

Cultural Institutions and Attractiveness

How Cultural Institutions Contribute to the Development of Regions and Local Communities

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CULTURAL INSTITUTIONS AND ATTRACTIVENESS

Hanna Nyborg Storm

CULTURAL INSTITUTIONS AND ATTRACTIVENESS

HOW CULTURAL INSTITUTIONS CONTRIBUTE TO THE DEVELOPMENT
OF REGIONS AND LOCAL COMMUNITIES

CBS PhD School – Department of Strategy and Innovation

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Cultural institutions and attractiveness

How cultural institutions contribute to the development of regions and local communities

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Summary

The aim of the dissertation has been to investigate the role of cultural institutions in the development of regions and local communities. In particular, it has been studied how cultural institutions can contribute to the attractiveness of these places, and what types of values and benefits are associated with different types of cultural institutions. The dissertation consists of three papers, all of which focus on the role of cultural institutions in local and community development, but approach the concept differently.

The first paper of the dissertation, *Local development policy: Do new culture houses have an impact on migration? The case of Norway*, by Bille and Storm (2021), study the effect of large-scale investments in culture houses in Norway. The culture houses can be seen as a part of an international trend in which cultural institutions, often large with spectacular architectural design, aim to draw the attention of potential tourists, investors and future residents. The Norwegian culture houses have particularly been expected to make the places more attractive for new residents. In the study, we investigate the causal effect of the opening of 52 culture houses in Norway, and find that the investments have not made the municipalities more successful in terms of attracting new residents.

The Norwegian culture houses are claimed to signal a shift in the orientation away from a focus on the broad concept of culture, and onto more elitist forms of art and culture. In the second paper of the dissertation, *From Bilbao to Bodø: How cultural flagships are transforming local cultural life* (Storm, 2022), I use the same case of 52 culture houses to investigate the questions of whether: (1) the establishment of culture houses has shifted the priorities of cultural policy, and (2) how the large investments in facilities have affected the supply of cultural goods and services in the local communities. The results confirm an increased prioritization of the sector in the years following the opening of the culture houses and support that there has been a shift in priority, as there seems to be a stronger support for professional arts and a lower support for activities directed toward amateur organizations and children/youth. There are also strong indications of growth in the “new” arenas of art and culture.

The third paper of the dissertation, *The Benefits and Attractiveness of Local Theaters. Comedy or Shakespeare – does it matter?* represents a more individual approach to the concept, as it studies different types of values and externalities provided by cultural institutions. The

primary aim of the study was to investigate the perceived benefits of having local theaters, and whether it matter what types of theaters are present in the community. Using data from a large-scale survey conducted in Denmark in the spring of 2020, we find that the type of theater has significant impact on the values perceived by the users, while non-users show no preferences for the types of theater located in the municipality. Therefore, we conclude that non-users have no understanding of the different kinds of externalities provided, and the type of supply does not matter for non-user's valuation.

As most previous studies in the field have been case studies that aim to find the economic impact of a single cultural event institution, the papers provide a more general and novel contribution. All three papers indicate, each in their own way, that the instrumental benefits of cultural institutions are limited. This seems to at least be the case in terms of contributing to growth in terms of more residents, as clearly demonstrated in Bille and Storm (2021). This can be considered an argument for the need for a broader focus in both cultural policy and future studies, as the most important impact of arts and culture is not in terms of economic impact but in their cultural or social influence.

Sammendrag

Målet med denne avhandlingen har vært å undersøke kulturinstitusjoners rolle i utviklingen av regioner og lokalsamfunn. Avhandlingen består av tre artikler, som alle undersøker kulturinstitusjoners rolle i den lokale samfunnsutviklingen, men som tilnærmer seg konseptet på ulike måter.

Avhandlingens første artikkel, *Local development policy: do new culture houses have an impact on migration? The case of Norway*, av Bille og Storm (2021), studerer effekten av store investeringer i kulturhus i Norge. Kulturhusene kan sees på som en del av en internasjonal trend hvor kulturinstitusjoner, ofte med spektakulær arkitektonisk utforming, har som mål å tiltrekke potensielle turister, investorer og fremtidige innbyggere. Investeringene i norske kulturhus har særlig vært forventet å gjøre stedene mer attraktive for nye innbyggere. I studien undersøker vi den kausale effekten av åpningen av 52 kulturhus i Norge, og finner at investeringene ikke har gjort kommunene mer vellykkede i form av å tiltrekke seg nye innbyggere.

De norske kulturhusene er påstått å signalisere en dreining fra et bredere kulturbegrep og over på mer elitære former for kunst og kultur. I avhandlingens andre artikkel, *From Bilbao to Bodø: how cultural flagships are transforming local cultural life* (Storm, 2022), bruker jeg det samme case med 52 kulturhus for å undersøke hvorvidt: (1) etableringen av kulturhus har endret prioriteringene i kulturpolitikken, og (2) hvordan de store investeringene i kulturhus har påvirket tilbudet av kulturgoder og -tjenester i lokalsamfunnene. Resultatene viser at det har vært en generell økt prioritering av kultursektoren i årene etter åpningen av kulturhusene, men at det samtidig har skjedd en endring i prioriteringene i form av sterkere støtte til profesjonell kunst og en lavere støtte til aktiviteter rettet mot frivillige organisasjoner samt barn og ungdom. Det er også en sterk indikasjon på vekst i «nye» typer kunst- og kulturarenaer.

Den tredje artikkelen i avhandlingen, *The Benefits and Attractiveness of Local Theaters. Comedy or Shakespeare – does it matter?*, representerer en mer individuell tilnærming til konseptet ved å studere ulike typer verdier og eksternaliteter som kulturinstitusjoner bidrar med. Hovedmålet med undersøkelsen har vært å undersøke de opplevde fordelene ved å ha lokale teater, og om det har noen betydning hvilke typer teater som finnes i lokalsamfunnet. Ved å bruke data fra en stor spørreundersøkelse om teatres verdier, utført i Danmark våren 2020, finner vi at type teater har en betydelig innvirkning på verdiene brukerne av teater

oppfatter, mens ikke-brukere viser ingen preferanser for hvilke typer teater som er lokalisert i kommunen. Vi konkluderer dermed med at ikke-brukere har ingen forståelse av de ulike typene eksternaliteter som teatrene produserer, og at type tilbud spiller liten rolle for ikke-brukere.

Ettersom mye av den tidligere forskingen har bestått av case-studier, bidrar studiene til at det er blitt ny og mer generaliserbar kunnskap på feltet. Alle tre artiklene indikerer på hver sin måte at de instrumentelle fordelene ved kulturinstitusjoner er begrenset. Dette virker i hvert fall å være tilfelle når det gjelder å bidra til vekst i form av flere innbyggere, som tydelig vist i Bille og Storm (2021). Dette bør betraktes som et argument for behovet for et bredere fokus både i kulturpolitikken og i utformingen av nye studier, etter som den viktigste betydningen av kunst og kultur ikke gjelder økonomisk påvirkning. Viktigere er det hvordan kunst og kultur kan bidra til kulturell og sosial utvikling.

1. Introduction

The aim of this dissertation is to investigate the role of cultural institutions in the development of regions and local communities. In particular, I have studied how cultural institutions can contribute to the attractiveness of places, and what types of values and benefits are associated with different types of cultural institutions.

Arts and culture have direct *use* values that benefit the users. However, cultural goods and services also produce important *non-use* values that provide externalities in the community to the benefit of both users and non-users, and that is not reflected in the market. In most countries, cultural institutions, such as theaters, libraries and museums, are heavily supported by public funds, with reference to a number of externalities such as *empowerment* (identity, inclusion, cohesion, diversity), *enlightenment* (insight, knowledge, education, reflection), *economic impact* (image, tourism, migration, job-creation) and *entertainment* (leisure, fun, recreation), as described in the model of different rationales of cultural policy by Skot-Hansen (2005).

In later years, there has been a tendency to focus on the instrumental benefits of cultural venues and investments as a *means or instrument to attain goals in other than cultural areas* (Vestheim, 1994). Public investment in culture has especially been motivated by ambitions of economic impact. Theories about the creative class, the Bilbao effect and studies of economic impact seem to have been a strong inspiration when local governments have invested in new cultural institutions (Bille & Storm, 2021; Henningsen et al., 2015; Skot-Hansen, 2005). However, it can be argued that the theories are both misunderstood and misused, and that the expectation of positive instrumental effects of the institutions has been too optimistic.

The papers of this dissertation show, each in their own way, that the instrumental benefits of cultural institutions are limited. This seems to at least be the case in terms of contributing to attractiveness in terms of more residents, that have been a central motivation when investing in art and culture. The strong focus on *economic impact* seems to have been overshadowed and affected cultural policy aims related to *empowerment* and *enlightenment*. From a welfare-perspective should the public not support activities that primarily promote private benefits and economic growth. On the contrary should activities that have the greatest potential non-market value be supported (Bille, 2016). The dissertation shows that the opposite trend is observed. This can be considered a call a broader focus in both cultural policy and future

studies. The most important impact of arts and culture is not in terms of economic impact, but in their cultural or social influence (Bille, 2016; Bille & Schulze, 2006).

As most previous studies in the field have been case studies that aim to find the economic impact of a single cultural event institution, the papers provide a more general and novel contribution. The studies are conducted with high-quality data, and provide results that should be relevant well outside a Scandinavian context.

2. Presentation of the papers

The dissertation consists of three papers. All three focus on the role of cultural institutions in local and community development, but approach the concept differently. The first paper of the dissertation, by Bille and Storm (2021), studies the effect of large-scale investments in culture houses in Norway. The title of the paper is, *Local development policy: Do new culture houses have an impact on migration? The case of Norway*, and is published in *European Planning Studies*. The background of the study is that many cultural institutions are opened with reference to the aim of this contributing to the economic and demographic development of the places. The culture houses can be seen as a part of an international trend where cultural institutions, often large and with spectacular architectural design, also aim to draw the attention of potential tourists, investors and future residents. The large-scale investments in Norwegian culture houses have been highly expected to make the places more attractive for new residents, but the study demonstrates that this has not necessarily been the case. In the paper, we use a difference-in-difference (DiD) approach to investigate the causal effect of the opening of 52 culture houses in Norway, and find that the investments have not made the municipalities more successful in terms of attracting new residents. We find that there is positive correlation between culture houses and net migration, but are unable to identify a causal treatment effect of opening a culture house.

The second paper of the dissertation, *From Bilbao to Bodø: How cultural flagships are transforming local cultural life* (Storm, 2022), published in the *Journal of Cultural Economics*, study what types of consequences the large-scale investments in cultural institutions have had on the local cultural life. The background of the study is that cultural flagships such as the Norwegian culture houses are claimed to signal a shift in the orientation away from a focus on the broad concept of culture, and onto more elitist forms of art and culture. However, these types of claims are based on anecdotes and descriptive statistics of

development in the cultural sector, and cannot be causally linked to the establishment of culture houses. I take the question further in this paper by testing whether the investments in culture houses have shifted the priorities of local cultural policy. I use the same case of 52 culture houses and a methodological approach in order to separate the effect of the establishment of cultural houses from the general trend in the sector. The study also includes a growth perspective, in terms of effects on jobs in art and entertainment, but mainly focuses on the consequences of municipal expenses for culture and the output on cultural goods and services.

The first two papers demonstrate that the instrumental benefits of cultural institutions are limited, at least in terms of contributing to economic growth. Still, it can be argued that cultural institutions can bring many positive contributions and benefits to the community in terms of use and non-use values. It is further plausible that certain types of individuals prefer and value living close to cultural amenities, such as culture houses and theaters. The third paper of the dissertation, *The Benefits and Attractiveness of Local Theaters. Comedy or Shakespeare – does it matter?*, represents a more individual approach to the concept by investigating the perceived benefits of having local theaters. It further has a broader perspective, and includes different types of (cultural) values and benefits for users and non-user of cultural institutions. The study show that local theaters provide benefits for both users and non-users, but only users display preferences for the types of theaters located in the municipality. We conclude that non-users have limited understanding of the externalities provided, and that the type of supply does not matter for non-user's valuation.

2.1 Data and context

All three papers focus on cultural institutions in Scandinavia. Two of them use the same cases of 52 Norwegian culture houses. They also use the same type of dataset and method: panel data and a difference-in-difference (DiD) approach. The data on culture houses are collected from media, official webpages and public documents, whereas the data related to the municipalities have primarily been collected from the databases of Statistics Norway.

The third paper uses data from a large-scale survey conducted in Denmark in the spring of 2020, distributed to be a representative sample of the Danish population. Statistics Denmark drew the sample and distributed the survey. At the level of the individual, the survey data has been linked to register data from Statistics Denmark, providing information about the

respondents from the official registers. The survey data was also linked to data on theaters available from Statistics Denmark, with the survey having been originally been designed to function as a Contingent Valuation (CV) study to find the willingness-to-pay (WTP) for theaters and museums.

All three papers use statistical and econometric models in the analysis. The first two papers exploit time-series data and attempts to identify causal effects, while the third uses survey data and investigates correlations and associations between variables and concepts. Table 1 summarizes the details of the three papers:

Table 1: Description of the papers of the dissertation.

Title	Case	Method	Dependent variable	Source of data
<i>Local development policy: Do new culture houses have an impact on migration? The case of Norway</i>	Culture houses in Norway	Panel data, DiD (OLS)	Net migration	Databases of Statistics Norway, media, official webpages, public documents
<i>From Bilbao to Bodø: How cultural flagships are transforming local cultural life</i>	Culture houses in Norway	Panel data, DiD (OLS)	Municipal operating expenses, data on goods and services, jobs in art and entertainment	Databases of Statistics Norway, media, official webpages, public documents
<i>The Benefits and Attractiveness of Local Theaters. Comedy or Shakespeare – does it matter?</i>	Theaters in Denmark	Ordered logit and tobit models	Willingness-to-pay for local theaters, scale indicating how theaters contribute to attractiveness	Survey data linked to register data from Statistics Denmark

3. Theories (and some misconceptions) of how cultural institutions can contribute to growth and development

3.1 The different values of arts and culture

Snowball (2020) describes how the arts broadly have two types of values: *Intrinsic value* is the unique value of the arts and reflects the purpose of producing art in the first place, while *Instrumental values* are those things that arise as side effects. It is not the primary aim of the artistic activity, but nevertheless valuable. Instrumental values are often much easier to quantify than intrinsic values, as they can be captured by some market transactions (Snowball, 2020).

The Australian economist David Throsby has provided central theoretical contributions to the field of cultural economy, and has formulated concepts such as cultural capital and cultural sustainability (Throsby, 2001; Throsby, 2000; Throsby, 2010, 2017). He describes how the value assigned to cultural goods can generally be considered as comprising *economic value* and *cultural value*. The economic value has both market and non-market components, and can be measured in monetary terms. On the other hand, cultural value has multiple dimensions and can be measured in different ways. There may be many ways to deconstruct the concept of cultural value into its different parts, but according to Throsby (2020) a standard set of values might include elements such as aesthetic value, symbolic value, social value, historical value and educational value. In some cases it might also be relevant to refer to other types of values, such as the architectural value of a building (Throsby, 2020).

The presence of different types of cultural values is also why the individuals' valuation of cultural goods and services is only partially reflected in the market demand for culture. The arts have important values other than *use values*. Cultural goods produce *non-use values* that can further be differentiated into option value, existence value, prestige value, bequest value and education value (Bille & Schulze, 2006; Frey & Pommerehne, 1989). This is further described in the third paper.

3.2 Rationales of cultural policy

To better understand the significance and possible effects of cultural institutions, it is necessary to understand the arguments and rationales of cultural policy. As Skot-Hansen

(2005) argues, the rationales underlying cultural policy have changed over the years. Or it is probably more correct to say that more rationales have appeared. One will often find a more complex rationale referring to more than one objective, what is also referred to as a multi-rational approach.

The expected effects of cultural institutions are closely connected to the instrumental cultural policy that emerged in the 1980s (Vestheim, 1994), and have in the years following been increasingly discussed (Skot-Hansen, 2005). According to Vestheim (1994), it is instrumental cultural policy to *use cultural ventures and cultural investments as a means or instrument to attain goals in other than cultural areas*. Examples of such goals are investment and profit, creating places of work, preventing depopulation, creating attractive places to live, strengthening the creative ability of the society (locally and regionally), attracting highly skilled labor, etc.

The EURO CULT21 model, developed by Skot-Hansen (2005), aims to serve as a framework for the discussion of European cities' present and future cultural policy, but can equally well be applied for cultural policy at national (Bille, 2016) or municipal level. It is presented as a model for analysis that should be used to focus on current cultural policy. This includes how local governments legitimize the expenditure on culture, and which activities are supported by these rationales. The model is based on The Four E's: Enlightenment, Empowerment, Economic Impact and Entertainment (Skot-Hansen, 2005).

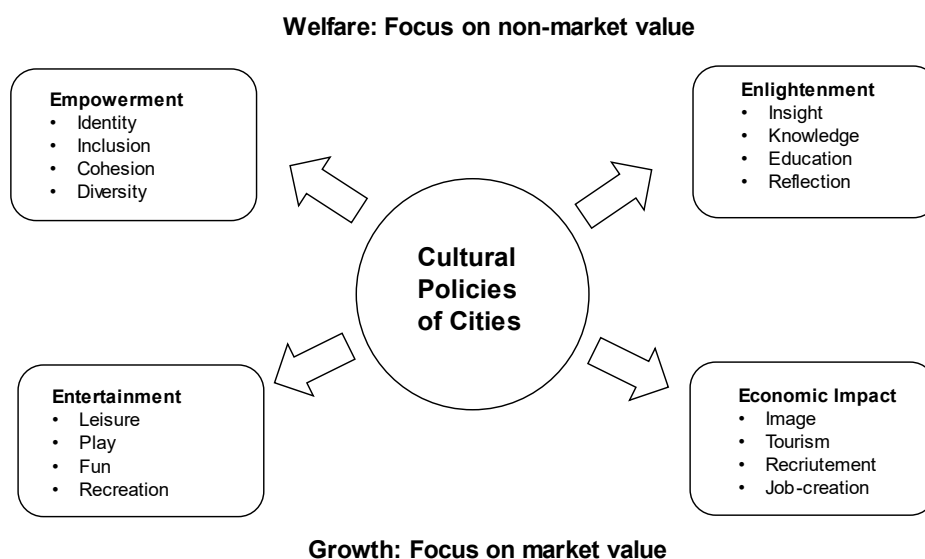


Figure 1: The rationales of cultural policy, based on the EURO CULT21 model by Skot-Hansen (2005) and further development by Bille (2016).

Enlightenment

Public cultural policy emerges from *Enlightenment thinking*, with roots back in the 18th Century European time of Enlightenment, and builds on humanism, reason and development. According to this rationale, enlightenment and education should serve to strengthen the democratic process, and knowledge of art, culture and cultural heritage can contribute to this process. Publicly financed cultural institutions can facilitate the mediation and absorption into the culture, which further leads to new cognition. Access is highly important in this context, and the efforts to achieve such goals include both the decentralization of activities and audience development. The enlightenment rationale manifests itself in cultural policy through securing access to the arts and high culture in cultural institutions such as theaters, museums, libraries, etc., as well as through subsidies for the production of the arts, the preservation of heritage, arts education, etc. (Skot-Hansen, 2005).

Empowerment

The rationale of empowerment is interconnected with the strategy for cultural democracy from the 1970s. Local policymakers have used this cultural strategy to achieve social and political objectives in urban cultural policies. The purpose of cultural democracy was to promote the self-expression of special sub-cultures. Culture and arts are viewed as a means for achieving a wide variety of goals such as social cohesion, community empowerment and self-determination, local image and identity, imagination and vision, and health and well-being. Cultural activities which support empowerment manifest themselves in a wide variety of locally-based projects and venues. Examples include community arts, art projects that involve social, ethnic or sub-cultural groupings, and local media (Skot-Hansen, 2005).

Economic Impact

Since the 1980s, public investment in culture has been increasingly justified on economic grounds. The interest in demonstrating the relationship between investments in culture and regional and urban development has been derived from both the cultural sector itself, in search for arguments for arts advocacy, and from politicians looking for new areas of development and opportunities. This has become especially important, as global competition has created an intense race between the cities when it comes to attracting businesses, employees and tourists (Skot-Hansen, 1998, 2005). A multitude of strategies have been adopted, including investments in flagship projects such as the Guggenheim Museum in Bilbao, mega events such as the European Capital of Culture and specialization strategies

such as the Gaudi Year and the Dali Year in Barcelona. This tendency has accelerated in the new millennium (Skot-Hansen, 2005).

As described in Bille and Storm (2021), Norwegian culture houses fit perfectly in this tradition. However, the rationale of Economic impact does not refer to one particular theory within this tradition, as there are different types of theories on how art and culture can contribute to growth and development. Some of the central theories will be elaborated and discussed later.

Entertainment

Entertainment is not a formulated goal for public cultural policy in itself, but instead is related to capitalization by the market. In local cultural policy, the entertainment rationale can be found when centers of culture provide a stronger priority to play at the expense of learning. The tendency of prioritizing entertainment above enlightenment corresponds to changing audience expectations (Skot-Hansen, 2005).

