about future perspectives beyond the COVID-19 crisis, a recovery to the 'old normal' is not considered a viable option. It is widely recognized that the CCI are actually in need of a structural transformation toward sturdier, fairer, and financially more sustainable working practices (Banks & O'Connor, 2021; Comunian & England, 2020). In other words: a systemic transition. However, building a sustainable business and financial model out of those innovations will be a stiff challenge. Most cultural institutions remain dependent on public subsidies, and struggle to design a balanced financing mix. Only selected ones have succeeded in generating meaningful revenues from their business development in the digital space during the crisis.

Nonetheless, the coronavirus pandemic crisis provided momentum to explore the potential (and limitations) of new forms of finance and funding, both in the digital space and the public open space, for the sustainability of CCI. There are examples worldwide of ways in which the CCI have experimented with new formats of interaction and participation during the crisis. Digital payment platforms as a source of artists' income, initial coin offerings to fund artistic projects, blockchain technology, and resale royalties are just some of the innovative, alternative forms of CCI finance and funding presented in this Issue. The Issue documents the advent of a third digital turn in the CCI, in the shape of a broad range of 'digital *fundraising* technologies', after digital *production* and digital *distribution* technologies have found their place in many cultural and creative sectors (Peukert, 2019).

Taken together, the articles in the Special Issue suggest the emergence of a new funding paradigm, which steps away from a clear demarcation between public and private in terms of interests and financing modes. This new paradigm embraces collaborative funding mechanisms such as crowdfunding, incubator and accelerator finance, and other pooled investments, as well as digital fundraising technologies that facilitate new modes of asset finance and tokenized funding. Widely accessible platforms and markets help to "automate, incentivize and authenticate global trade" (Patrickson, 2021, p.585).

The variety of case studies covered here, in terms of context as well as geographic coverage, will hopefully inspire other cultural institutions to explore new business models and strategies in order to secure a financially sustainable and inclusive cultural offering. The editors also hope that the early, pioneering studies brought together in this Special Issue, despite their confines, will constitute an important precursor of further and ever more urgently needed research on new forms of finance and funding in the CCI.

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