The fifth E: Experience

All four rationales presented in the model are instrumental. They serve as means rather than goals in themselves, and focus on what art and culture does rather than what it is. In contrast to an instrumental logic, Joli Jensen (2003) defines an *expressive logic*: one that sees art as experience. Art is a form of life that can enliven and deepen our lives, as well as our ability to participate in the public conversation. This forms a fifth E in the model: *Experience* (Skot-Hansen, 2005). According to Skot-Hansen (2005), this can be another way to look at cultural policy, not only as an impact that can be measured, but as a way of expression. It is necessary to start to focus on whether people, groups and communities have access to rich aesthetic experiences, and start learning more about individual's preferences and habits. This will broaden the field of cultural policy (Skot-Hansen, 2005).

Bille (2016) discusses how the Four E's model relates to principles of economic theory, in particular in terms of market and non-market values. It is argued that the rationales of Economic Impact and Entertainment relates to aims of economic growth, and are associated with the use values and private benefits of art and culture. The rationales of Enlightenment and Empowerment are on the other hand related to welfare economic perspectives, and are associated with non-market benefits. From a welfare-perspective should the public support activities that have the greatest potential non-market value, and not private benefits and economic growth.

3.3 Theories on Economic impact

In this section, I will briefly present some of the central theories and conceptions on how cultural institutions are assumed to contribute to growth and development. An important distinction is that the impact of art and culture can be differentiated into attractiveness to tourists, new citizens and businesses. It is also assumed that art and culture can have an impact in both the short and long term (Bille & Schulze, 2006). Table 2 attempts to illustrate how the different theories relate to these different dimensions:

Table 2: Theories on Economic impact.

	Tourists	Citizens	Businesses
Short-run impacts	Economic impact (EI)		
Long-run growth	Bilbao effect	Florida (talent → businesses)	

Richard Florida (2002a; 2002b) has become famous for his theories of how it is the ability of cities and regions to attract and retain the creative class that will determine their future level of economic growth, and has popularized the idea that culture positively affects a city's attractiveness (Boualam, 2014). Florida is particularly known for the assumption that the presence of *talent*, defined as certain types of knowledge and human capital, leads to economic growth. Florida finds a correlation between the presence of knowledge-intensive firms and talent, and interprets such correlations as an expression of knowledge-intensive businesses choosing to locate where creative and highly educated people prefer to live. According to Florida, talent is attracted by diversity and openness (Florida, 2002a). His main thesis is that economic growth takes place in cities that are tolerant, diverse, and open towards creativity (Skot-Hansen, 2005).

The discussion about culture-led regeneration has taken a new turn after the emergence of Richard Florida's differentiated approach to the relationships between culture, lifestyle and economics, which is developed in his book, *The Rise of the Creative Class* (Florida, 2002b). His concept about creative cities spread like wildfire, with the three T's (Tolerance, Talent and Technology) becoming the new mantra for developing regions and cities (Skot-Hansen, 2005).

In many ways, Florida has revitalized the interest of using culture as a tool for development, but is only one of a wide range of theories and studies highlighting the positive effects of art

and culture on economic development. Cwi and Lyall (1977) pioneered the first generation of economic impact studies, popularized in the 1980s (Bille & Schulze, 2006; Henningsen et al., 2015). Economic impact studies have been one of the most popular methods for measuring the impact of cultural events. All types of events create direct and indirect impacts. Direct impact is the result of the spending of visitors on goods and services, for example, accommodation, transport, food and drink, and tickets. The indirect and induced impacts occur through the re-spending of the initial financial injection in the area, and are commonly referred to as the multiplier effect (Snowball, 2020).

Florida and Cwi and Lyall represent two different approaches to studying the effects of arts and culture on regional development: focusing on short-run spending impacts and long-run growth impacts. The short-run spending impacts are primarily due to the fact that the arts and culture can attract visitors who spend money, and thus affect the local economy. This includes cultural goods and services directly, but is also related to goods and services like restaurants, accommodation, shopping, etc. The long-run growth impacts consist of two types of effects: arts and culture as a localization factor for people, companies and investments, and the impact of culture on creativity, etc. (Bille & Schulze, 2006).

The northern Spanish city of Bilbao has become known for the opening of the iconic Guggenheim Museum in 1997, which contributed to making Bilbao a famous tourist destination and a symbolic site of industrial regeneration (Alaily-Mattar et al., 2018; Bille & Schulze, 2006; Franklin, 2016; Henningsen et al., 2015; Plaza, 2006; Plaza et al., 2009). Bilbao has become a role model for the regeneration of declining urban and industrial regions, with the term “the Bilbao effect” referring to the use of a flagship building characterized by an iconic architecture, designed by a “starchitect,” as a means for a culture-driven revitalization of a rundown city or region into an attractive location for tourism and business (Heidenreich & Plaza, 2015). When the museum opened in 1997, the hope was to attract 400,000 art tourists a year. But they attracted a million visitors in the first year, and managed to maintain that visitation level in subsequent years (Franklin, 2016). The “Guggenheim Effect” is first of all associated with a positive effect on the economic development in Bilbao, but there have also been qualitative effects of the museum and its surrounding area highlighted, like on the general perception of Bilbao among the residents and tourists, and on the quality of life in the city (Heidenreich & Plaza, 2015; Plaza et al., 2015; Plaza & Haarich, 2015).

After the success in Bilbao, there has been an emerging trend of local governments constructing large-scale and prestigious architectural projects as strategies for economic development, with the expectation that projects with a good reputation will spur prestige and an attractive image for the city (Andersson, 2014; Grodach, 2010; Smith & von Krogh Strand, 2011). A number of terms are used for such projects, including signature buildings, destination icons and cultural flagships. The terms are often used interchangeably, but clarifying the terminology can help to sort the motivations and justifications behind these projects (Smith & von Krogh Strand, 2011). The definition of *iconic building* is elusive, but can best be described as something that is sufficiently innovative or famous enough to represent a movement, style or era. It is reliant on the “wow factor”. *Signature buildings* usually act as metonyms for their architect or occupant, which often makes it represent the “starchitect” commissioned to build them. A *flagship* is a high-profile building that aims to stimulate future development, and function as a visible dimension of government policy and action. Flagships are used to attract new investments and generate new activity. In this way, flagships play a more fundamental role in urban development than icons, which mainly act as symbols (Smith & von Krogh Strand, 2011).

A related branch of literature study and discuss the effects of investments in arts and culture on local communities. An extensive literature describe how arts can play a key role in reshaping urban areas and neighborhoods, but there is some debate over what type of neighborhood change is associated with the arts. Some argue that arts can contribute to gentrification and lead to improvements to neighborhoods, such as higher property values, lower crime rates and enhanced neighborhood amenities and services, while others critique gentrification for largely benefiting the elites and causing the displacement of established residents and small businesses (Grodach et al., 2014).

4. Discussion

4.1 The cultural institutions and their rationale

As previously mentioned, Norwegian culture houses are strongly connected to the rationale of Economic Impact, described in the four E's model of Skot-Hansen (2005). This is also the central focus of the paper, *Local development policy: Do new culture houses have an impact on migration? The case of Norway* (Bille & Storm, 2021). Reducing the possible effects of cultural institutions to an expectation of economic growth is of course a simplification of reality. However, these types of arguments are prominent, and have been used to justify the investments.

The cases of Danish theaters, used as case in the third paper, are not studied in detail in the same way as the cases of Norwegian culture houses. But the fact that they vary in expression, content and rationale, is very much also the case here. It is therefore likely that similar examples can be found among Danish theaters. In the following, I will describe three different examples among the cases of 52 culture houses that can illustrate the different rationales of the culture houses: the spectacular Kilden in Kristiansand, the ambitious Hamar kulturhus and the opera house in the small town of Eid.

Kilden in Kristiansand has been the most expensive culture house, with an investment cost of 1.68 billion NOK/187 million EUR. It is a monumental landmark building situated at the waterfront, designed by the Finnish architects ALA. Kilden is a theater and concert house, and hosts a symphony orchestra, a regional theater and a regional opera company. The city is considered as the regional capital of the southern counties, and is the sixth largest city in Norway. With a population of almost 86,000 inhabitants in 2014, it is still a small municipality by European standards. Close to half of the investment costs, 750 million NOK,¹ came from the municipality itself and the local foundation Cultiva, originally founded by the municipality after selling shares in an energy company (Gjestad et al., 2014; Kilden, 2013; Lysgård, 2012). The aim of the foundation was to “secure jobs and good living conditions in Kristiansand by providing [financial] support to projects which establish art, culture and educational institutions, or organizations which contribute to innovation, development and building competence in creative environments in Norway [translated by Lysgård] (Lysgård, 2012). Lysgård (2012) studied the culture-led urban strategy of Kristiansand, and describe

¹ The project also received 408 million NOK from the state and 98 million NOK from the county of Vest-Agder (Kilden, 2013).

how the establishment of Cultiva was heavily inspired by the theories of Florida (2002b) on the growth of the creative class and the experiences from the restructuring of Bilbao, Glasgow and other European cities.

The second example is the Hamar kulturhus, which received national attention because of its ambitious goals. With a population of 30,000, the goal was to attract 700,000 visitors per year. This number relies on an ambition of attracting visitors from the region and adjacent places (Christiansen & Gjestad, 2014). The culture house opened in 2014 at an investment cost of 700 million NOK/7.8 million EUR, and includes a library, culture school, cinema, rehearsal rooms and a stage for professional performances. The house also hosts the regional theater, which is a professional theater that sets up their own productions that they also tour the region with. The culture house project was seen as important for the development of the city and region, and the ambition was that the house will contribute to making the place more attractive and increase the number of inhabitants (Christiansen & Gjestad, 2014; Hamar kommune, 2011). The explicit vision of the culture house is that it should be a cultural driving force [kraftsenter in Norwegian] and an arena for cultural production and artistic development in the region (Hamar kommune, 2011). The ambitions are also reflected in the business development strategy of the municipality. The more attractive a municipality is for people, the more attractive it will be for businesses [my translation]. Cultural goods and participation are preconditions for regional development, and to utilize the culture house is mentioned as an important factor (Hamar kommune, 2015).

There are also examples like the municipality Eid, with a population of almost 6,000, which opened a new opera house at an investment cost of 80 million NOK/8.9 million EUR. Despite the name, the house is multifunctional and consists of a co-location of the upper secondary school, library and cinema, and includes a stage designed to host opera and other professional performances. The project received funding from the municipality, county and state, in addition to some private funding (Gjestad et al., 2014; Operahuset Nordfjord, 2016). The house hosts a district opera company, which does not have a large professional staff, but instead relies on hiring professionals for productions and a heavy involvement of amateurs and volunteers. Every fall, they set up an opera production, which includes the involvement of the community in both organizing and participation. The leader and founder of the district opera said that calling it an opera house has contributed to having it succeed in distinguishing itself from other culture houses, and to draw national and international attention. She further

claims that the opera house has contributed in making the place more attractive (Husabø, 2012).

The case of Kilden and the foundation of Cultiva are clearly connected to rationales of Economic Impact. So is the Hamar kulturhus, though perhaps to a lesser degree. In the case of Eid, the rationales of Empowerment more clearly emerge. The cases also function to illustrate that there are several rationales present at the same time, and that it can be difficult to clearly differentiate between them.

4.2 Shifts in rationale

If one point is to be made when looking at the two culture house studies in combination, it is that the focus of the economic impact seems to have overshadowed and affected the aims of enlightenment and empowerment. And as the paper, *From Bilbao to Bodø: How cultural flagships are transforming local cultural life* indicates, there seems to have been a shift in focus from enlightenment and empowerment to entertainment. The paper tests the impact on the priorities of local cultural policy and on the output of cultural goods and services. This can also be viewed as how different types of rationales end up being emphasized in the local cultural policy.

The culture houses are designed to host professional types of art, and the study confirms that among others things, there has been an increase in the number of theater performances. The institutions provide facilities for activities related to rationales of enlightenment and empowerment. There is however also a potential effect of crowding out and displacement, where professional and of popular forms of arts are favored over amateur organizations and children/youth.

This shift might not have been intended, but just as well has been an unintended consequence of the high investments. As discussed in the paper, according to media reports there has been a tendency to underestimate both the construction costs and the costs of running the house, while overestimating the income potential. The culture houses often get funding from the state and the county, but the majority of the investment costs are usually borne by the municipalities themselves. The responsibility of running the culture houses is further done by the municipalities. The consequence is a higher economic liability for the municipalities than what was initially envisioned in the planning process (Hoff, 2013; Journalen, 2014), with possible negative effects on other public goods and services through budget constraints. On

average, the culture houses derive 30-40% of their funding from government sources, according to the Norwegian Ministry of Culture (2013), which makes them highly dependent on generating revenue from the market. A common solution for many culture houses is to prioritize the programming of commercial events that will generate income (Journalen, 2014; Selmer-Anderssen, 2015).

Many of the culture houses are also criticized by the media for not putting the needs of the local community first, and for being unaffordable and crowding out youth and amateurs (Journalen, 2014; Selmer-Anderssen, 2015). There have been many reports of this, for instance, in the case of the Oseania culture house, which opened in 2011. The culture house was heavily co-financed by a wealthy benefactor who wanted a place to publicly display his art collection. In addition to a gallery, the house ended up being an architecturally spectacular building that included a dance studio, restaurant and large amphitheater. Shortly after opening, running the culture house turned out to be an economic liability for the municipality, and they had challenges finding alternative sources of income (Mæland, 2013). Three years after the opening, the project remained controversial in the local community. Local organizations considered the rent in the new culture house to be too high, and the affordable and smaller, old community house had to be demolished. A local politician summarized that “Oseania came with many great intentions, but worsened the conditions of the small cultural organizations. It became more expensive and its income potential disappeared. Now they are fighting to survive [my translation]” (Selmer-Anderssen, 2015).

The problem with these types of claims is that they are based on anecdotes and descriptive statistics of development in the cultural sector. In the second article of the dissertation, Storm (2022), I use a methodical approach to separate the effect of the establishment of cultural houses from the general trend in the sector, and confirms that the investments seems to have shifted the priorities of local cultural policy. This can be considered a shift in a focus from the rationales of enlightenment and empowerment to entertainment and economic impact, or from public to private benefits of arts and culture.

The other central claim investigated in Storm (2022) is that the establishment of culture houses signals a shift in the orientation away from a focus on the broad concept of culture, and onto more elitist forms of art and culture. As for the previously mentioned example of the opera house in Eid, which has a population of almost 6,000, the idea of opening a new opera house was also controversial when the idea was first launched. The criticism regarded

prioritizing a cultural good mainly for a small exclusive group, and opera was set up against public services like elderly care (Husabø, 2012).

The results of the study (Storm, 2022) confirm that the investments in culture houses have been followed by a stronger support for professional arts and a lower support for activities directed toward amateur organizations and children/youth. This can also be seen as an argument for the rationales of entertainment and enlightenment being emphasized more than rationales of empowerment.

Skot-Hansen (2005) raises the question of whether enlightenment and entertainment must be seen as opposites. The element of entertainment is further an important and necessary aspect of cultural activities, and cannot be distinguished from the empowerment potential. The need to differentiate between the rationales is also not present unless the activity involves public funding (Skot-Hansen, 2005), which is the case here. The question then raised is how much entertainment should be financed by the taxpayers, or what Bille (2016) refers to as the private benefits of art and culture.

4.3. How the institutions (do not) contribute to economic growth

There are numerous examples of cities and towns having actively used art, culture and architecture in their development strategies in both Norway (Horrigmo, 2011, 2012; Lysgård, 2012) and Denmark (Skot-Hansen, 1998). In the paper, *Local development policy: Do new culture houses have an impact on migration? The case of Norway* (Bille & Storm, 2021), we describe how theories about the creative class, Bilbao effect and other related theories seem to have been adopted by regional and local policymakers. The theories can be seen to offer grand solutions to some of the main challenges present in many of these communities.

The paper fits into a tradition of attempting to measure the returns on investments in art and culture. As described in Skot-Hansen (2005) and Bille and Schulze (2006), the impact of art and culture can be differentiated into attractiveness to tourists, new citizens and businesses. While the impact on tourism has been investigated in numerous economic impact studies, there is little evidence on the impact on migration in the form of new citizens. The study of the effect of Norwegian culture houses by Bille and Storm (2021) is a notable exception in this respect. It clearly demonstrates that the establishment of culture houses has not made the municipalities more attractive for residents. The results thus contradict the political rhetoric.

The paper provides new and convincing evidence, but many of the points have been made before. While Richard Florida and his theories have received quite an amount of attention, his theories have been equally criticized. One of the central critiques is that his assumptions are controversial in light of the general expectations of standard economic logic, and are based on “suggestive correlations” that disregard causality (Bille & Schulze, 2006; Tubadji et al., 2014). There could very well be a third factor associated with the presence of both talent and creative firms (Bille & Schulze, 2006). Florida is criticized for not taking into account the impact of other city-specific characteristics that might also influence the localizations of economic agents (Boualam, 2014).

Several have raised the question of whether Florida’s theories are relevant in the context of small cities and towns. As Lysgård (2012) argues, the potential for growth in small cities may not be as great as the public debate and research conducted in large metropolises might suggest. According to Lysgård, the culture-led urban strategy of the city Kristiansand appears to be “a good example of how theories on the development of the creative class have been imported relatively uncritically and used as the basis for local urban development strategies in a small Norwegian city.” He further sees it as “an example of how a false link between the growth of the creative class and cultural economy is established and developed” (Lysgård, 2012). Andersen et al. (2010) also find in their study that the significance of Florida’s theories is overrated in smaller Nordic cities, and that it is job opportunities that are the primary reason for location of “the creative class”.

Using Richard Florida as an argument for investments in cultural institutions can also be considered as a misinterpretation of his theories. Florida does not emphasize the importance of large cultural institutions. On the contrary, he emphasizes the role of small businesses and different types of activities that can create an open and diverse milieu. Talent is attracted to “energetic and vibrant places”, and he uses a measure of “coolness” based on the percentage of young people, nightlife (number of bars, nightclubs, etc. per capita) and culture (number of art galleries and museums per capita) (Florida, 2002a). As Skot-Hansen (2005) argues, we are far removed from the flagship and specialization strategies. Florida provides a broader view of what attracts talents, which can be viewed as an alternative to the more “hardcore-like” instrumentalization of the cultural policy (Skot-Hansen, 2005).

The “Bilbao effect” as a theory, and the mechanisms behind it, is not properly defined. It can be argued that the “Bilbao Effect” as an urban mythology has relied on a few constructions, such as that an economic miracle could be achieved through a “just add art” recipe, in the

form of “aesthetic architecture,” art exhibitions and a flow of art tourists. And further, that if it could be made to work in a worst-case scenario of deindustrialization and dereliction like Bilbao, it could work anywhere (Franklin, 2016).

The most ambitious culture houses have had aims of being flagships, a high-profile building that aims to stimulate development and function as a visible dimension of government policy and action. This is also why the term is used in the title of the paper, *From Bilbao to Bodø: How cultural flagships are transforming local cultural life* (Storm, 2022). But the same types of culture houses also express ambitions of being iconic buildings and having a “wow factor”. In a Norwegian context, the word “signalbygg” is often used about large and spectacular buildings. It has no proper definition, but can be directly translated to “signal building”. It involves buildings that radically distinguish themselves from its surroundings, and have elements that resemble the description of iconic buildings having a “wow factor”. However, as described in the two papers, the sample of culture houses consists of quite different types of institutions, ranging from spectacular to modest buildings. The importance of this is also investigated by categorizing the architectural expression and testing the “wow factor.” The results show that having an extraordinary architectural expression is not significantly associated with a higher net migration, and can hence be seen as a counter-argument of spectacular architecture being an effective measure in growth strategies.

The use of design for the purpose of differentiation is also argued to form a paradox; the more urban design is used to produce distinctiveness, the more alike cities become. It has been pointed to an over-use of iconic buildings, and that this undermines their desired effects (Smith & von Krogh Strand, 2011). And although a new building might receive extensive attention in its early days, the effect decreases quickly. It is also worth noticing the decreasing marginal effects: The competition between communities to attract residents is a zero-sum game. Growth in one locality will happen at the expense of another locality. This can lead to that municipalities must invest at the same level, or even more than other municipalities, to not lag behind in the competition (Bille, 2013). These types of mechanisms are a part of the explanation of why we do not find significant effects on new migration in Bille and Storm (2021).

It is further relevant to ask the question of what types of effects can be expected from a single institution. Several have argued that the development of a city will not be the result of a single “catalytic project” (Grodach, 2010; Heidenreich & Plaza, 2015), and that successful urban regeneration cannot only be induced by one flagship building without an appropriate local and

regional context. The question of how major cultural investments affect a regional economy must be discussed in a more complex perspective (Grodach, 2010).

Even the Guggenheim Museum was a part of a bigger plan of the development of the city, and it is not a given that it would have had the same effect if it had not been for the entire facelift of the city (Evans, 2005; Heidenreich & Plaza, 2015; Horrigo, 2011). The process of urban change had started before the museum opened. A number of activities were launched to improve the infrastructure of the area, to promote economic growth and to stimulate cultural demand and activity (Plaza & Haarich, 2015). There are also several factors that can explain the success of the Guggenheim Museum. It was opened at the same time as a general economic boom facilitated the creation of many new jobs in various sectors (Plaza & Haarich, 2015). Franklin (2016) further highlights the importance of the Basque culture, together with Bilbao's location close to a significant cultural route and touristic settlements, all of which favored a reciprocated detouring with the Guggenheim Museum.

And as Bille and Schulze (2006) argue, the Guggenheim is a unique case, and that most single institutions are too small to trigger such a process of development. More important is the cultural life created by many cultural institutions. The importance of cultural diversity for the process of economic, social and cultural development is further stressed by, e.g., Throsby (2017).

4.4. Community effects

The second paper, Storm (2022), shows among other that there has been a growth in professional types of arts and a lower support of activities directed toward amateur organizations and children/youth. This result can be seen in connection with the theories and debates on how arts can play a key role in reshaping urban areas and neighborhoods.

According to Grodach et al. (2014), one limitation is that much of the research does not explain how the presence of different types of arts activities may result in different outcomes. Grodach et al. (2014) statistically test how two different types of arts activities are associated with urban revitalization and gentrification in 100 U.S. metropolitan areas, and find that the arts exhibit different relationships to neighborhood change. The fine arts, such as performing arts companies, museums and arts schools, are more likely to be associated with revitalizing neighborhoods. On the other hand, the commercial arts include film, music and design-based industries, which are strongly associated with gentrification and displacement. Their results

show that the arts are not a homogenous group, and that different arts activities exhibit distinct relationships to different types of neighborhood change (Grodach et al., 2014). The results of Storm (2022) can therefore indicate that there has occurred some type of gentrification and displacement in the municipalities. However, the exact mechanisms are not clear, and it might still be that the benefits are higher than the downsides (at least in the long term).

It is important to emphasize that the study does not provide the full picture of the community effects. As argued in the paper, the effects on the broader community, such as cultural life and participation, have not been fully included. The potential qualitative changes in cultural practices have also not been studied. There are several possible positive effects that might have occurred, such as that the culture houses create a new and needed meeting place. It is also suggested that the projects can lead to improvements in the local pride and image of the place. The institutions can promote local identity and a feeling of belonging. These are all effects related to public benefits and the rationale of empowerment in particular, but also enlightenment, which has not been tested.

The third paper of the dissertation, *The Benefits and Attractiveness of Local Theaters. Comedy or Shakespeare – does it matter?*, takes a different approach by focusing more on the individual experience included in the suggested fifth E in the model by Skot-Hansen (2005). It can still be argued that the paper has an instrumental approach, by focusing on how local theaters contribute to the attractiveness of the municipality. Yet, in the paper we attempt to elaborate how arts and culture represent various types of values and benefits to both users and non-users.

What we find is that the different types of theaters have a significant impact on the benefits the users perceive, whereas non-users show no preferences for the types of theater located in the municipality. We conclude that non-users have no understanding of the different kinds of externalities provided, and that the type of supply is of no consequence for non-users' valuation. This is an interesting new finding, with wider implications for valuation studies and cultural policy.

5. Contribution and limitations

Each paper in the dissertation has their defined contributions. In combination they also tell a story of how cultural institutions contribute to local and community development. The first paper, by Bille and Storm (2021), shows that large-scale investments in cultural institutions are not an effective measure if the primary ambition is to become attractive for new residents, as might have been expected by the ones who have uncritically adopted some of the theories about how art and culture can contribute to economic development. The results of the second paper, Storm (2022), indicate that the investments have shifted the priorities of local cultural policy, and that there has occurred some type of displacement, in which professional and more popular types of art and culture have become favored. The third paper shows that cultural institutions have different types of individual and community benefits, and that these are understood differently by users and non-users.

What the papers have in common is that they all move a step beyond the level of case studies, and in that way provide a more general contribution. Two of the papers measure the causal effects of investments in cultural institutions, which is an additional improvement, as most previous studies have been case studies that aim to find the economic impact of a single cultural event or institution. But because the impact of single cultural events or institutions differs from event to event or institution to institution, it makes it difficult to draw comparisons or generalizations from such studies (Bille & Schulze, 2006). Few studies have applied a quantitative empirical setup that allows for the testing of causal effects. Bille and Storm (2021) is also a notable exception for studying attractiveness in terms of new citizens, for which there has previously been little evidence on. The perception that art and culture attract (the right kind of) residents have been clearly present in the political sphere (see e.g. Horrigmo (2011, 2012); Lysgård (2012)), but there have been few empirical studies to test this on a larger geographical scale. The study demonstrates that the establishment of culture houses has not made the municipalities more attractive for residents, and thus contradict the political rhetoric. There is further little evidence on the effects of such investments on local cultural life, which is provided in Storm (2022).

All three papers indicate, each in their own way, that the instrumental benefits of cultural institutions are limited. This seems to at least be the case in terms of contributing to growth in terms of residents, as clearly demonstrated in Bille and Storm (2021). This can be considered a call for a broader focus in both cultural policy and future studies.

The most important impact of the arts is argued to be in their cultural or social influence. If one only analyzes the impact of the arts in relation to the economic side effects, an incorrect picture will emerge. In particular, this will imply a risk of focusing on cultural events with the greatest short-term economic impacts, such as big concerts with star performers, instead of focusing on cultural activities of benefit to the population and its cultural and community development (Bille & Schulze, 2006). This is perhaps also what has occurred at the most spectacular types of culture houses, as elaborated in Bille and Storm (2021).

If using prospects of economic impact as argument of public support, the economic return on the investments must further be compared to the return on other types of investments. There might be investments in other sectors that have larger potential of generating economic growth. While the competition of attracting new businesses and residents is a zero-sum game, this does not apply for investments in cultural and non-market values. Investments in cultural institutions and activities that promote non-market values and rationales of enlightenment and empowerment will on the other increase the total value and benefits provided (Bille, 2016).

From a welfare-perspective should the public not support activities that primarily promote private benefits and economic growth (Bille, 2016). On the contrary should activities that have the greatest potential non-market value be supported. However, the dissertation show that the opposite trend can be observed. The results of the second paper (Storm, 2022) show that there has been a shift in priority, which also suggest a shift in the different rationales described in the model by Skot-Hansen (2005). *Economic impact* (image, tourism, migration, job-creation) and *entertainment* (leisure, fun, recreation) have been more emphasized than rationales *empowerment* (identity, inclusion, cohesion, diversity) and *enlightenment* (insight, knowledge, education, reflection). While the first two rationales mainly represent private benefits and use-values, the last two represent public benefits and non-use values (Bille, 2016). This observed trend should thus be a cause for concern of policy development, and a topic to be further investigated.

The third paper highlights that what types of externalities art and culture provides is an underexplored topic. The study indicate that different types of institutions provide different types of externalities, and that these are understood differently by users and non-users. While there are many studies on the demand for performing arts, from the perspective of users, there is far less knowledge about the non-use values. The results of our study show that type of theater and repertoire have a significant impact on the benefits perceived by the users, while non-users show no preferences for the types of theater located in the municipality. We draw

the conclusion that non-users have no understanding of the different types of externalities provided. The results are relevant not only for policy and theoretical development, but also the future development of stated preference methods. The results and conclusion violate the assumption of respondents understanding and having full information about the good to be assessed.

All three papers are based on empirical testing, and thus reliant on- and limited by what types of data have been available. But by studying different aspects of the cultural institutions in combination, they show a picture of what types of local and regional effects the institutions provide in terms of attractiveness for residents, level of cultural good and services, values and perceived benefits. Two of the papers are designed to empirically test the hypothesis about the effects of investments in cultural institutions. The third paper is also about the empirical testing of the hypothesis, but is more explorative and makes an attempt to analyze different types of values and perceived benefits of local theaters. This is something that can be further conceptualized in future studies. In this way, it offers the largest contribution to the future design of valuation studies, as well as theoretical and conceptual development.

As concept of economic growth is the simplest to apply in empirical studies, and thus often used, broader concepts of economic development and cultural sustainability are more complex and less operational (Throsby, 2017). Fewer have evaluated the impact of culture in a broader perspective, including wider aspects of development (Bille & Schulze, 2006). A challenge in this respect is to manage to move beyond the level of case studies, and study the concepts on an aggregated level. This includes how to evaluate cultural policy on a regional or national level, which will require the development of new models and theories. This thesis can offer a contribution in this respect, for instance on how to operationalize the concepts, what indicators to use and what dimensions to study.

A relevant question to raise is whether the results of the studies are of interest outside of a Scandinavian context. The findings point to some universal understanding of how cultural institutions contribute to the development of regions and local communities, and what types of values and benefits are associated with various types of cultural institutions. This is something that should be relevant well outside of Scandinavia. Nevertheless, the results are first of all relevant for countries with a well-developed cultural infrastructure, and high levels of public support.

The Scandinavian context has provided some advantages, in which the access to rich data has perhaps been the greatest. It is likely that similar types of studies would not have been possible to conduct in a large majority of other countries in the world.

The dissertation highlights the need for future studies in the field, of which some are already mentioned. Even though there already exist many case studies, there is still a need for more qualitative and in-depth studies. The debate around the culture houses illustrate that the anecdotes are dominant, and it is likely that the local debate is more nuanced than it appears in the media. It will hence be interesting to study what the “true motivations” of investments in cultural institutions are, as seen from the perspective of local policymakers and the communities involved. It is further necessary to conduct more in-depth studies of the demands, habits and preferences among the inhabitants, and how this differs between groups (including non-users). Is there a potential mismatch between the supply and demand of cultural institutions? The studies in the dissertation have also pointed to a question of a potential regional component: How does the demand for different types of cultural goods and services vary according to type of region? It is further relevant to study whether the mechanisms, and associated values and benefits, are different for other types of cultural institutions, such as local museums or libraries.

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Local development policy: do new culture houses have an impact on migration? The case of Norway

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ABSTRACT

During recent decades, most Western European countries and the US have seen massive investments in culture houses designed to host cultural activities like theatre performances, concerts and exhibitions. They are often large with spectacular architectural design, and the main political purpose is often to attract the attention of potential tourists, investors and future residents who could contribute to the economic and demographic development of places. The existing literature contains mainly single case studies of successful places. There is a lack of comprehensive and systematic evidence of the causal effects of new culture houses on attraction and migration. This paper sets out to fill this gap by investigating the effect on migration of the opening of 52 culture houses in Norway in the period 2001–2014; the study uses a panel data structure and a difference-in-difference approach, and the impact of an architectural ‘wow factor’ is tested. The results show that no causal effect on migration of opening a culture house can be identified. The results contradict political rhetoric in many Western countries, and the results have relevance for local politicians who are responsible for planning of local culture and economic development.

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Local development; culture houses; migration; causal effects

1. Introduction and motivation

This article provides new evidence relating to the effect of new culture houses that offer some outstanding features in their architecture in terms of their potential ability to attract people to cities. The study is based on high-quality data from Norway, and uses difference-in-difference techniques to evaluate the differential results between a treatment group (municipalities with a new culture house) and a control group (cities without this new facility) on the power of migration attraction. Norway in Northern Europe is used as a case.

In Western Europe as well as in the US (Woronkiewicz et al. 2012; Woronkiewicz 2013) there has been a growing trend to build new culture houses, often with spectacular architecture, hosting a range of different cultural activities: concerts, theatre performances, cinema, library, museums etc. The construction of these large-scale and prestigious

architectural projects is often used as a strategy for economic growth and local or regional development, with the expectation of improving attractiveness to tourists as well as new potential citizens and businesses (Andersson 2014; Bille and Schulze 2006; Grodach 2010). In Europe, the northern Spanish city of Bilbao is in particular associated with its iconic Guggenheim Museum, opened in 1997, a building that has contributed to making Bilbao a famous tourist destination and a symbolic site of cultural regeneration – ‘the Bilbao effect’ (Bille and Schulze 2006; Heidenreich and Plaza 2015; Henningsen, Håkonsen, and Løyland 2017; Plaza 2006), and many cities and regions have since then tried to imitate the success.

We see the same trend in Norway. Public expenditure on the culture sector has increased considerably since the beginning of the millennium, and a huge part of this expenditure is related to investments in culture houses (Henningsen, Håkonsen, and Løyland 2017). More than 60 new culture houses have been commissioned in the period 2003–2018, at an estimated investment cost of approximately 1.6 billion EUR (Gjestad, Christiansen, and Bach 2014; Henningsen, Håkonsen, and Løyland 2017). The culture houses are often large and extravagant architectural structures, and are intended not only to serve as arenas for local community life but also to attract the attention of the outside world and contribute to the economic and demographic development of these places (Aagedal, Egeland, and Villa 2009; Henningsen, Håkonsen, and Løyland 2017; Lysgård 2012).

Even though huge sums of public money are spent on these new houses, no comprehensive studies with representative qualities have been undertaken. Most existing studies are case studies of (successful) culture houses/institutions (e.g. Johnson (2009)), which makes it difficult to discuss the impact of investment in culture houses in general. Given the enormous scale of investment in new culture buildings, more work is required in systematically analysing the impact on the attraction on new citizens, as it is clear that policy-makers continue to use new culture buildings as an instrument to increase attractiveness (Campbell, Cox, and O’Brien 2017). There is a need for tests of impact using a systematic, quantitative approach applied to a national sample of culture buildings. Such an approach is still lacking in the literature (Brooks and Kushner 2001; Campbell, Cox, and O’Brien 2017; Markusen and Gadwa 2010), and testing the causal links is a high-priority research agenda.

This study taps into this research agenda and is one of the first of its kind. The aim is to analyse the effect on migration of the opening of new (spectacular) culture buildings, with Norway as the case.

Norway is, in our opinion, a good case for solid empirical testing. Norway is geographically a long country, approximately 1800 km from north to south (see Figure 1), 5.3 million inhabitants with a population density of 14 persons per km². Local and regional development has always been a politically high-priority issue, with an aim to guarantee the habitation and continuation of communities in all municipalities. Investment in new culture houses is one of the strategies used. Furthermore, we have access to reliable, high-quality and detailed data.

It is evident that ideas, strategies and theories developed in larger European cities (‘the Bilbao effect’) and in the US (such as the theory of the creative class by Florida 2002) have been used in political argumentation and applied in the relatively small Norwegian municipalities (Henningsen, Håkonsen, and Løyland 2017). From earlier research, we know

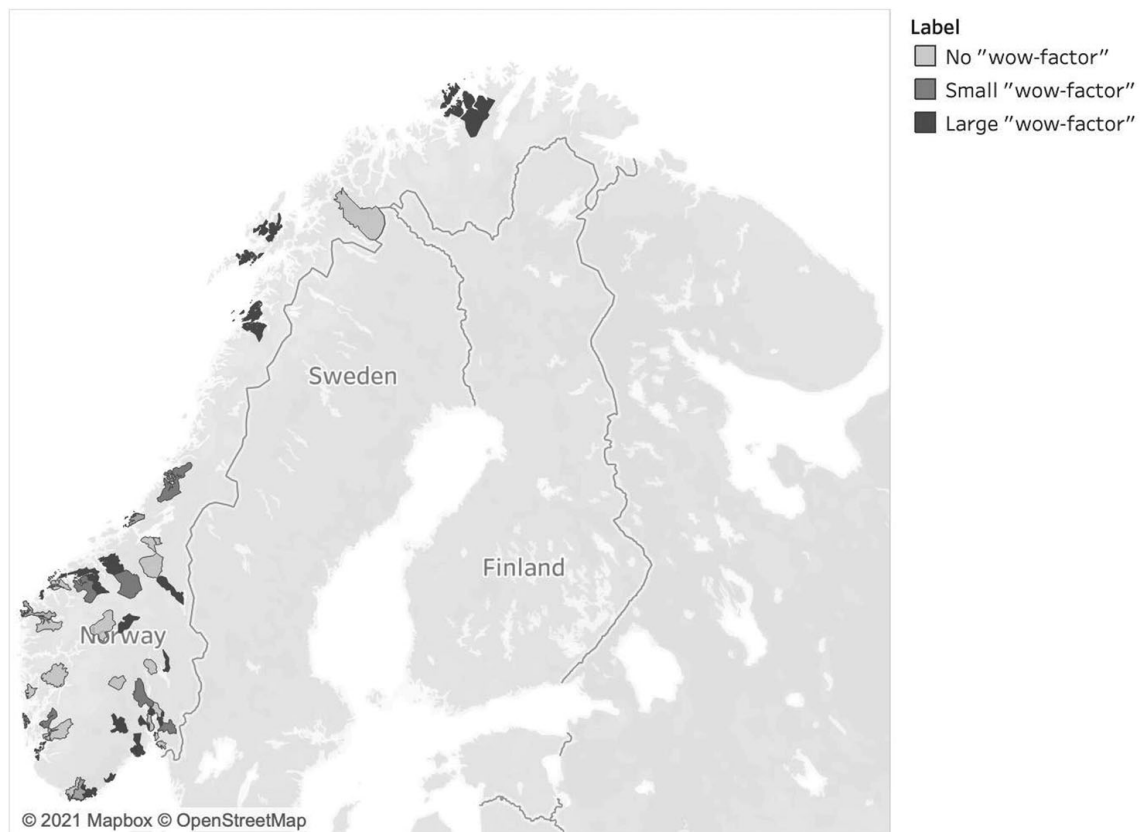


Figure 1. Municipalities that have opened culture houses in the period 2001–2014.

how ideas spread from one city to another (seminal contributions include Hägerstrand 1967). Depending on the context, however, outcomes vary, and results from one city or case study cannot be uncritically transmitted to another context.

The question of evidence is important as the scarce public resources used for building new culture houses could alternatively have been used for other purposes. The money could have been spent on cultural activities, which might cater more for the local population, or other investments that might be better at generating migration and economic growth.

This article sets out to analyse the effect of new culture houses on migration, using a panel data structure and a difference-in-difference (DiD) approach, and tests the impact of an architectural ‘wow factor’. The aim is to investigate if the new culture houses have made municipalities more attractive in terms of attracting more residents. The main conclusion is that there is a positive correlation between new culture houses and net migration, but the results further show that the dominant explanation is that they were opened in municipalities where net migration was already increasing. Opening a new culture house does not lead to the municipalities breaking out of the pre-existing trend. This is important new knowledge for local policy makers.

The article is organized as follows. Section 2 presents a literature review and accounts for the context and theoretical relevance. Section 3 describes and discusses the concept of culture houses. Section 4 outlines the model and the empirical method, and Section 5 presents the data and descriptive statistics. Section 6 presents the results, Section 7 accounts for the biases and limitations of the study, while Section 8 concludes the article.

2. Literature review

How can culture houses create in-migration to a municipality? The mechanisms by which iconic cultural landmarks may bring about demographic change are multiple. In theory, new culture houses can create migration directly by attracting new citizens, and indirectly, by attracting businesses and firms creating new jobs in the local area. Likewise, if the new cultural facility attracts tourists, it can lead to new jobs in the service sector.¹

The impact of cultural offerings on tourism and thereby on new jobs is a much-researched topic. Culture houses and large events can attract tourists to a region, and numerous economic impact studies have been conducted to show how many jobs cultural-led tourism can create (Seaman 2006). Even though research have shown that the results of economic impact studies often are exaggerated (Seaman 2006), it is evident that there are positive examples where a single event or culture institution can spur economic development. The Guggenheim Museum in Bilbao (Spain) opened in 1997 and has become one of the most iconic examples of culture-led development, especially in relation to its impact on tourism (Alaily-Mattar et al. 2018; Bille and Schulze 2006; Franklin 2016; Henningsen, Håkonsen, and Løyland 2017; Plaza 2006; Plaza, Tironi, and Haarich 2009). Bilbao has become a role model for the regeneration of declining urban and industrial regions, and the term ‘the Bilbao effect’ refers to the use of a flagship building characterized by an iconic architecture, designed by a ‘starchitect’, as a means for a culture-driven revitalization of a rundown city or region into an attractive location for tourism and business (Heidenreich and Plaza 2015). However, the museum was not the only element in the redevelopment of the city, and the process of urban change had started before the museum opened. Several activities were launched to improve the infrastructure of the area, to promote economic growth and to stimulate cultural demand and activity (Plaza and Haarich 2015). Not surprisingly, politicians in many countries have tried to imitate the ‘Bilbao effect’ to start urban regeneration. After the success of the Bilbao, there have been an emerging trend of local governments constructing large-scale and prestigious architectural projects as strategies for economic development with the expectation that projects with a good reputation will spur prestige and an attractive image of the city (Andersson 2014; Grodach 2010; Smith and von Krogh Strand 2011). However, it is evident that there are many intertwined internal and external factors of important, including the timing of the projects. It is simply not a matter of ‘add culture and stir’ (Gibson and Stevenson 2004).

When it comes to location choices of people and business, especially Florida (2002) has had a huge impact. His emphasis on lifestyle amenities such as art and culture for the location choices of talent have likewise made local governments in many Western countries to invest in culture-led development. Florida (2002) has turned the traditional causality (jobs and business attract people) around by suggesting that lifestyle amenities, arts and culture, open-mindedness and tolerance will attract talented people, which in turn will get business to move where the attractive people live. In this way, making places attractive for people will generate innovative new industries, business development and economic growth. Even though the causality has never been confirmed, and research has been critical to Florida’s theories (Andersen et al. 2010), then is it evident

that Florida's theories are still alive in policy making in Scandinavia (Henningssen, Håkonsen, and Løyland 2017).

While the focus in the literature on culture-led development has been on the impact of culture on economic development and job creation, the interdependence obviously has a dual causality: Development in the cultural sector has an effect on overall economic development (like job creation and in-migration), but at the same time general economic development affect the cultural sector. To put it simple: when societies (and municipalities) get richer, more resources will be available for investments in culture. Former research has shown that the income elasticity for investments in arts and culture is larger than 1 (Bille, Hjorth-Andersen, and Gregersen 2003).

The question of causality is important, as the public investment in culture can take many different forms, and different investments may cater for different purposes. While many investments in cultural houses have been made with the purpose to create economic development (Henningssen, Håkonsen, and Løyland 2017), the demand by the local population may be of a different kind, and there is a growing understanding of the importance of addressing agents and networks engaging in the city's cultural development and community life rather than investing in flagship project (Comunian 2011).

While much of the literature on culture-led development is based on case studies, the positive and successful cases stand out as model of success in an actual practical political context, even though several internal and external factors as well as timing are important for the outcomes. Based on the massive investments in culture houses there is a need for quantitative studies where all the investments are considered, and not only the successful few. The necessity for long-term studies and production of longitudinal data in this field has been pointed out (Campbell, Cox, and O'Brien 2017). Likewise, there is a lack of comparative studies, or the use of control groups to test the effects of cultural activities. When studying the impact of cultural activities on attractiveness, it is of great importance to consider the causal effects. The main question is whether it is cities and municipalities already experiencing positive development that choose to invest in culture houses, or if it is the cultural investment that attracts new inhabitants and creates economic growth?

One general challenge in analysing the effect of local culture houses is that they are not exogenously determined, unlike natural amenities such as weather. The use of data on arts and culture is highly sensitive to endogeneity issues (Tubadji, Osoba, and Nijkamp 2014), which is associated with the ability and willingness of the local high-human-capital-population to pay for cultural services. Few studies have addressed this endogeneity problem properly, but an interesting exception is Falck, Fritsch, and Heblich (2011), who examines the effect of 29 baroque opera houses built before the industrial revolution. They argue that proximity to these opera houses should be exogenous to the distribution of high human-capital that originates from the period of and after the industrial revolution. Another exception is Noonan (2013), who studied the impact of cultural districts on economic development. The evidence is mixed: There seems to be a positive effect on turnovers and a null effect on increase in population. The study highlights the importance of separating causality from mere correlation when evaluating the impact of cultural districts. The models allow for controls over the previous trends in neighbourhoods that might explain why some neighbourhoods received a district and others did not. In this way it considers Brooks and Kushner (2001) concerns about

pre-existing trends. Apart from these studies, we are not familiar with any studies implementing a framework that takes account of causal interferences on a larger geographical scale. Other relevant studies such as Buch et al. (2013), Rodríguez-Pose and Ketterer (2012) and Glaeser, Kolko, and Saiz (2001) are not designed as causal studies.

3. Culture houses

A culture house is designed to host cultural activities, but what is covered by the term is a matter of definition. The Norwegian network of culture houses uses the definition:

A culture house is a professionally managed building for culture and cultural production. A local and regional meeting place and arena for amateur and professional performers of art and cultural activities. Depending on the content, culture house can also be termed as an art and culture institution specializing in cultural production and dissemination. (Norsk Kulturhusnettverk 2017, own translation)

The culture houses often receive funding from the state and county, as well as public and private foundations, but most of the investment costs are usually borne by the municipalities.

There is no register of the number of culture houses, but the national network of culture houses had at the time of study 115 members (Norsk Kulturhusnettverk 2017). We have selected the 52 culture houses that opened in the period 2001–2014. In this sample, there is a large variation in sizes and types of houses. The culture house often includes a cinema and a stage that can be used for theatre performances and concerts. Some have also located the library and culture schools for children in the building.

Figure 1 shows the location of the 52 municipalities that have opened a new culture house in the period 2001–2014. The map shows a relatively even geographical distribution, with municipalities in all parts of the country being represented. Larger cities like Oslo, Bergen, Trondheim and Stavanger, are represented in the sample, and regional centres in more sparsely populated areas are also represented. With a national population of 5.2 million distributed across 428 municipalities, most Norwegian municipalities are small in population size. The sample ranges from Lom with a population of 2361 in 2014 to Oslo with a population of 634,463.

The architectural expression of the culture houses varies from spectacular structures to renovated buildings that do not attract particular attention. Several terms are used for projects with spectacular architecture, including ‘signature buildings’, ‘destination icons’ and ‘cultural flagships’. The terms are often used interchangeably, and the terminology is not clear (Smith and von Krogh Strand 2011). These types of buildings often have a ‘sensational’ appearance, unusual visual effects and/or use of unusual materials – sometimes also referred to as a ‘wow factor’. In short, a building that distinguishes itself radically from its surroundings.

There is overriding anecdotal evidence that many of these houses are built with the purpose of attracting new citizens and creating economic development in the municipalities. Just to mention a few examples:

In Hamar Municipality (30,000 inhabitants) a culture house opened in 2014 and had investment costs of 7.8 million EUR. The strategy documents for the municipality explicitly mention that the culture house is an important factor in making the municipality

attractive to people and businesses (Hamar kommune 2011, 2015). The former mayor of the municipality says: ‘Richard Florida has meant a lot to Hamar [...] When we asked ourselves how to develop Hamar further, we used Florida [...] We must attract intellectual and high educated people that can give us a better foundation for the future’ (Godø 2017, own translation). In Os Municipality (19,000 inhabitants) a new culture house opened in 2011, hosting a gallery, a dance studio, a restaurant and a large amphitheatre in an architecturally spectacular building. The mayor of the municipality has said:

If we are to get hold of the ‘right’ kind of inhabitants, we must offer something beyond primary services. We are continually moving up Maslow’s hierarchy of needs, and if a municipality cannot offer these types of facilities, they will move to another place. (Selmer-Anderssen 2015, own translation)

4. Empirical method

The purpose of this article is to study the impact of culture houses on net migration in the Norwegian municipalities. A DiD approach has been used to estimate the effects. DiD estimation can be applied in situations where groups are observed over time, and certain groups are exposed to a treatment and others are not (Angrist and Pischke 2009; Schlotter, Schwerdt, and Woessmann 2011). The development in net migration in municipalities that have not opened a culture house is used as a counterfactual scenario for the development in the treatment group municipalities that have opened a culture house.

In the empirical specification, the fact that culture houses are built in different municipalities and in different years is exploited by contrasting net migration in municipalities with and without new culture houses in the period 2000–2014. A difference-in-difference (DiD) model is estimated:

$$Nm_{jt} = \alpha + \delta(Ch_{jt}) + \mu_j + \tau_t + \varepsilon_{jt} \quad (1)$$

The dependent variable is net migration in percentage of population in municipality j in year t . Ch is the binary treatment variable indicating whether the municipality has a new culture house, and it is equal to one from the year the culture house opened and zero otherwise. Year dummies, τ_t , control for net migration that is common to all municipalities. A vector of regional dummies, μ_j , controls for mean differences in net migration across residence and labour market regions. ε represents the unobserved characteristics of the municipality, which is assumed to be independent to the opening of the culture house, have the same distribution over time and is normalized to have zero mean (Imbens and Wooldridge 2009).

The main equation says that, in the absence of new culture houses, net migration is determined by the sum of a time-invariant regional effect and a year effect that is common across municipalities. The treatment effect is the average effect on net migration of opening a culture house. In the ideal case, the establishment of culture houses would be independent, random events that varied in timing, according to size and geographical location and had no spill-over effect on neighbouring municipalities. If these conditions are met, the equation will provide an unbiased estimate of the average treatment effect.

However, the opening of a culture house cannot be claimed to be entirely random. It can, for instance, be dependent on a minimum size of the municipality and the possibility of financing. An apparent concern is that the treatment and comparison groups are different types of municipalities. The descriptive statistics show that on average the municipalities with new culture houses are larger and more urban compared to the control group. The difference between the treatment group and the comparison group is, however, meant to be captured by the regional fixed effects (Angrist and Pischke 2009; Cameron and Trivedi 2009). A key identifying assumption is that migration trends would be the same for both groups of municipalities in the absence of the opening of the new culture houses. We therefore add regional-specific time trends to model 1, which will allow treatment and control municipalities to follow different trends.

Model 2 includes dummies that control for linear and quadratic regional time trends:

$$Nm_{jt} = \alpha + \delta(Ch_{jt}) + \mu_j + \tau_t + \mu_j t + \mu_j t^2 + \varepsilon_{jt} \quad (2)$$

An additional concern is that the events are perhaps not entirely independent events, with the decision to build a new culture house being affected by the presence of other culture houses in the region. Following the same line of reasoning, it is plausible that there might be spill-over effects, with neighbouring municipalities also being affected by the opening of a culture house. The opening of a culture house in a municipality can make the neighbouring municipality more attractive.

There is a further concern that the effect of a culture house might not be discernible before some time has passed, or the effect might be reduced or vanish after some time. It is also plausible that an ongoing project of building a culture house can contribute to increasing the attractiveness of a place even before it has opened. Extended versions of model 2 control for possible lagged or spill-over effects. The model will also be extended to include the architectural expression and content.

As an alternative specification, model 3 controls for labour market and demographic characteristics of the municipalities and includes dummies for county and year instead of region and year fixed effects. It also includes a dummy, ECh, for having a culture house prior to 2001:

$$Nm_{jt} = \alpha + \delta(Ch_{jt}) + \rho(ECh_{jt}) + \gamma(\ln Labour_{jt-1}) + \varphi(Dem_{jt-1}) + \tau_t + \lambda_c + \varepsilon_{jt} \quad (3)$$

If model 3 is correctly specified, it is expected to produce similar results as model 2. However, it depends on having included the relevant covariates that control for observable differences in the distribution of characteristics between treatment and comparison groups. The literature is, according to Imbens and Wooldridge (2009), not helpful as a guide to which type of covariates to include, beyond warning about including covariates that are themselves influenced by the treatment. Finding control variables that are not outcome variables affected by the treatment itself, however, can be a challenge. Labour market factors can, for instance, be directly affected by the opening of the culture house generating new jobs. The control variables related to labour market and demographics are lagged by one year to reduce this problem.

The main concern when using a DiD approach is possible time-varying omitted variables that might systematically affect either the treatment or the comparison group. A

central assumption is that there are no unobserved characteristics associated both with the potential outcome and the treatment (Imbens and Wooldridge 2009). Substantial changes over time in the differences between observable characteristics of the two groups might suggest unobserved compositional changes that can call the empirical strategy into question. Norway is a vast country with regional differences. County is included as a dummy to control for county-specific shocks.

Standard errors are clustered at municipality level to prevent serial correlation producing biased standard errors, due to the presence of correlation between outcomes within regions and time periods.

The most important inference issue in this type of DiD-model is the behaviour of regional-year shock. The assumption that shocks are independent across regions and over time, and that they are serially uncorrelated, is rarely met. According to Angrist and Pischke (2009), regional shocks are almost certainly serially correlated. There is no consensus on how best to approach the serial correlation problem, but the simplest and most widely used approach is to cluster the standard error at the highest group level, which works well when numbers of groups are large (Angrist and Pischke 2009). Matching is an alternative method that can be applied, but this method is criticized for producing biased results (Arceneaux, Gerber, and Green 2006). We have implemented propensity score matching as a robustness test and compared the results to the results of the DiD approach.

5. Data and descriptive statistics

Information on culture houses has been collected from a survey by Gjestad, Christiansen, and Bach (2014) and the member list of the network of culture houses (Norsk Kulturhusnettverk 2017). This is supplemented with information from official webpages, public documents etc. We have also categorized the type and content of the culture houses, such as cinema, library, culture school etc. This information has been collected online from, for example, the webpages of the culture houses and municipalities. We are confident that the list of cultural houses is comprehensive, and that the online data used is a reliable source. The data are rich, and the quality of the data is high as it comes from official webpages.

As a response to the observation that the list of culture houses seems to range from spectacular structures with a clear 'wow factor' to more modest buildings, we have categorized the architectural expression of the 52 culture houses. We have not succeeded in finding a good description of the term 'iconic building' with a 'wow factor' in its architectural expression. As far as we know, there are no examples in the literature of objective indicators of what makes a building iconic or having a 'wow factor', apart from possibly the type of method as described in Patterson (2012), which uses winners of the renowned Pritzker Architecture Prize to categorize iconic buildings. This is not, however, a feasible method in our context, as few culture houses are projects on this type of scale. As there are no clear definitions to go by, we have thus outsourced the task of categorizing the houses according to their architectural expression to an architect, who has long experience of working on an architecture magazine. We chose not to have definite criteria, but rather have the architect subjectively label the culture houses by assessing the scale and volume of a building, combined with aesthetic and design-related criteria. The architect

found that some of the houses have had a clear ambition of being extraordinarily spectacular and/or innovative and were designed with an aim of having a ‘wow factor’. We emphasize that having had an ambition of being extraordinary is not equivalent to being innovative or even successful in their expression. Several of the culture houses seem to have been heavily influenced by famous buildings or trends. We ended up splitting the culture houses into three categories: (1) the ones that have had a strong ambition of a ‘wow factor’, (2) the ones that have elements of a ‘wow factor’ ambition and (3) the ones that do not have had an ambition of having a ‘wow factor’. 23 culture houses were found to have a clear expression of an ambition of a ‘wow factor’, and 8 have a smaller ‘wow factor’ ambition, while the remaining 21 culture houses did not seem to have an ambition of having a ‘wow factor’.

All data on demographics and labour market have been collected from Statistics Norway’s databases and cover the years 2000–2014. We have used the following measures: net migration, in total and net immigration/domestic migration (dependent variable), size of population, share of population living in urban settlements, share of population with college or university education, share of population employed, number of jobs in municipality, share of population unemployed, number of jobs in service industries, median taxable income of residents, income distribution, average house prices, rate of new enterprises established. In addition, we have used a classification of municipalities into residential and labour market regions (R&L regions) developed by Gundersen and Juvkam (2013).

Table 1 shows some descriptive statistics. The municipalities that have opened a culture house in the years between 2001 and 2014 are shown as the treatment group, and compared to the group of municipalities that have not opened a new culture house in this period (comparison group). Statistics for the beginning and end of the period are reported, as well as the development. The appendix shows descriptive statistics such as minimum and maximum values and standard deviation.

Differences in local tax levels are often included in studies similar to this one. The level of taxes is relatively uniform across Norwegian municipalities, except for tax on the value of property. However, the major source of tax financing is the income tax paid by individuals. Municipalities and counties are allowed to set their own tax rates within a narrow band, but they all use the maximum rate (Borge, Brueckner, and Rattsø 2014). Therefore, we have not included the local tax levels in the study.

6. Results

The aim of the study is to analyse the extent to which the opening of a new culture house might benefit a municipality in terms of attracting new residents.

Table 2 shows the initial estimates of Equation (1). The first column shows net migration as percentage of population regressed on the dummy for new culture houses, which is the same as the correlation between the two variables. The two variables are significantly correlated, but the low R^2 shows that the dummy of opening a culture house explains little of the variation in net migration. The results are similar when time dummies are included in the model, but the coefficient of opening a culture house is reduced to 0.261 and R^2 has increased to 0.085, which is still very low.

Table 1. Descriptive statistics on labour market and demographic in municipalities with and without new culture houses, mean values.

		2000	2014	Growth 2000–2014	Percentage growth 2000– 2014
Population	Treated	37,567.31	44,351.83	6784.52	18.06
	Comparison	6715.42	7454.15	738.73	11.00
	Difference	30,851.89*	36,897.68*	6045.79	7.06
Net migration as percentage of population	Treated	0.15	0.70	0.55	358.60
	Comparison	0.03	0.34	0.30	870.45
	Difference	0.12	0.36*	0.24	–511.85
Share of population living in urban settlements	Treated	70.16	74.59	4.43	6.32
	Comparison	45.12	50.20	5.08	11.26
	Difference	25.04*	24.39*	–0.65	–4.94
Share of population with college or university education	Treated	21.46	30.44	8.98	41.83
	Comparison	16.27	24.30	8.03	49.33
	Difference	5.19*	6.15*	0.95	–7.50
Share of population below age 40	Treated	54.19	49.60	–4.58	–8.46
	Comparison	52.34	46.73	–5.61	–10.71
	Difference	1.85*	2.87*	1.02	2.25
Jobs as percentage of working- age population	Treated	66.12	66.86	0.74	1.12
	Comparison	57.23	56.99	–0.24	–0.42
	Difference	8.89*	9.87*	0.98	1.54
Employment as percentage of working-age population	Treated	69.96	69.43	–0.53	–0.76
	Comparison	69.09	68.40	–0.69	–1.00
	Difference	0.86	1.03	0.16	0.24
Share of working-age population unemployed	Treated	1.86	1.81	–0.06	–3.04
	Comparison	1.86	1.71	–0.15	–8.15
	Difference	0.00	0.10	0.10	5.11
Share of new enterprises (new/ existing enterprises)	Treated	11.85	6.57	–5.29	–44.61
	Comparison	8.54	5.46	–3.08	–36.05
	Difference	3.32*	1.11*	–2.21	–8.56
Number of jobs in service industries as percentage of population	Treated	7.50	7.73	0.23	3.01
	Comparison	5.25	5.56	0.32	6.03
	Difference	2.26*	2.16*	–0.09	–3.02
Median income	Treated	1,96,288.50	3,59,046.20	1,62,757.70	82.92
	Comparison	1,82,283.20	3,40,786.90	1,58,503.70	86.95
	Difference	14,005.30*	18,259.30*	4254.00	–4.04
Income distribution (mean/ median income)	Treated	1.15	1.13	–0.02	–1.72
	Comparison	1.13	1.12	–0.02	–1.52
	Difference	0.02	0.02*	–0.00	–0.20
		2002	2014	2002–2014	% 2002–2014
Average house prices per m ²	Treated	10,547.74	19,364.12	8816.38	83.59
	Comparison	9104.28	15,996.32	6892.04	75.70
	Difference	1443.46*	3367.80*	1924.34	7.88

Note: * indicates a difference of $p < 0.05$.

Table 2. Estimated effects of new culture houses on net migration, 2000–2014.

	(1)	(2)	(3)	(4)	(5)
	0.474***	0.261***	0.043	0.074	0.082
	(0.091)	(0.091)	(0.063)	(0.062)	(0.064)
New culture house					
Year	No	Yes	Yes	Yes	Yes
Residence and labour market region	No	No	Yes	Yes	Yes
Region * time trends	No	No	No	Yes	Yes
Region * quadratic time trends	No	No	No	No	Yes
N	6420	6420	6420	6420	6420
R ²	0.008	0.085	0.276	0.319	0.348

Note: Dependent variable: Net migration as percentage of population. Ordinary least squares estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The third column records net migration regressed on indicator variables of having a culture house and region and time dummies. The results show that the effect of opening a culture house vanishes once mean regional net migration rates and common year effects have been removed.

The results are similar when regional linear time trends are included in column 4. Column 5 includes quadratic regional time trends, which allow net migration to trend nonlinear. The effect of having a new culture house is higher when including time trends but is still not significant. An effect of 0.082 can be interpreted as the opening of a new culture house being associated with an extra net migration of 0.08 percent of population on average. In 2014, the average population of municipalities with new culture houses was 37,567, so the extra migration will be equivalent to 30 persons. However, it should be emphasized that the estimates are not significant.

As an alternative specification, Table 3 includes control variables describing factors related to the labour market, demographic characteristics of the municipalities, and year and county dummies. The controls are lagged by one year. We also include a dummy for municipalities that already had a culture house prior to 2001. Both the opening of a new culture house and the pre-existence of a culture house are positively correlated with net migration in column 1 and are still significant when year and county dummies are included in column 2. The results, however, change when the control variables are included.

Table 3. Estimated effects of new culture houses on net migration, 2000–2014.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
New culture house	0.47*** (0.09)	0.26*** (0.09)	−0.14* (0.08)	−0.13* (0.07)	−0.10 (0.08)	−0.10 (0.08)	−0.11 (0.08)	−0.05 (0.07)
Established culture house	0.31*** (0.08)	0.31*** (0.08)	−0.05 (0.07)	−0.05 (0.07)	−0.03 (0.07)	−0.02 (0.06)	−0.02 (0.06)	0.01 (0.06)
Log of population t_{-1}			0.31*** (0.02)	0.24*** (0.02)	0.25*** (0.03)	0.25*** (0.03)	0.24*** (0.03)	0.00 (0.05)
Share unemployed t_{-1}				−0.21*** (0.03)	−0.22*** (0.03)	−0.22*** (0.03)	−0.16*** (0.03)	−0.03 (0.06)
Share of new enterprises t_{-1}				0.07*** (0.01)	0.06*** (0.01)	0.06*** (0.01)	0.05*** (0.01)	0.06*** (0.02)
Share of population below age 40 t_{-1}					0.03*** (0.01)	0.03*** (0.01)	0.01 (0.01)	0.01 (0.01)
Share of population with college or university education t_{-1}					−0.01 (0.01)	−0.01 (0.01)	−0.02*** (0.01)	−0.01* (0.01)
Share of population living in urban settlements t_{-1}					−0.00 (0.00)	−0.00 (0.00)	−0.00** (0.00)	−0.00** (0.00)
Share of jobs in service industries t_{-1}						−0.00 (0.01)	−0.00 (0.01)	0.00 (0.01)
Median income t_{-1}							0.00*** (0.00)	0.00** (0.00)
Income distribution t_{-1}							0.66* (0.39)	1.05** (0.42)
House prices t_{-1}								0.00*** (0.00)
Year and county dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	6420	6420	5992	5905	5482	5482	5481	2565
R ²	0.02	0.09	0.17	0.20	0.20	0.20	0.21	0.18

Note: Dependent variable: Net migration as percentage of population. Ordinary least squares estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The log of population is entered in (3) as a strong and significant predictor. The main variable of interest, new culture house, becomes negative and significant, however only at ten percent level. This is still a surprising result, indicating that the new culture houses have a negative effect on net migration. Having an established culture house is also negative, but insignificant. This is an important result, indicating that there are no significant long-term effects of having a culture house in terms of attracting residents.

Share of working-age population registered unemployed is entered in (4) as negative and significant, while share of new enterprises is entered as positive and significant. This means that a high share of unemployed people is associated with lower net migration, while a high share of start-ups is associated with higher net migration, which is in accordance with expectations.

The significant effect of opening culture houses vanishes once demographic characteristics have been entered in (5). The share of population below the age of 40 is positively associated with net migration, while the share of population with college or university education and the share living in urban settlements are both negative and insignificant. The indicators relating to the demographic composition are highly correlated, which explains why the situation changes to the opposite in (7) and (8).

Share of jobs in service industries is included in (6) to indicate whether the municipality is a tourist destination. This can also be considered as an indicator of urban amenities such as restaurants, cafes and bars. The coefficient is not significant and seems to have little effect on the other coefficients in the model.

Column (7) includes median income and income distribution in the population, which are both positive and significant, showing that having a population with high income are positively associated with net migration.

When house prices are introduced in (8), many of the coefficients change. Population size and unemployment are no longer significant. House prices are strongly correlated with population size, population share with college or university education, and median income. As not all municipalities are included in the statistics on house prices, the sample is limited to 2565 in (8).

The effect of introducing the demographic variables and house prices illustrates the challenge of having highly correlated variables in the same model. Many of the variables reflect the same urban/rural scale, which makes for difficulties in disentangling the effects. In these situations, there is always a concern about the true relationship between the variables, and the ultimate concern about the extent to which control variables might be affected by the treatment of opening a culture house. However, as we have lagged the control variables by one year, the risk of this should be smaller.

To investigate whether type of building is of significance, in [Table 4](#) we have included dummies for extraordinary architectural expression. In [Table 4](#), category 1 is called large ‘wow factor’, category 2 is called small ‘wow factor’, and category 3 (no ‘wow factor’) is used as a reference.

The results show that having a large ‘wow factor’ is positively associated with net migration, while the category of less ambitious ‘wow factor’ is negatively associated with net migration. None are, however, significant.

[Tables 2, 3](#) and [4](#) provide no information on the dynamics of the effect of the culture houses. Net migration can be expected to be a sluggish variable that responds slowly, and it might not be possible to trace an effect until some time has passed. The effect might also

Table 4. Estimated effects of new culture houses on net migration, 2000–2014.

	(1)	(2)	(3)	(4)	(5)	N
Culture house	0.451*** (0.15)	0.259* (0.14)	0.056 (0.07)	0.084 (0.08)	0.084 (0.08)	52
Large 'wow factor'	0.157 (0.20)	0.120 (0.19)	0.057 (0.13)	0.053 (0.13)	0.061 (0.13)	23
Small 'wow factor'	−0.185 (0.18)	−0.225 (0.20)	−0.190 (0.12)	−0.168 (0.12)	−0.139 (0.13)	8
Year	No	Yes	Yes	Yes	Yes	
Residence and labour market region	No	No	Yes	Yes	Yes	
Region * time trends	No	No	No	Yes	Yes	
Region * quadratic time trends	No	No	No	No	Yes	
N	6420	6420	6420	6420	6420	
R ²	0.01	0.09	0.28	0.32	0.35	

Note: Dependent variable: Net migration as percentage of population. Ordinary least squares estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

stabilize or vanish after some time has passed. It is also plausible that an ongoing project of building a culture house could contribute to increasing the attractiveness of the place for potential residents even before the house has opened. According to correspondence with a representative of the network of culture houses, it typically takes 5–6 years from when a project is launched until the house has opened.

To explore these dynamics, Table 5 provides estimates with leads and lags of the year of opening. Indicator variables include dummies for year opened, 1–3 years before opening, 1–3 years after opening, four years after opening and onward. Granger causality testing means a check on whether past policy variables predicts outcome while future policy variables does not (Angrist and Pischke 2009), conditional on region and year

Table 5. Estimated effects of new culture houses on net migration, 2000–2014.

	(1)	(2)	(3)	(4)	(5)
Opening _{t-3}	0.14 (0.12)	0.18* (0.11)	−0.05 (0.09)	−0.04 (0.09)	−0.05 (0.09)
Opening _{t-2}	0.12 (0.11)	0.07 (0.09)	−0.14* (0.07)	−0.14* (0.08)	−0.14* (0.08)
Opening _{t-1}	0.23* (0.13)	0.17 (0.12)	−0.03 (0.10)	−0.02 (0.10)	−0.01 (0.11)
Year of opening	0.41*** (0.11)	0.29*** (0.11)	0.08 (0.09)	0.10 (0.09)	0.12 (0.10)
Opening _{t+1}	0.38*** (0.09)	0.23** (0.10)	0.01 (0.08)	0.05 (0.09)	0.07 (0.09)
Opening _{t+2}	0.47*** (0.15)	0.29* (0.15)	0.05 (0.14)	0.07 (0.15)	0.11 (0.15)
Opening _{t+3}	0.49*** (0.14)	0.29** (0.13)	0.06 (0.12)	0.10 (0.12)	0.11 (0.12)
Four years after opening and onward	0.53*** (0.11)	0.25** (0.11)	0.02 (0.07)	0.05 (0.06)	0.05 (0.06)
Year	No	Yes	Yes	Yes	Yes
Residence and labour market region	No	No	Yes	Yes	Yes
Region * time trends	No	No	No	Yes	Yes
Region * quadratic time trends	No	No	No	No	Yes
N	6420	6420	6420	6420	6420
R ²	0.01	0.09	0.28	0.32	0.35

Note: Dependent variable: Net migration as percentage of population. Ordinary least squares estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

effects. The idea is to see whether causes happen before consequences, and not vice versa, in this case the opening of the culture house and the growth in migration.

The first column presents the regression with only leads and lags. The coefficients from one year before opening and all years after opening are significantly positive. As we have seen earlier, however, the picture changes when the control variables are included. Two years prior to the opening is significant at a ten percent level in (3)–(5). None of the other coefficients are significant, but the sign changes from negative in the years prior to opening to positive from the year of opening and onward.

Previous research has identified a spill-over effect of cultural services between neighbouring municipalities (Lundberg 2006; Werck, Heyndels, and Geys 2008). Culture houses and their activities will also be available for residents in neighbouring municipalities, and it is plausible that this can influence the attractiveness of these municipalities as well. One way to investigate if municipalities bordering municipalities with culture houses have had higher net migration rates than municipalities not bordering municipalities with culture houses is to include them in the model by using dummies. Table 6 shows estimates in which controls of neighbouring municipalities are included.

Column 2 includes municipalities with new culture houses and dummies for neighbouring municipalities connected by land. The treatment effect of culture houses is positive, but small and insignificant. Column 3 uses a different definition, which also includes borders at sea. This second group includes neighbouring municipalities across fjords and islands. All coefficients remain positive and insignificant.

Overall, the results suggest that the opening of the culture houses has not made the regions significantly more attractive for residents.

7. Robustness tests²

We have taken several additional precautions. The results are dominated by the large cities in the sample, in particular Oslo, Bergen, Trondheim, and Stavanger, and this remains a concern. These municipalities differ from the average municipality in many aspects, and their culture houses are also more specialized. Apart from Bergen, they are all professional concert halls or music venues, while the typical culture houses

Table 6. Estimated effects of new culture houses on net migration, 2000–2014.

	(1)	(2)	(3)
Culture house	0.082 (0.064)	0.087 (0.065)	0.095 (0.065)
Neighbour definition 1		0.022 (0.056)	
Neighbour definition 2			0.051 (0.051)
Year	Yes	Yes	Yes
Residence and labour market region	Yes	Yes	Yes
Region * time trends	Yes	Yes	Yes
Region * quadratic time trends	Yes	Yes	Yes
N	6420	6420	6420
R ²	0.348	0.348	0.348

Note: Dependent variable: Net migration as percentage of population. Ordinary least squares estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

outside the largest cities are multifunctional houses with a cinema and perhaps the local library, culture school or sporting facilities. In an unreported analysis, we left out the four large cities of Oslo, Bergen, Trondheim, and Stavanger, but this did not change the overall results. It is therefore unlikely that these cities are distorting the results to a significant degree.

Another concern of our main empirical method could be that the regional fixed effects are unable to take account of the municipalities within the regions having different trends. Even though the alternative specification in model 3 should control for this, we have also used municipality fixed effects, municipality time trends and county by year dummies, and furthermore we have tested for spill-over effects, architectural expression etc. In general, the results were similar to those using regional fixed effects and time trends, but with more variation in the outcomes. This can probably be ascribed to smaller units providing more 'statistical noise'.

As a robustness test, in an unreported analysis we used propensity score matching, which can be an alternative when the assignment to treatment is not randomized. Based on the same background variables as used in Table 3, the matching process identified municipalities with the same characteristics as the municipalities in the treatment group. The expectation is that the remaining differences between the groups can be attributed to the treatment of opening a culture house. However, this did not produce any significant results or information that shed a different light on the main analysis.

A dataset with individual migration was also applied. Modelling in- and out-migration gave very similar results, which is in line with the conclusion that there seems to be very little effect of opening a culture house. The results showed a pattern of high in-migration to the treatment municipalities, but also high out-migration. These models were not preferred, however, because it was more challenging to control for the differences in municipalities and trends.

The main concern using a DiD approach is of unobserved events systematically affecting either the treatment or the comparison group. The establishment of larger institutions (e.g. universities) or infrastructure projects (e.g. a new railway or bridge) could have a significant impact on the migration trend. But for these events to have an impact on the results, they must systematically affect the treatment and control group differently. We have no reason to believe that there are events that have systematically affected the groups differently. One major event deserving of discussion is the immigration wave Norway experienced following EU enlargements in 2004 and 2007. It is unlikely that this would have systematically affected municipalities with or without new culture houses, but it would seem that immigration has had a different and more uniform geographical pattern than the strongly centralized domestic migration pattern. Therefore, in an unreported analysis we used net domestic migration as dependent variable. The results are in general very similar to the results when using total net migration as dependent variable in Tables 2 and 3. We cannot rule out that opening culture houses has had an effect on attracting certain population groups, such as immigrants, younger and/or with a level of higher education, but the results clearly show that there is no significant effect on net migration.

An additional concern is that migration to a municipality can be restricted due to lack of housing, and that the municipality is unable to respond to the increased demand in the short term. As an alternative, we have tested the effect of opening culture houses on

average house prices measured per square metre of detached houses, given that we can assume increased demand will have a positive effect on house prices. The results in [Table 3](#) also indicate that house prices have strong explanation power. House pricing is a commonly used indicator of attractiveness. However, the results when testing this were ambiguous. The effect was significantly positive when controlling for region and trends, but not significant when using coefficients similar to model 3. The data on housing prices have some important limitations: we only have house price data from 2002 and we do not have data on house prices in all municipalities and for all years, especially in smaller municipalities.

8. Implications for planning and cultural policy

There are many case studies addressing the economic growth effects of culture, but few studies have taken applied a quantitative empirical setup using panel data that allows to test for causal effects. In this article we have studied the causal effects, which makes it a novel contribution to the discourse.

The results show that there is a positive correlation between culture houses and net migration, but no causal treatment effect of opening a culture house was identified. The culture houses were opened in municipalities where net migration was already increasing. Opening a culture house does not lead to the group of municipalities breaking out of the pre-existing trend.

Is it possible that culture houses might have an effect over a longer time period than the one we have measured? Perhaps it will be possible to see an effect after 15 or 20 years? As a test of this, we have included 52 municipalities that have culture houses built prior to 2001. The results show that these municipalities do not have a higher level of net migration than other municipalities. This means that the initial effect has vanished or was never there.

It cannot be ruled out that the earliest projects might have had an effect. The first culture houses to be opened might have had an advantage, but when there are already 100 culture houses then the effect of opening the 101st can be expected to be small. The competition between communities to attract residents is a zero-sum game, and this type of contest could lead to culture houses becoming increasingly spectacular in an attempt to draw attention, as suggested by Bille (2013) and Grodach (2010).

In addition, perhaps only the largest and most spectacular buildings might be expected to have an effect. To test this, we included characteristics of the building. We received help from an architect in specifying the culture houses that seem to have had an ambition of being a venue with a 'wow factor'. However, having an extraordinary architectural expression is not significantly associated with net migration.

Even though we find no effects on migration, the culture houses can bring many positive contributions and benefits to the community. Designed to host professional performing arts events, they make these cultural goods accessible to a wider audience, also outside the big cities. They create new and perhaps needed meeting place. These are important measures, not related to economic development but to the wellbeing and quality of life of the population.

It is important to remember that from an economic theoretical perspective, there is consensus in the literature that the arguments for public support to cultural activities

must be based on market failures and non-market benefits such as consumer externalities linked to the welfare and wellbeing of the population (Frey and Pommerehne 1989; Throsby 2001). Therefore, the positive effects of arts and culture on economic development have long been subject to criticism in the academic literature for essentially being a form of misguided political rhetoric (Campbell, Cox, and O'Brien 2017; Henningsen, Håkonsen, and Løyland 2017). If economic development is the main argument, this may lead to 'wrong' investments in the sense that public support to other cultural activities may lead to a higher social value and welfare. New cultural buildings displacing and disrupting 'local' cultural activities could decrease the social value, also noted by Evans and Foord (1999) and Evans (2005). Woronkowicz et al. (2012) and Woronkowicz (2013) further argue that investment in new cultural facilities has exceeded the demand for these facilities.

The findings in this article provide important information for local policy makers in municipalities and regions, not only in Norway, but in other countries using culture houses as a means of migration and economic growth. While a few examples, such as Bilbao, may stand out, the positive effects on net migration cannot be generalized and are certainly not typical.

Notes

1. For new jobs to have an impact on in-migrations it will in most cases require full employment, which is the case for Norway.
2. All the robustness tests and additional analyses mentioned in this section can be obtained, upon request, from the authors.

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Appendix

Descriptive statistics

		Year	Min	Mean	Max	SD
Population	Treated	2000	2567.00	37,567.31	5,07,467.00	77,977.32
		2014	2361.00	44,351.83	6,34,463.00	96,708.26
	Comparison	2000	256.00	6715.42	59,145.00	8220.49
		2014	211.00	7454.15	71,900.00	9904.79
Net migration as percentage of population	Treated	2000	−1.34	0.15	3.89	0.83
		2014	−0.64	0.70	2.15	0.58
	Comparison	2000	−7.81	0.03	3.69	1.19
		2014	−4.82	0.34	3.24	1.06
Share of population living in urban settlements	Treated	2000	23.35	70.16	99.39	22.96
		2014	29.84	74.59	99.14	20.09
	Comparison	2000	0.00	45.00	98.10	26.93
		2014	0.00	50.20	98.77	26.80
Share of population with college or university education	Treated	2000	11.68	21.46	45.10	7.36
		2014	19.78	30.44	55.10	8.53
	Comparison	2000	7.51	16.27	34.34	4.40
		2014	13.53	24.30	45.26	5.24
Share of population below age 40	Treated	2000	48.21	54.19	59.94	3.01
		2014	42.95	49.60	58.49	3.41
	Comparison	2000	30.37	52.34	66.52	4.37
		2014	34.71	46.73	60.61	4.84
Jobs as percentage of working-age population	Treated	2000	29.48	66.12	107.86	12.97
		2014	33.74	66.86	92.79	13.47
	Comparison	2000	20.52	57.23	118.66	12.54
		2014	23.87	56.99	136.52	13.32
Employment as percentage of working-age population	Treated	2000	61.55	69.96	76.83	3.45
		2014	62.51	69.43	75.54	3.44
	Comparison	2000	54.87	69.09	139.06	5.93
		2014	56.32	68.40	81.25	4.54
Share of working-age population unemployed	Treated	2000	0.81	1.86	3.11	0.57
		2014	0.47	1.81	2.92	0.59
	Comparison	2000	0.31	1.86	7.49	0.93
		2014	0.33	1.71	4.78	0.67
Share of new enterprises (new/existing enterprises)	Treated	2000	5.70	11.85	21.30	3.99
		2014	3.03	6.57	9.26	1.47
	Comparison	2000	2.35	8.54	18.79	2.86
		2014	1.61	5.46	10.83	1.62
Number of jobs in service industries as percentage of population	Treated	2000	2.32	7.50	11.51	2.26
		2014	3.31	7.73	12.92	2.16
	Comparison	2000	1.05	5.25	19.84	2.75
		2014	1.10	5.56	16.54	2.68

(Continued)

Continued.

		Year	Min	Mean	Max	SD
Median income	Treated	2000	1,59,300.00	1,96,288.50	2,56,900.00	23,625.62
		2014	3,03,700.00	3,59,046.20	4,36,400.00	28,840.72
	Comparison	2000	1,35,300.00	1,82,283.20	2,45,100.00	19,776.15
		2014	2,69,700.00	3,40,786.90	4,33,700.00	27,566.07
Income distribution (mean/median income)	Treated	2000	1.05	1.15	1.37	0.07
		2014	1.05	1.13	1.31	0.06
	Comparison	2000	1.00	1.13	1.85	0.07
		2014	1.01	1.12	1.36	0.04
Average house prices per m ²	Treated	2000	5211.00	10,547.74	20,687.00	3855.94
		2014	9860.00	19,364.12	42,606.00	7679.02
	Comparison	2000	4139.00	9104.28	17,411.00	2453.60
		2014	7006.00	15,996.32	32,422.00	5223.92



From Bilbao to Bodø: how cultural flagships are transforming local cultural life

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Abstract

In recent years, we have seen large investments in spectacular buildings hosting cultural institutions, with the dual aim of facilitating culture and generating economic growth. This article raises the question of whether the investments have shifted the priorities of cultural policy, and sets out to investigate the effect of the establishment of 52 culture houses in Norwegian municipalities using panel data and a difference-in-difference approach. The results confirm an increased prioritization of the sector in the years following the opening of the culture houses, indicated by a large increase in the municipal expenses for culture. The results further support that there has been a shift in priority, as there seems to be a stronger support for professional arts and a lower support for activities directed toward amateur organizations and children/youth. There are also strong indications of growth in “new” arenas of art and culture, indicated by a significant increase in the number of cinema displays and theater performances, in addition to a significant growth of jobs related to art and entertainment.

Keywords Local cultural sector · Cultural facilities · Flagships · Cultural amenities · Norway

An earlier version of the paper was presented at 8th Nordic Conference on Cultural Policy Research in Helsinki in 2017 (<https://www.jyu.fi/en/congress/nccpr2017>). A related paper was also presented at the DRUID Academy Conference in Bordeaux 2016: Storm (2016). *Are culture houses making places more attractive?* DRUID Academy Conference, Bordeaux. https://conference.druid.dk/acc_papers/vxdoryi44ahyt1tmgcg6g29557dv.pdf.

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1 Introduction

There has been a growing trend in many Western countries to invest in new buildings, often with spectacular architecture specifically designed to host different cultural activities (Andersson, 2014; García, 2004; Henningsen et al., 2015; Woronkiewicz, 2013). However, the aim of these investments seems to not only to have been to facilitate and promote culture, but also to contribute to economic and demographic development (Henningsen et al., 2015). Such projects are often termed cultural flagships (Andersson, 2014; Grodach, 2010; Smith & von Krogh Strand, 2011). This article raises the questions of whether: (1) the establishment of culture houses has shifted the priorities of cultural policy, and (2) how the large investments in facilities have affected the supply of cultural goods and services in the local communities. In this way, the article highlights an important, but less studied, aspect of an otherwise popular topic in the literature.

The article also furthers previous research by following an empirical causal approach that in general is lacking in this type of literature (Campbell et al., 2017; Markusen & Gadwa, 2010; Woronkiewicz, 2013). A sample of 52 culture houses that opened in the period from 2001–2014 in Norway is used as a case in this study.¹ The article sets out to analyze the causal effect of these establishments using a panel data structure and a difference-in-difference approach. The results strongly indicate that the investments have been followed by an increased prioritization of the sector, but also a shift in the priority of types of local cultural services.

The massive investments in culture houses that have occurred since the turn of the millennium can be claimed to be heavily inspired by theories about the creative class (Florida, 2002) and the “Bilbao effect” (Bille & Storm, 2021; Gómez, 1998; Henningsen et al., 2015; Plaza, 2006). This practice has continued despite the limited evidence of such effects, as well as a general warning of assuming a positive effect of art and culture on economic development (Bille & Schulze, 2006; Henningsen et al., 2015; Tubadji et al., 2014; Woronkiewicz, 2013). In Norwegian data, Bille and Storm (2021) have shown that the large-scale investments in culture houses have not made the municipalities more successful in terms of attracting new residents.

The new culture houses represent large economic and political investments for the communities in Norway. Henningsen et al. (2015) show that expenditures on the cultural sector have increased considerably since the beginning of the millennium and that a large part of the costs are related to investments in culture houses. One of the most costly culture houses in Norway is Stormen, located in the city of Bodø in the northern part of Norway. With a population just below 50,000, the municipality opened a “culture block” in 2014 at an investment cost of 1,181 million NOK/131² million EUR (Bodø kommune, 2013).

The establishment of culture houses is claimed to signal a shift away from a focus on the broad concept of culture, and on to more elitist forms of art and culture

¹ See Bille and Storm (2021) for a closer description of the sample.

² Exchange rate 9.04 NOK 31. December 2014 (source: <https://www.valuta-kurser.no/valutakurs-31-desember-2014>).

(Henningsen et al., 2015). It is further described to be strongly connected to the structural change the cultural sector in Norway has been undergoing since the 1990s. Public resources granted to traditional local cultural institutions have decreased, and there has been a rise in resources granted to new arenas of local cultural life such as culture houses (Agedal et al., 2009; Henningsen et al., 2015). However, these claims are based on descriptive statistics of development in the cultural sector and cannot be causally linked to the establishment of culture houses. This article uses a methodological approach designed to separate the effect of the establishment of cultural houses from the general trend in the sector, and through this contributes to a deeper understanding of what type of effects such large-scale investments in cultural buildings have on local cultural goods and services.

There is a large amount of literature concerning the (theoretical) benefits of art and culture, although few studies have attempted to empirically investigate the impacts on a larger geographical scale. The ones that have concerned the effect of art and cultural institutions on urban regeneration or economic growth include (Bille & Storm, 2021); Boualam, 2014; Falck et al., 2011; Grodach et al., 2014; Noonan, 2013; Tubadji et al., 2014; ; ; ; . In addition, a large amount of conceptual articles and case studies focus on the subject, such as Bianchini and Parkinson (1994), Bille and Schulze (2006), García (2004), Gómez (1998), McManus and Carruthers (2014) and Grodach (2010).

The article is organized as follows: Sect. 2 accounts for the Theoretical Background, and presents a hypothesis on the effects of the opening of culture houses on local cultural goods and services. Section 3 presents the Data, and Sect. 4 outlines the Empirical Method. Section 5 presents the Results, while Sect. 6 presents the Discussion and Conclusion.

2 Theoretical background

Despite the long-term focus on the instrumental benefits, little attention has been devoted to how the large investments in art and culture have impacted the supply of art and culture, and how it relates to the overall objectives of cultural policy. Woronkiewicz (2013) identifies that most of the work looks at the effects of arts and culture on providing regional benefits, such as economic development and (to a lesser extent) community-level social development. Some studies have also examined the intersection of cultural and urban policy, and in particular the motivations behind using development strategies anchored in the arts.

The literature that concerns the effects of investments in art and culture have primarily been focused on how arts can play a key role in revitalizing urban areas and contribute to economic growth. The examples are numerous, but central concepts are theories about the creative class (Florida, 2002) and the “Bilbao effect” (Gómez, 1998; Plaza, 2006). The study by Bille and Storm (2021) provides a thorough description of this literature, and how it has inspired large-scale investments in culture houses in Norway. Woronkiewicz (2013) and Woronkiewicz et al. (2012) describe a similar phenomenon of cultural facility investments in the US.

Woronkowicz (2013) finds that the determinants of cultural facility building are multi-layered and complex, but that there is little empirical work on the topic. Woronkowicz analyzes macro-level determinants of cultural facility building for all metropolitan statistical areas in the US between 1994 and 2008, finding that investments in cultural facilities are associated with the level of cultural facility stock, population change and education and median household income levels. Woronkowicz did not find that the composition of the cultural sector influenced investment decisions, and questions whether cultural sector demands have been adequately assessed.

How much the municipalities spend on cultural services depends on several factors related to the political, demographic and economic situation of the communities. This includes aspects of the municipality, such as the financial resources available and political factors, and of the community and its inhabitants, such as size and population density, age structure, gender differences unemployment, education and income level (see e.g. Benito et al., 2013; Håkonsen & Løyland, 2016; Werck et al., 2008 for an overview). It is assumed that the public funding of culture is influenced by the financial resources available (Hjorth-Andersen, 2013). A high level of debt will restrict the resources, and is likely to lead to lower levels of public goods (Werck et al., 2008). This is why investing in culture houses can lead to other types of local services, including cultural services, being crowded out through budget constraints.

Cultural services have been claimed to be one of the few sectors that are less subject to central restrictions and regulations, and thus one of the few areas in which local politicians enjoy the authority to decide (Benito et al., 2013). But local cultural services are not a homogenous phenomenon, and may be affected differently by budget priorities. The results from Håkonsen and Løyland (2016) show that in general “local cultural expenditures” are not affected by economic, demographic or political variables in a uniform manner. They tested the level of income elasticities of different cultural services with respect to free income, and found that it varied significantly. The results may therefore reflect the number of central government regulations and standards within the various sectors. There are few such regulations within the most elastic cultural subcategories, while the two cultural subcategories with more moderate income elasticities, culture schools and libraries, are sectors where the supply is statutory³ (Håkonsen & Løyland, 2016).

We can make the following simple assumptions concerning the effect of opening a culture house: Goods and services that are complimentary to opening a culture house are expected to be positively affected due to improved facilities and increased prioritization. On the other hand, cultural goods and services that are substitutes can be expected to be negatively affected and crowded out through budget constraints. Nonetheless, there are exceptions for services that are regulated and/or not under direct municipal control.

³ It is mandatory to offer education within music and other arts for children and young people, whether alone or in collaboration with neighboring municipalities. Public libraries is also a mandatory municipal service, with requirements of staff with specialist educational background.

Table 1 Summary of subcategories of cultural goods and services

	Complimentary	Municipal control	Expectation
Art dissemination	Yes	High	Positively affected
Cinema	In most cases, yes	High	Positively or not affected ^a
Museum	No	Low	Not affected ^b
Children and youth activities	No	High	Negatively affected
Culture school	In most cases, no	Low	Negatively or not affected ^c
Libraries	In most cases, no	Low	Not affected
Culture buildings	Yes	High	Positively affected

^aMany cinemas are privatized, especially in the larger cities and regional centers, and these municipalities have no expenses related to cinemas. Municipal expenses are thus not expected to be affected, even though the number of displays and/or visits might increase

^bThe museum sector has been affected by a consolidation of the ownership structure. Many museums are no longer under direct municipal control, but instead receive grants directly from central and county governments (Håkonsen & Løyland, 2016). This suggests that the support of museums will not be affected by the opening of culture houses

^cDue to central regulation and the fact that the service is estimated to be (marginally) a necessity good, culture schools should not be affected. However, a change in funding occurred in 2003, in which earmarked state funding was replaced by increased general grants (Håkonsen, 2015). This makes the service more influenced by the municipalities' priorities and budget constraints

Table 1 presents the various subcategories of cultural goods and services: whether they can be considered complimentary to culture houses, the degree of municipal control, and how they are expected to be affected by the opening of a new culture house.

The number of jobs in art and culture can be considered as both an indicator of growth, and to describe local cultural amenities. The level of local cultural amenities is assumed to be closely related to the number of jobs in the art and culture sector, which are generally expected to increase in municipalities that open new culture houses. Some jobs are probably directly linked to the new culture house itself, while others can be a result of increased demand or a more inspiring and productive cultural environment. It is further likely that different types of jobs will be affected differently. Jobs linked to art and entertainment are expected to be positively affected, while jobs in traditional institutions, such as libraries and culture schools, are expected to not be affected or even negatively affected.

The expected effects of opening the culture houses can be summarized in the following hypothesis:

1. *Expenses*: Municipal expenses for culture will increase, but are mostly related to the investments in the culture houses. Expenses related to local goods services that are complementary will increase, whereas expenses related to goods and services that are substitutes will decrease. Services that are not under municipal control will not be affected.
2. *Supply of goods and services*: The establishment of the culture houses will have a positive effect on the number of professional art performances, but have a negative effect on locally initiated and less professional activities and events.

3. *Jobs*: The establishment of the culture houses will lead to a growth in *jobs* in art and entertainment, but not in traditional institutions.

3 Data

Information on culture houses was collected from a survey conducted by Gjestad et al. (2014), in addition to the member list of the network of culture houses (Norsk Kulturhusnettverk, 2017). This is supplemented with information from official web-pages, public documents, etc., further described in Bille and Storm (2021). The data is comprehensive and well described. The level of detail and diversity in the time and types of cases provide a unique panel data setting. Data on municipal cultural goods and services have mainly been collected from the databases of Statistics Norway, which are subject to high-quality standards (Statistics Norway, 2020), and include:

- Municipal operating expenses on culture, in total and by subcategories⁴ of children and youth activities, libraries, cinemas, museums, art dissemination, culture schools and other cultural activities, as well as expenses to cultural buildings;
- The number of cinema displays, visits to cinemas, library loans, students in culture school, FTEs in culture schools, and
- Number of jobs related to artistic and recreational activities and cultural institutions such as libraries and museums.⁵

Data on theater performances is provided directly by The Norwegian Touring Theater (Riksteateret), and covers the years from 2005 to 2014.

All data on demographics and the labor market has been collected from Statistics Norway's databases, and covers the years from 2000 to 2014. This includes:

- Size of the population, in total and by age, living in an urban settlement, and with a higher education;
- Annual average of working age population registered as unemployed;
- Median taxable income, and
- Municipal revenue, sum of grants from central government and regulated tax on income and wealth tax.⁶

In addition, it is used as:

- A classification of municipalities into residential and labor market regions (R&L regions) developed by Gundersen and Juvkam (2013), intended to be a func-

⁴ A closer description of the subcategories can be found in Appendix 1.

⁵ The entire list of sectors that are included and number of jobs can be found in Appendix 2.

⁶ The main part of municipal budgets is determined by this exogenous variable (Lunder, 2016).

tional expression of the geographical correlation between households and working life.

- The share of seats for left-wing parties from a panel data set constructed by Fiva et al. (2017).

Appendix 3 provides descriptive statistics of the treatment and comparison of municipalities, showing statistics for mean, minimum and maximum values and standard deviations. The descriptive statistics reveal a picture of municipalities in the treatment group of being larger on average, in terms of population, and more urbanized than the comparison group.

4 Empirical method

The empirical method will first be developed to analyze the effect of opening culture houses on municipal expenses for culture. The fact that culture houses are built in different municipalities and years is exploited by contrasting operating expenses for culture in municipalities with and without new culture houses in the period from 2000 to 2014. A difference-in-difference (DiD) model is estimated:

$$\text{Exp}_{jt} = \alpha + \delta(\text{Ch}_{jt}) + \mu_j + \tau_t + \varepsilon_{jt} \quad (1)$$

The dependent variable is operating expenses for culture per inhabitant in municipality j in year t . Ch is the binary treatment variable, indicating whether or not the municipality has a new culture house, and is equal to one from the year the culture house opened and zero otherwise. A vector of municipality dummies, μ_j , controls for the mean differences in operating expenses to culture across municipality, while year dummies, τ_t , controls for the operating expenses to culture common to all municipalities. ε represents the unobserved characteristics of the municipality, which are assumed to be independent of the opening of the cultural house, have the same distribution over time and are normalized to have a zero mean (Imbens & Wooldridge, 2009).

The main equation says that in the absence of new culture houses, operating expenses to culture are determined by the sum of a time-invariant municipality effect and a year effect common across municipalities. The treatment effect is the average effect of the opening of a culture house on operating expenses for culture.

The difference between the treatment and comparison group is meant to be captured by the municipality's fixed effects (Angrist & Pischke, 2009; Cameron & Trivedi, 2010). A key identifying assumption is that the trends in the growth in operating expenses for the culture sector would be the same in both groups of municipalities in the absence of the opening of new culture houses. This is an assumption that can be challenged. Municipality-specific time trends are therefore added to Model 1, which will allow treatment and control municipalities to follow different trends. County-by-year dummies are also included.

Model 2 includes dummies that control for linear and quadratic municipality time trends, with λ_{ct} indicating county-by-year dummies:

$$\text{Exp}_{jt} = \alpha + \delta(\text{Ch}_{jt}) + \mu_j + \tau_t + \mu_j t + \mu_j t^2 + \lambda_{ct} + \varepsilon_{jt} \quad (2)$$

As an alternative specification, Model 3 controls for the labor market and demographic characteristics of the municipality, and includes dummies for county and year instead of municipality and year fixed effects. I also included a dummy, ECh, for having a culture house prior to 2001:

$$\text{Exp}_{jt} = \alpha + \delta(\text{Ch}_{jt}) + \rho(\text{ECh}_{jt}) + \gamma(\ln\text{Labor}_{jt-1}) + \varphi(\text{Dem}_{jt-1}) + \tau_t + \lambda_c + \varepsilon_{jt} \quad (3)$$

If Model 3 is correctly specified, it is expected to produce results similar to Model 2. Still, this depends on having the relevant covariates included that control for observable differences in the distribution of characteristics between the treatment and comparison groups. The control variables related to labor market and demographics are lagged by one year to reduce the problem of having covariates that are themselves influenced by the treatment.

Standard errors are clustered at the municipality level throughout to prevent serial correlation-produced biased standard errors, due to the presence of a correlation between outcomes within regions and time periods.

Similar versions of Model 2 will be used to analyze the effect on cultural services and jobs in art and culture. STATA 15 was used in the estimation of the models.

5 Results

The results will be presented in three sections. The first section analyzes how the establishment of culture houses has affected local governmental spending, the second section on how it has affected the supply of cultural activities and the third section on how it has affected jobs in the art and culture sector.

5.1 Expenses

In Table 2, the effect of opening culture houses on the municipal expenses for culture is tested by using Models 1 and 2 as specified in the previous chapter. The results show that the operating expenses have increased significantly more in the treatment municipalities. The effect of opening a culture house remains positive and significant at the 1% level when including municipality and year dummies, municipality linear time trends, quadratic time trends and county-by-year dummies. On average, the municipalities used 180 NOK/20⁷ EUR more per inhabitant on culture per year after the culture house opened. The second part of the table shows that the expenses in the culture sector as a share of total operating expenses in the municipality increased significantly compared to the control group (or were less reduced,

⁷ Exchange rate of 9.04 NOK on December, 31 2014 (source: <https://www.valuta-kurser.no/valutakurs-31-desember-2014>).

Table 2 Estimated effects of new culture houses on municipal operating expenses for culture inhabitant, 2000–2014

	(i) Expenses per inhabitant					(ii) Percentage of total expenses in municipality				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Culture house	227.6 (1.39)	122.3 (1.46)	167.8*** (3.06)	186.5*** (3.06)	179.9*** (2.91)	0.475** (2.15)	0.367** (2.47)	0.371** (2.48)	0.461*** (2.98)	0.447*** (2.90)
Municipality and year dummies	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Municipality * time trends	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Municipality * quadratic time trends	No	No	No	Yes	Yes	No	No	No	Yes	Yes
County-by-year dummies	No	No	No	No	Yes	No	No	No	No	Yes
<i>N</i>	6124	6124	6124	6124	6124	6124	6124	6124	6124	6124
<i>R</i> ²	0.001	0.886	0.948	0.961	0.963	0.948	0.961	0.880	0.910	0.913

Dependent variable: (i) Municipal operating expenses for the culture sector per inhabitant, and (ii) operating expenses for the cultural sector in percentage of the total operating expenses in the municipality. Ordinary least squares estimates. Huber-White robust SEs in parentheses allow for an arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Yes/No indicates dummies

Table 3 Estimated effects of new culture houses on municipal operating expenses for culture per inhabitant, 2000–2014

	Children and youth	Library	Cinema	Museum	Art diss	Culture school	Culture buildings
Culture house	– 14.5* (– 1.87)	2.1 (0.16)	– 6.4 (– 0.94)	– 12.6 (– 0.65)	5.5 (0.78)	– 27.1 (– 1.63)	242.7*** (3.41)*
Municipality and year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipality * time trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quadratic municipality * time trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County-by-year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	6124	6124	6124	6124	6124	6124	6124
<i>R</i> ²	0.81	0.94	0.86	0.88	0.81	0.95	0.93

Note. Dependent variable: Municipal expenses for culture per inhabitant. Ordinary least squares estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. Yes/No indicates dummies

given that the descriptive statistics showed an average reduction in the share in both groups of municipalities). This supports the expectation of an increasing prioritization of the sector.

In Table 3, the expenses are differentiated between the subcategories. Not surprisingly, there is a positive effect on expenses for cultural buildings, which refers to the category “other cultural activities and expenses to cultural buildings.” On average, municipalities in the treatment group spend 243 NOK/25 EUR more on operating expenses for culture buildings and “other cultural activities” per inhabitant after the culture house has opened. It can also be seen that the municipalities in the treatment group use significantly less on average on children and youth activities. They further use less on cinema, museums and culture schools, though these differences are not significant. There is a positive effect on expenses for libraries and art dissemination, with the results indicating that the culture houses have been followed by a stronger support for professional arts and a lower support for other activities.

5.2 Cultural goods and services

Table 4 uses cinema displays and theater performances as dependent variables in the empirical model. The first part of the table shows that the opening of a new culture house has had a positive and significant effect on the number of cinema displays per inhabitant, also when municipality, year, trend and county dummies are included. The second part of Table 4 shows that the opening of a new culture house has also had a positive effect on the number of theater performances. These results are robust to alternative specifications. However, because there is only data on theater performances for the years from 2005 to 2014, the number of observations is reduced to 726. There was an additional attempt to estimate the effect on libraries and culture schools, but none of the results were significant.

5.3 Jobs

Figure 1 in Appendix 4 describes the development in the number of jobs related to art and entertainment (such as artistic and recreational activities) and cultural institutions (such as libraries and museums) in the years from 2000 to 2014. The figure shows that both groups of municipalities have had a growth in the number of jobs in art and culture during this period. In particular, the growth has been high in art and entertainment, especially in the treatment group of municipalities. Unfortunately, it is not possible to trace the development in the subsectors directly, due to the changes in classification from SIC2002 to SIC2007, although artistic jobs seem to be the dominant sector.⁸ It is also these types of jobs that seem to have had the highest growth. Jobs in libraries, museums and preservation of the historical seem to be more evenly distributed, with the number of jobs in these sectors having been relatively stable throughout the period.

⁸ The list of sectors that are included and number of jobs can be found in Appendix 2.

Table 4 Estimated effects of new culture houses on number of cinema displays per 100 inhabitants, 2000–2014, and number of theater performances, 2005–2014

	Cinema displays					Theater performances				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Culture house	5.050*** (0.713)	2.132*** (0.544)	1.855*** (0.445)	1.554*** (0.481)	1.315*** (0.505)	1.883*** (0.476)	1.060*** (0.422)	1.037*** (0.461)	0.892* (0.484)	1.119*** (0.475)
Municipality and year dummies	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Municipality * time trends	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Municipality * quadratic time trends	No	No	No	Yes	Yes	No	No	No	Yes	Yes
County-by-year dummies	No	No	No	No	Yes	No	No	No	No	Yes
<i>N</i>	3711	3711	3711	3711	3711	726	726	726	726	726
<i>R</i> ²	0.057	0.791	0.857	0.885	0.890	0.0409	0.864	0.908	0.926	0.935

Dependent variable: Number of cinema displays per 100 inhabitants and number of theater performances. Ordinary least squares estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Yes/No indicates dummies

Table 5 Estimated effects of new culture houses on jobs in art and entertainment, 2000–2014

	(1)	(2)	(3)	(4)	(5)
Culture house	1.538*** (0.255)	0.242*** (0.0887)	0.220** (0.0851)	0.211** (0.102)	0.241** (0.109)
Municipality and year dummies	No	Yes	Yes	Yes	Yes
Municipality * time trends	No	No	Yes	Yes	Yes
Municipality * quadratic time trends	No	No	No	Yes	Yes
County-by-year dummies	No	No	No	No	Yes
<i>N</i>	6262	6262	6262	6262	6262
<i>R</i> ²	0.063	0.928	0.951	0.963	0.965

Dependent variable: Log of jobs in art and entertainment. Ordinary least squares estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Yes/No indicates dummies

Table 5 shows estimates where the log of jobs in art and entertainment are regressed on the dummy for opening culture houses. The results show that there is a positive and significant association between opening a culture house and jobs related to art and entertainment. This is a strong indication that the opening of the culture house has led to more jobs in art and entertainment. The point estimate of 0.241 in (5) means that opening a new culture house can be associated with an extra growth in the number of jobs of 27.25%. On average, there were 136 jobs in this sector in 2000 in the treatment group, which makes the treatment effect equivalent to an extra growth of 37 jobs.

Table 6 in Appendix 4 presents the alternative specification, which includes lagged controls related to the demographic, political and financial characteristics of the municipalities. Dummies for year, county and having a culture house that opened prior to 2001 are also included. The treatment effect of opening a culture house is insignificant from (5), but has a positive sign in all specifications. Having an established culture house, opened prior to 2001, is also significantly associated with the number of jobs in art and entertainment in (1)–(4).

The size of the population is a strong and consistent predictor of the number of jobs in art and entertainment. The share of the population with a higher education is also positive and significantly associated with the dependent variable. This is consistent with the expectation that human capital has a higher demand for cultural amenities. The share of the population below 40 and the share of the population in urban settlements are unexpectedly negatively associated with jobs in the culture sector, but this might be a result of the high correlation between the demographic variables.

6 Discussion and conclusion

The background of this paper is the Western trend of massive investments in cultural institutions, many characterized by spectacular architecture and clear ambitions of contributing to the economic and demographic development of the places

(Andersson, 2014; Bille & Storm, 2021; García, 2004; Henningsen et al., 2015; Woronkiewicz, 2013). This article raises the questions of whether the investments in cultural facilities have shifted the priorities of cultural policy, and what the effects on the supply of arts and culture have been. The article investigates how the establishment of 52 culture houses in the period from 2001 to 2014 have affected cultural goods and services in Norwegian municipalities, by using panel data and a difference-in-difference approach.

The first section of the analysis addresses the question of how the investments in culture houses have affected the support to—and priorities of—the culture sector by investigating the development in municipal expenses for culture. The hypothesis was that municipal expenses for culture had increased more in municipalities that opened a culture house, but that this was mostly related to the investments in culture houses. The results confirm that, on average, the municipal operating expenses for culture had increased, and that there had been a significantly higher growth in expenses for “cultural buildings and other cultural activities.”

However, the increased expenses to building and running a culture house can lead to reduced levels of other public goods and services, including art and culture, through budget constraints. Still, different types of goods and services are expected to be affected differently, according to being complementary or substitutes to the new culture houses, in addition to the degree of regulation and municipal control (previously summarized in Table 1). The results showed that the treatment group had higher, though not significant, expenses to *art dissemination* (expected to be positively affected). Expenses to *children and youth activities* (expected to be negatively affected) had been significantly reduced, while expenses to *culture schools* (expected to have a neutral or negative effect) were non-significantly reduced. It was not clear if expenses to *cinemas*, *libraries* and *museums* would be affected, which the results also confirm did not occur.

The second section of the analysis investigated how the establishment of the culture houses affected the supply of cultural goods and services in the local community. The hypothesis was that the establishment of the culture houses would have a positive effect on the number of professional performances and events, but have a negative effect on locally initiated and less professional activities and events. The results confirm that the number of cinema displays and theater performances increased in the treatment group after the new culture houses opened. There was also an attempt to estimate the effect on libraries and culture and music schools, but the results were not significant.

The third section of the article investigated how the establishment of the culture houses affected the number of jobs in the art and culture sector. In this context, jobs are used as both an indicator of growth and to describe local cultural amenities. The results showed a strong indication that the new culture houses had an effect on jobs. There has (as expected) been a strong growth in jobs in art and entertainment in the treatment group, whereas jobs in traditional institutions such as libraries and museums seem to have been less affected. However, the results are not robust for all specifications. The descriptive statistics show that the trend of high growth in jobs in art and entertainment also existed prior to the opening of the culture house. The explanation could be that culture houses were opened in municipalities that were

already oriented toward art and culture, and were therefore experiencing a boost in the sector. This explanation is consistent with the findings of Bille and Storm (2021) and Woronkiewicz (2013).

The results can be seen in relation to the concern that the massive investments in culture houses have harmed the support of traditional cultural institutions and services presented in academic studies (Henningsen et al., 2015), in media (Hoff, 2013; Selmer-Anderssen, 2015) and in central policies (Norwegian Ministry of Culture, 2013). The overall results support this, as the different results combined reveal a picture of the establishments of culture houses having been followed by an increased prioritization of the culture sector and a shift in the priority of local cultural services. The results further show a clear indication of a stronger support for professional arts and a lower support for activities directed toward amateur organizations and children/youth. There are also strong indications of the local cultural sector having become more oriented toward art and entertainment, indicated by a significant increase in the number of cinema displays and theater performances, in addition to a significant growth in jobs related to art and entertainment.

It is important to emphasize that the shift in priority has not necessarily been an intended strategy, but might be an unintended consequence of the investment in a culture house. The less complimentary and regulated types of art and culture are crowded out through budget constraints and the new conditions the culture house represents. According to media reports, there has been a tendency to underestimate both the construction costs and the costs of running the house,⁹ while overestimating the income potential. The result is a higher economic liability for the municipalities than what was initially envisioned, hence making them more dependent on generating revenue from the market and the programming of commercial events (Henningsen et al., 2015; Hoff, 2013; Journalen, 2014).

A remaining question, that Woronkiewicz (2013) also addresses, is to what degree the local demand for culture have been addressed in these processes. Woronkiewicz warns that ignoring the characteristics of communities that define the demand for culture can have serious economic consequences, and point to the number of arts organizations in the US that have experienced financial difficulties as a result of pursuing capital facility projects. Claims of Norwegian culture houses not putting the needs of the local community first, and for being unaffordable and crowding out youth and amateurs, have frequently appeared in the media (Journalen, 2014; Selmer-Anderssen, 2015). Such arguments are similar to the critique of the gentrification for largely benefiting the elites and causing the displacement of established lower-income residents and small businesses (Grodach et al., 2014; Noonan, 2013). It is however important to keep in mind that far from all culture houses are in the category of a “spectacular culture house” with the aim of having a “wow factor.”

⁹ The culture houses often get funding from the state and the county, but the majority of the investment costs are usually borne by the municipalities themselves. The responsibility of running the culture houses is further the municipalities. On average, the culture houses derive 30–40% of their funding from government sources, according to the Norwegian Ministry of Culture (2013).

Many are more modest buildings designed to meet the needs of the community (Bille & Storm, 2021).

It is further important to emphasize that the effects studied are on short and medium term, and focus mainly on cultural services provided by the local government. Effects on the broader community, such as cultural life and participation, are only partly included. It would have been an advantage for the study to have more detailed data on different types of cultural goods and services, especially to describe participation and number of less professional activities and events. In this way could for example big data approach be used to study potential qualitative changes in cultural practices.

There are several possible positive effects that the study have not tested, such as that the culture houses create a new and perhaps needed meeting place. It is also suggested that the projects can lead to improvements in the pride and image of the place. In the case of Bilbao, qualitative effects of the Guggenheim museum and its surrounding area have been highlighted, such as the general perception of Bilbao among the residents and tourists, as well as on the quality of life in the city (Heidenreich & Plaza, 2015; Plaza & Haarich, 2015; Plaza et al., 2015). Cultural institutions are also claimed to be able to enhance the openness and tolerance of a city and contribute to the cross-fertilization of ideas, and to contribute to a creative and innovative milieu (Heidenreich & Plaza, 2015).

It might be that the positive effects will be more prevalent in the longer term. Once the financial challenges are overcome, the benefits might outweigh the downsides. The culture houses provide new opportunities, as they are often designed to host professional types of art, which can also make these types of cultural services more available outside the biggest cities. A possible long term effect of a culture house can be that the inhabitants become more engaged, and arts play a larger part in their lives. But at the same time, the attention for the arts can go at the expense to attention for youth, amateurs and neighborhoods. This study provides only a few indications, the long term effects of these projects are yet to be seen. In future studies, it will be interesting to return to studying these questions with more and better types of data.

The large-scale investments in culture houses in Norway is a unique case, although investments in similar buildings hosting cultural institutions can be seen in many other Western countries. Thus, it is likely that the results from this study are relevant for similar measures in other countries. This article has taken the causal impact of contemporary buildings hosting cultural institutions into account, which makes it a novel contribution to the discourse.

Appendix 1

231 Activities for children and youth

Initiatives that are mainly oriented to children and youth. This includes children's parks, youth clubs, children's and youth organizations, choirs, school bands, clubs and festivals, and includes both municipal activities and grants to others. Excludes operations and investments in municipal buildings, which are registered on function 386.

370 Library

Expenditure on public libraries and other statutory library activities.

373 Cinema

Municipal cinema activities, grants for film screening.

375 Museums

Grants for museums and collections, and for cultural heritage work. This includes grants to professionals and volunteers, to coastal culture and to local historical publications, to village books and place names, and cultural heritage consultant. Cultural heritage tasks are registered on function 365.

377 Art dissemination

Grants for artistic activities at the professional level, and to the dissemination of such activities. Among others, these include performing arts, music, visual arts, crafts, movies, art museums and art galleries, and culture-based businesses. Grants to cultural houses and arenas are not covered by the function. The procurement of art for municipal art collections and exhibitions, etc. are included. The procurement of art for the decoration of buildings is registered on the relevant building function.

383 Music and cultural schools

Operation of municipal cultural schools

2000–2007

385 Other cultural activities and expenses for cultural buildings (2000–2007)

Grants to organizations, activities, markings, cultural days and events run by- or based on volunteering. These are limited against 231 children and youth and 377 art dissemination.

Cultural consultant/cultural office (functions that mainly work toward the municipality's cultural organizations and cultural initiatives). Administrative functions (Head of Culture, Mercantile positions) are registered at 120. Professional consultants that belong to other cultural functions are registered there (sports, art dissemination, cultural protection, etc.).

Operation (management, operation and maintenance), and investments in municipal buildings. Grants for the operation of- and investments in others cultural buildings. Both buildings for professionals and for volunteers/amateurs are included.

All expenses (management, operation, maintenance and investments) to municipal buildings are entered in function 385, including expenses for municipal cinema, museum and library buildings.

From 2008

385 Other cultural activities and grants to others cultural buildings

Expenditures and income related to municipal cultural activities, including expenses for inventory and equipment used in cultural activities.

- Grants to organizations, activities, markings, cultural days and events run by- or based on volunteering.
- Grants for the operation/maintenance of- and investments in others cultural buildings.
- Cultural consultant/cultural office (functions that mainly work toward the municipality's cultural organizations and cultural initiatives).

Administrative functions (Head of Culture, Mercantile positions) are registered at 120. Professional consultants that belong to other cultural functions are registered there (sports, art dissemination, cultural protection, etc.). Grants for cultural activities aimed at children and young people are registered on function 231 Activities for children and youth.

The function is also limited against function 377 Art dissemination. All expenses for the operation, maintenance and costs of municipal buildings are registered on function 386, including expenses for municipal cinema, museum and library buildings.

386 Municipal Cultural Buildings (new).

1. Expenditures on the operation and maintenance of municipal cultural buildings (with associated technical and outdoor facilities).

This includes salary, etc. to own operating/maintenance personnel, procurement of equipment and equipment for operation and maintenance, and the purchase of maintenance/maintenance services (e.g. caretaker services, snow clearing, cleaning, technical service on facilities, security and supervision, etc.) related to cultural buildings. It also includes the depreciation of buildings.

Operating activities include running operations, cleaning, security, energy and water, drainage and renovation (see table Sect. 4.1.). The difference between maintenance costs and cost/investment expenses is described in Municipal Accounting Standard (F) No. 4. For the distinction between the operating accounts and the investment accounts, see www.gkrs.no.

2. Management expenses related to cultural buildings (administration, insurance of buildings and buildings and taxes and fees related to the buildings) are entered on function 121.
3. Investments in- and cost of cultural buildings.
4. Rental expenses for renting cultural buildings owned by other than the municipality itself or municipal enterprises, i.e. rent from companies or others that are not part of the municipality as a legal entity, cf. Art. 190. Art 190 or Art 290 cannot be used in KOSTRA through internal rent. If the municipality has an internal housing scheme, the actual expenses for operation and maintenance shall be correct.
5. Income related to the rental of premises to external (other than the municipality itself or municipal enterprise).
6. Inventory and equipment associated with the cultural offer are not included here, but are registered on the relevant service.

Appendix 2

Industry	SIC code		No of jobs
Art and entertainment			Jobs 2000
SIC2002	92,310	Artistic and literary creation and interpretation	2949
	92,320	Operation of arts facilities	3239
	92,340	Other entertainment activities n.e.c	593
	Sum 2000		6781
			Jobs 2014
SIC2007	79,903	Adventure, event and activities operators	854
	85,522	Art education	613
	85,529	Other cultural education	61
	90,011	Performing artists and music entertainment activities	4115
	90,012	Performing artists and entertainment activities within dramatic art	3640
	90,019	Performing artists and other entertainment activities	282
	90,020	Support activities to performing arts	1975
	90,031	Independent artistic activity within visual art	2537
	90,032	Independent artistic activity within music	349
	90,033	Independent artistic activity within dramatic art	362
	90,034	Independent artistic activity within literature	2014
	90,039	Other independent artistic activity	92
	90,040	Operation of arts facilities	941
	93,292	Leisure establishments	512
	Sum 2014		18,347
Traditional institutions			Jobs 2002
SIC2002	92,510	Library and archives activities	3845
	92,521	Museums activities	1524
	92,522	Preservation of historical sites and buildings	1305
	Sum 2002		6674
			Jobs 2014
SIC2007	91,011	Public libraries activities	2529
	91,012	Special and research libraries activities	792
	91,013	Archive activities	635
	91,021	Art museums activities	660
	91,022	Social history museums activities	2855
	91,023	Natural history museums activities	351
	91,029	Other museums activities	38
	91,030	Operation of historical sites and buildings and similar visitor attractions	775
Sum 2014		8635	

Appendix 3

		Year	Min	Mean	Max	SD
Population	Treated	2000	2567.00	37,567.31	507,467.00	77,977.32
		2014	2361.00	44,351.83	634,463.00	96,708.26
	Comparison	2000	256.00	6 715.42	59,145.00	8220.49
		2014	211.00	7 454.15	71,900.00	9904.79
Share of population living in urban settlement	Treated	2000	23.35	70.16	99.39	22.96
		2014	29.84	74.59	99.14	20.09
	Comparison	2000	0.00	45.00	98.10	26.93
		2014	0.00	50.20	98.77	26.80
Share of population with college or university education	Treated	2000	11.68	21.46	45.10	7.36
		2014	19.78	30.44	55.10	8.53
	Comparison	2000	7.51	16.27	34.34	4.40
		2014	13.53	24.30	45.26	5.24
Share of population below age 40	Treated	2000	48.21	54.19	59.94	3.01
		2014	42.95	49.60	58.49	3.41
	Comparison	2000	30.37	52.34	66.52	4.37
		2014	34.71	46.73	60.61	4.84
Employment in percentage of working age population	Treated	2000	61.55	69.96	76.83	3.45
		2014	62.51	69.43	75.54	3.44
	Comparison	2000	54.87	69.09	139.06	5.93
		2014	56.32	68.40	81.25	4.54
Share of working age population unemployed	Treated	2000	0.81	1.86	3.11	0.57
		2014	0.47	1.81	2.92	0.59
	Comparison	2000	0.31	1.86	7.49	0.93
		2014	0.33	1.71	4.78	0.67
Share of new enterprises (new/existing enterprises)	Treated	2000	5.70	11.85	21.30	3.99
		2014	3.03	6.57	9.26	1.47
	Comparison	2000	2.35	8.54	18.79	2.86
		2014	1.61	5.46	10.83	1.62
Number of jobs in service industries in percentage of population	Treated	2000	2.32	7.50	11.51	2.26
		2014	3.31	7.73	12.92	2.16
	Comparison	2000	1.05	5.25	19.84	2.75
		2014	1.10	5.56	16.54	2.68
Median income	Treated	2000	159,300.00	196,288.50	256,900.00	23,625.62
		2014	303,700.00	359,046.20	436,400.00	28,840.72
	Comparison	2000	135,300.00	182,283.20	245,100.00	19,776.15
		2014	269,700.00	340,786.90	433,700.00	27,566.07
Income distribution (mean/median income)	Treated	2000	1.05	1.15	1.37	0.07
		2014	1.05	1.13	1.31	0.06
	Comparison	2000	1.00	1.13	1.85	0.07
		2014	1.01	1.12	1.36	0.04

		Year	Min	Mean	Max	SD
Share of seats for left-wing parties	Treated	2000	0.11	0.36	0.65	0.13
		2014	0.10	0.35	0.72	0.14
	Comparison	2000	0.00	0.37	0.85	0.14
		2014	0.00	0.37	0.85	0.14
Municipal revenue	Treated	2001	19,102.00	22,858.44	37,863.00	3400.03
		2014	42,940.00	49,097.12	61,591.00	3844.50
	Comparison	2001	14,808.00	27,360.36	64,112.00	6932.95
		2014	43,241.00	57,648.09	136,209.00	11,682.89

Appendix 4

See Fig. 1 and Table 6.

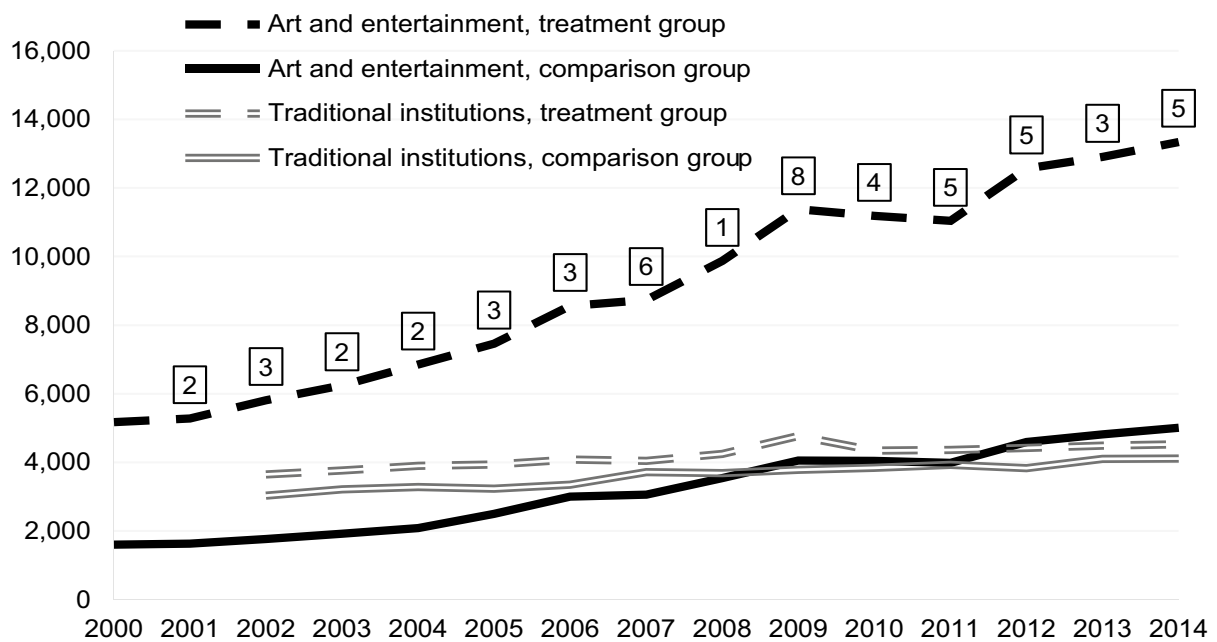


Fig. 1 Development of number of jobs related to art and entertainment and cultural institutions in municipalities that has opened new culture houses in the period 2001–2014 (treatment group), compared to municipalities that has not opened new culture houses (comparison group). The boxes indicate how many culture houses that has opened each year

Table 6 Estimated effects of new culture houses on jobs in art and entertainment, 2000–2014

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
New culture house	1.67*** (0.24)	1.54*** (0.25)	0.23* (0.12)	0.23* (0.12)	0.11 (0.11)	0.11 (0.11)	0.10 (0.11)	0.09 (0.11)
Established culture house	1.29*** (0.19)	1.31*** (0.19)	0.25* (0.13)	0.24* (0.13)	0.14 (0.11)	0.14 (0.11)	0.12 (0.10)	0.11 (0.10)
Log of population _{t-1}			1.04*** (0.05)	1.04*** (0.05)	0.95*** (0.05)	0.94*** (0.05)	1.04*** (0.06)	1.04*** (0.06)
Share unemployed $t-1$				0.06 (0.06)	0.16*** (0.06)	0.16** (0.06)	0.12* (0.06)	0.10* (0.05)
Share of pop. below age 40 _{t-1}					-0.02*** (0.01)	-0.02*** (0.01)	-0.02** (0.01)	-0.01 (0.01)
Share of pop. with college or university education _{t-1}					0.07*** (0.01)	0.07*** (0.01)	0.07*** (0.01)	0.07*** (0.01)
Share of pop. in urban settlement _{t-1}					-0.00*** (0.00)	-0.00** (0.00)	-0.00** (0.00)	-0.00* (0.00)
Share of seats for left-wing parties $t-1$					0.12 (0.22)	0.13(0.21)	0.14(0.21)	
Municipal revenue _{t-1}							0.00*** (0.00)	0.00*** (0.00)
Median income (1000 Nkr) _{t-1}							-0.00 (0.00)	-0.02 (0.39)
Income distributions _{t-1}								Yes
Year and county dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	5145	5145	5145	4810	4442	4431	4139	4138
<i>R</i> ²	0.17	0.19	0.70	0.71	0.76	0.76	0.76	0.76

Dependent variable: Log of jobs in art and entertainment. Ordinary least squares estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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Declarations

Conflict of interest The author declares that there is no conflict of interest.

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The Benefits and Attractiveness of Local Theaters. Comedy or Shakespeare – does it matter?

Hanna Nyborg Storm and Trine Bille

Abstract

In most countries, cultural institutions such as theaters are heavily supported by public funds. In the literature of cultural economics, this is explained by expected externalities (non-market valued), which means that not only users, but also non-users benefit from the existence of theaters in a country or a municipality. The empirical literature has subsequently tried to measure the size of these externalities by measuring a population's willingness-to-pay (via taxes) to its cultural institutions. However, there is little knowledge about these externalities consist of, and how they relate to the characteristics of the supply. Theaters (and other cultural institutions) present many different types of performances, and it is reasonable to expect that the size of the market and non-market values will depend on the types of theaters and performances provided. While it can be expected that some performances exclusively provide pure entertainment to the users, other types of theaters can be expected to provide larger externalities in terms of benefits to non-users, e.g. by providing enhanced prestige, identity or educational values for the community. The main aim of this study is to investigate the perceived benefits of theaters serving the local community, and whether the type of theater matters. Using data from a large-scale survey conducted in Denmark in the spring of 2020, we find that the type of theater has significant impact on the values perceived by the users, while non-users show no preferences for the types of theater located in the municipality. Therefore, we conclude that non-users have no understanding of the externalities provided, and the type of supply is of no consequence for non-users' valuation. This is an interesting new finding, with wider implications for valuation studies in particular and cultural policy in general.

1. Introduction

In most countries, cultural institutions such as theaters are heavily supported by public funds. In the literature of cultural economics, this is explained by expected externalities (non-market values), which means that not only users, but also non-users benefit from the existence of theaters in a country or a municipality.

The market and non-market values of theaters have been investigated in several studies. The market value of theaters is important for pricing, price differentiation, and consumer surplus for diverse segments of the audience, whereas the non-market benefit is related to public benefits, externalities, and arguments for public support.

Most of these studies are either case studies dealing with a specific theater, e.g. the Perm Opera and Ballet Theatre (Ozhegova & Ozhegov, 2020), or they are more general studies of theaters in a country or a region (e.g. Werck and Heyndels (2007)). However, theaters present many different types of performances, and it is reasonable to expect that the market and non-market values will depend on the types of theaters and the types of performances.

Many studies have investigated the demand for different types of performing arts (e.g. Throsby (1990); Baldin and Bille (2018); Grisolia and Willis (2011a)). The majority of the literature concerns users' demands of the performing arts, while a few also include the perspective of non-users (e.g. Wiśniewska and Czajkowski (2019)). The private benefits of arts and culture is thus the dominant focus. The non-market valuation studies (e.g. Hansen (1997)) show that there are substantial non-market values perceived by non-users. However, as far as we know, no one has attempted to differentiate between use and non-use values in terms of benefits the performing arts provide at both the individual and the community level. What types of use and non-values are associated with cultural institutions such as local theaters, and does it matter what types of theaters are present in the community?

The purpose of this study is to investigate the perceived benefits of local theaters to the population in Danish municipalities. Based on a unique dataset developed by the authors, the paper includes the use and the non-use values of different types of theater. It could be expected that different types of theater would provide different types of benefits and have different roles in the municipalities. This is first tested by measuring the willingness-to-pay

(WTP) for local theaters as revealed in a Contingent Valuation (CV) study, and secondly by investigating the populations' perceptions of the attractiveness of various types of theater.

The data have been collected by the authors in a large-scale survey undertaken in Denmark in the spring of 2020; Statistics Denmark distributed questionnaires to a representative sample of the Danish population aged 18 years or older. A total of 4,450 individuals received the survey, 1,929 responded. The survey data have been linked to register data at the individual level (micro data) provided by Statistics Denmark.

The article is organized thus: section 2 outlines the theoretical background, based on which we have developed testable hypotheses; section 3 provides a review of the literature, with identification of the research gap we wish to fill; section 4 describes our data and method; section 5 presents our analysis and results; section 6 concludes the paper and discusses the possibilities for generalization of the results.

2. Theoretical background

Local theaters represent clear private good components that benefit the attendees of a performance (Cameron, 2008). Arts and culture have direct *use* values that benefit the users. However, the individual valuation of cultural goods and services is only partially reflected in the market demand, as the arts have important values other than use values. Cultural goods and services also produce *non-use* values that can lead people to treasure art and culture. These non-use values are normally categorized as follows: *Option value* describes the utility that individuals receive from the possibility that they may be able to enjoy a particular art or cultural service, such as a theater, even if they never visit it. *Existence value* is the value individuals derive from knowing that a particular cultural service exists. *Prestige value* refers to the value derived from national or regional cultural institutions or heritage sites, which can help to identify and maintain national or regional identity or pride. *Bequest value* refers to the value that individuals derive from the knowledge that future generations will be able to experience a particular cultural good. *Education value* means, among other things, that cultural activities can help a society to foster creativity and to develop aesthetic standards, aspects that benefit all persons in a society (Bille & Schulze, 2006; Frey & Pommerehne, 1989). Arguments in favor of the public subsidy of cultural institutions have usually been

grounded in public good elements or positive externalities (Cameron, 2008; Wiśniewska & Czajkowski, 2019).

Even though the main economic arguments for public support build on the expectation that positive externalities exist, there is little research into the precise make-up of these externalities. It is therefore useful to make further categorization of the types of individual and community benefits a theater represents. Skot-Hansen (2005) has developed a four Es model in relation to rationales for cultural policy. The core of the model comprises the individual experience that can lead to *Empowerment* (identity, inclusion, cohesion, diversity), *Enlightenment* (insight, knowledge, education, reflection), *Economic impact* (image, tourism, migration, job creation), and *Entertainment* (leisure, fun, recreation). In economic terms, enlightenment and empowerment can lead to consumption externalities, thereby providing arguments for public support, and economic impact is equal to production externalities (which can be measured in economic impact studies). Entertainment, on the other hand, is a purely private good, only providing benefits to the users and has no externalities.

By using this terminology, we would expect users of cultural institutions to experience benefits related to entertainment, enlightenment, and empowerment, whereas non-users will only experience benefits related to enlightenment and empowerment (the consumer externalities). A person living in a municipality with a theater or other cultural institutions might benefit from the empowerment and enlightenment these bring to the local community, even though they are not users themselves.

Wiśniewska and Czajkowski (2019), who examine willingness-to-pay municipal theaters in Warsaw, found that entertainment performances amuse and relax, but also encourage new audiences. Drama performances, mostly classical plays, serve cultural preservation and promotion of national identity. Children's performances mostly play an educational role for the youngest audience, and experimental performances, an example of art for the art's sake, provide intellectual stimulation and theatrical innovation.

Based on this assumption, it can be expected that only users will benefit from entertainment performances, while drama, children's performances, and experimental performance will have wider impact on society in the form of identity value, education value, innovation, and

aesthetic values, from which not only the users, but also the non-users can benefit (consumer externalities).

This leads to the hypothesis that users and non-users will perceive different kinds of benefits from different types of theaters:

H₁: Only users will benefit from theaters providing pure entertainment as no externalities are expected.

H₂: Non-users of theaters will only benefit from theaters providing consumer externalities, such as enlightenment and empowerment to the community in the form of e.g. education value, identity value, innovation, and aesthetic value.

3. Literature review

This section provides an overview of the literature on different kind of values related to different types of theaters. Section 3.1 deals with use values, and section 3.2 with non-use values.

3.1 Empirical evidence of market value/demand and types of theaters

Several studies have investigated users' preferences and demand for theaters. Seaman (2006) provides a comprehensive review of the literature on the demand for theaters.

The demand for and attendance of performing arts is often seen as being affected by price, quality, type of play, and socio-economic variables such as income, gender, education level, and time availability (Grisolía & Willis, 2012). The type of play was initially used as an indicator of quality, but more recently it has been seen as a separate attribute given that different shows satisfy different tastes regardless of the perception of quality (see also: Grisolía and Willis (2012); Throsby (1990); Grisolía and Willis (2011a)). Many studies focus on the demand for performing arts: Throsby (1990), Abbé-Decarroux (1994), Urrutiaguer (2002), Werck and Heyndels (2007), and Baldin and Bille (2018) are all examples of theater demand studies that include a classification of type of play or repertoire.

A handful of studies have used local or regional theaters as cases. Grisolía and Willis (2011a); Grisolía and Willis (2011b); Grisolía and Willis (2012) and Willis et al. (2012) investigate

preferences exhibited by people attending a regional theater in Newcastle, UK. Using data from a survey of visitors to the Northern Stage theater, Grisolia and Willis (2011b) and Grisolia and Willis (2011a) study the effect of the characteristics of theater productions on demand and willingness-to-pay. The characteristics include: type of production (comedy, drama, experimental, musical), genre (classic, modern, contemporary productions), author of play, venue (theater), and information about the production (critics' reviews and word of mouth). The results reveal that there is considerable heterogeneity in preferences for theater productions, and that the WTP of theatergoers is based on these attributes. Grisolia and Willis (2011b) finds that all the basic genres are clearly of statistical significance, but the benefits vary. The smallest contribution to the utility comes from experimental-adaptation, which is a more difficult type of play to appreciate and therefore less popular. The results confirm that audience tastes vary: comedy, for example, is preferred by family audiences; people with higher levels of cultural capital gain more utility from drama and experimental theaters. Grisolia and Willis (2012) identifies three classes of theatergoers. The largest 'main class' consists mainly of affluent people who show a strong preference for main theater venues, taking into consideration reviews of the productions and whether the author is known: they like all types of shows, but their strongest preference is for comedy and drama. The second is a 'popular class', consisting of younger attendees who exhibit the least WTP; they have a strong preference for comedies, pay little attention to venues, and dislike the more sophisticated shows. The third is an 'intellectual class' of theatergoers, who in general display stronger preferences and higher WTP; they show a strong interest in drama and experimental productions.

Ozhegova and Ozhegov (2020) study consumers of the Perm Opera and Ballet Theater, considered one of the best regional musical theaters in Russia. In their study, they employ data on online ticket purchases, which they supplement with socio-demographic characteristics obtained from an online survey. Using a latent class model, they identify consumer segments among the theater audience: modest theatergoers, affluent customers, occasional visitors, and old theater friends. The modest theatergoer is a high-frequent visitor who prefers popular culture and also sees plays at other theaters in Perm. The affluent customer is a wealthy type of theatergoer who prefers new plays and performances conducted by the most famous names; this group also includes visitors from other cities. Old theater friends are loyal Perm residents who actively attend the Perm Opera and Ballet, and do not

visit other theaters in Perm; they have a long purchasing history and demonstrate higher sophistication by planning their visits to the theater in advance. The occasional theatergoers attend the theater rarely, but display a high willingness-to-pay and ability to perceive quality; their main goal with theater attendance is to ‘go out’ and to ‘have fun’.

Another example is Werck and Heyndels (2007), which examines impact on the demand for theater productions using a panel data of 59 Flemish theaters over the period 1980-2000, and finds that the nature of artistic output affects demand. Theatergoers reveal a preference for productions with a larger cast, Dutch-speaking playwrights, and revivals of older productions rather than new productions.

Willis et al. (2012) and Forrest et al. (2000) are examples of studies using an audience and travel cost method to estimate the demand for theaters. Forrest et al. (2000) estimates the demand for a regional repertory theater, the Royal Exchange Theatre in Manchester, UK, and finds a consumer surplus that exceeds the subsidy levels. In the estimations, one finding is that the demand significantly decreases with distance to the theater. The Willis et al. (2012) study uses booking data for 29 theatrical productions at the Northern Stage theater in Newcastle, and matches this with postcodes and socio-economic information on household characteristics of the area. Socio-demographic variables and composition of the population were found to have a relatively greater impact on average attendance in comparison with distance from the theater.

Willis et al. (2012) emphasize that the consumer surplus derived from revealed preference data relates to use value only, and that the local community may have some non-use value for Northern Stage. The authors thus point to the central limitation of these studies, which is that they only inform us about the users’ preferences and values for different types of theater performances. However, from earlier research we know that a huge portion of the total value of theaters comprises non-market values perceived by non-users (see e.g.: Bille Hansen (1997); Noonan (2003)). Willis et al. (2012) are of the opinion that it is unlikely the non-use values of Northern Stage are of a significant amount compared to non-use value for a national theater, such as the Royal Danish Theatre in Copenhagen (Bille Hansen (1997)), but they do not test this in any way.

3.2 Empirical evidence on non-market values/demand and types of theaters

While the non-market valuation of cultural goods has been gaining interest over the past decades (Wiśniewska & Czajkowski, 2019), the literature on non-market benefits related to the content and different types of theater is limited. Non-market valuation techniques can be divided into two categories as regards the type of data analyzed: revealed preferences, based on actual choices; stated preferences, which are declared choices in a hypothetical situation described in a questionnaire (Noonan, 2003; Wiśniewska & Czajkowski, 2019). The Contingent Valuation Methodology (CVM) is a stated preference technique that is most commonly applied in cultural economics (Wiśniewska & Czajkowski, 2019), as it is the only method to capture the values for non-users. Noonan (2003) provides a comprehensive overview of the use of CVM in the cultural arena.

Many of the CVM studies find that it is not only those people who attend arts events, institutions, or heritage sites who are willing to pay to preserve or expand them; many non-users are willing to do so as well. Therefore, it is expected that art not only provides private benefits, but also public benefits to society at large. It has been argued that, among other attributes, the arts can enhance identity, pride and prestige, provide education, personal development, integrate individuals into society, and encourage the experimentation and entrepreneurship that drives economic growth (Snowball, 2020).

An earlier study in the field looked at willingness-to-pay for the Royal Danish Theatre in Copenhagen (Hansen, 1997). One of the intentions of the study was to test if the non-market benefits could justify the public grants given to the theater. The estimated WTP showed that the Danish population wanted to pay at least as much as the theater received in public subsidies. The results also showed that users had a considerably larger WTP than non-users. However, because the users only represented 7% of the Danish population, the non-users made up the far larger part of the total WTP. Even though the majority never visit the theater, some of them are still willing to pay an option price for the possibility of being able to go there and for the non-use values of the theater.

Cameron (2008) examines determinants of the willingness-to-pay for two nonprofit regional theaters in the UK. A questionnaire was used in face-to-face street interviews in the towns of Harrogate and Leeds in North Yorkshire, England. The results indicate that people attach

monetary values to nonprofit theaters and that loyalty to the theater contributes to higher price offers. Of the various attributes of the facility that were examined, atmosphere was mostly emphasized. Even though it is a vague concept, it is argued to be well understood as implying the degree to which it is exciting, attractive, and so on.

The repertoire of the theaters has not been a direct focus in the large majority of the non-market studies of theaters that we are familiar with. A notable exception is Wiśniewska and Czajkowski (2019), who examine willingness-to-pay for a program of discounted tickets in municipal theaters in the Polish capital Warsaw. The survey was conducted by a polling agency and included 1700 respondents, a representative sample of the inhabitants of Warsaw above the age of 18. They find that inhabitants assign a positive value to the broader accessibility of the theaters, and that the cost-benefit relationship varies across theaters with different types of plays in their repertoires. In study are the following division of theater categories used: *Entertainment theaters* have mostly comedies and musical performances in the repertoire, *drama theaters* provide dramas and more ambitious comedies, *children's theaters* offer mostly puppet performances and fairy tales and *experimental theaters* employ new techniques, often producing plays of contemporary dramatists, which some might consider controversial. Wiśniewska and Czajkowski (2019) find that the entertainment theaters have the highest mean WTP (8.8 € per year on average), followed by drama (5.5 €), children's (3.1 €) and experimental theaters (2.5 €).

Wiśniewska and Czajkowski (2019) include data on users and non-users of theaters in their study, but do not develop this information. In their suggestions for further research, they note that the division between use and non-use values in different types of theaters could be examined more closely. They note that it would be particularly interesting to investigate the extent to which WTP is driven by the explicit desire to visit a particular type of theater and to what extent it is motivated by non-use reasons. It could, moreover, be expected that different types of theaters provide different types of values, and are associated with varying shares of passive-use values (or positive externalities).

Our study follows up on these expectations and investigates if different types of theaters provide different diverse types of benefits to users and non-users.

4. Data and method

4.1 Survey data

The study is based on data from a large survey undertaken by the authors. The survey was conducted in Denmark in the spring of 2020. It was distributed to a representative sample of the Danish population aged 18 years or older. Statistics Denmark drew the sample and distributed the survey. In total, 4,450 individuals received the survey, of which 1,929 responded.

The questionnaire is designed as a CV study, including several follow up questions to be explained below. The payment format is tax payments, as taxation is the current financing model for Danish theaters, and because we want to measure the total economic value, including the non-market values and the value to non-users. Therefore, willingness-to-pay for theater tickets cannot be used to elicit the total value (since it only measures part of the total economic value). The survey design is based on current guidelines for CV studies. This includes a ‘cheap talk’ where respondents are made aware of their budget constraint: “Remember to take into account your income situation when you answer the questions, and be sure that you are actually both able to and want to pay the amount you state. Remember that the money you are willing to pay for the theaters via taxes could alternatively have been used for other public purposes, or could have been used for your private consumption, such as buying food, clothes, a visit to the cinema, or other things.” Before being sent out for the actual survey, the questionnaire was tested in a number of focus groups to examine whether respondents understood the questions correctly.

The survey data have, at the level of the individual, been linked to data from Statistics Denmark (micro data), providing information about the respondents’ income, age, gender, occupation, civil status, etc., taken from the official registers. The link between register data and questionnaire data offers a wide range of benefits. Firstly, register data gives access to concrete information on a large number of variables, such as the respondents’ income, education, etc., rendering it unnecessary to ask about these details. Part of the uncertainty around the use of questionnaires, in which respondents must remember and state their income etc. accurately, is thereby eliminated. Secondly, the link provides unique opportunities for

conducting dropout tests since a wide range of basic information will be available, also for those respondents who have not answered the questionnaire. Subsequent tests have shown minor biases in dropout, and therefore the answers have been weighted so that they are representative of the Danish population; Statistics Denmark undertook this weighting.

The table below shows the variables used in the analysis.

Table 1. Variables used in analysis.

	Variable	Type	Description
Individual background variables	Gender	Dummy	Male, female
	Age	Dummy	Age groups (18-34, 35-54, 55-74, 75 <)
	Education	Dummy	Basic school, upper secondary, higher education
	Income	Continuous	Personal income, DKK
	Marital status	Dummy	Unmarried, married/partnership, divorced, widowed
	No. of children	Continuous	Number of children in family
Regional indicators	Region	Dummy	Region of residence (Capital Region, North Jutland, Central Jutland, Southern Denmark, Zealand)
	Distance	Continuous	Distance to the Capital Region, measured as the shortest distance (straight line) in kilometers between the center of the municipality and the center of Copenhagen. Source: Distance Calculator www.distance.to .
Survey questions	User status	Dummy	Have visited the theater in the past 12 months (recent users), it has been more than 12 months since last visit (past users), never visit the theater (non-users)
	WTP	Continuous	Response in DKK to the question: <i>What is the maximum amount you are willing to pay per year via your personal income tax for the theater in your municipality?</i>
	Attractiveness	Dummy	Scale from 5=strongly agree to 1=strongly disagree with the statement: <i>The theater/s in my municipality contributes to making the municipality attractive to live in.</i>
	Payment option	Dummy	Open-ended/categories in question of WTP
Theaters in municipality	Number of theaters	Continuous	Number of theaters in municipality
	Repertoire	Dummy	Repertoire of theater (drama, children's, dance, experimental, comedy, not categorized)
	Category	Dummy	Category of theater (small, theater association, large, local theater (egnsteater))

Two elicitation formats were used in the survey, using a split sample. Half of the sample got the WTP questions as open-ended questions, and the other half got payment cards. Payment cards result in a slightly higher WTP than open-ended questions, and the elicitation format is included in the estimations as a control variable.

47.6 % of the sample state they have visited a theater during the past year; these can be considered *recent users*. 31.7% had visited the theater/s, but it had been more than 12 months since their last visit; this group is termed *past users*. 20.8% have never visited the local theater, and can be considered *non-users*. Appendix 1 presents descriptive statistics of the sample, divided by user status. It shows that the users, as expected, generally have a higher education, higher income, live in the capital region, are women, and are married/in a partnership.

4.2 The theater landscape in Denmark

There are 296 theaters in Denmark. As Table 2 below shows, 182 of these have ‘drama’ as the main repertoire, and are located in 64 different municipalities. 51 theaters have a repertoire directed towards children, located in 20 different municipalities.¹ There are also theaters with dance (19), experimental (17) and comedy (10) as their main repertoire.

Table 2. Repertoire of Danish theaters. Source: Statistics Denmark

Repertoire	No. of theaters	No. of municipalities	% of sample
Drama	182	64	80.8
Children’s	51	20	36.8
Dance	19	5	21.5
Experimental	17	3	18.5
Comedy	10	6	15.7
Not categorized	17	8	21.5
Total	296	64	

1,672 respondents, 87% of the sample, live in a municipality with a theater. Table 2 shows that 80.8% of the sample live in a municipality with a theater presenting ‘drama’ as its main repertoire. Only 36.8% of the sample live in a municipality with children’s theaters, even though there are 51 such theaters. The 17 experimental theaters are all located in the three most urban municipalities: Copenhagen, Frederiksberg, Aarhus.

¹ Many of the children’s theaters are located in Copenhagen.

All these genres can of course provide entertainment, enlightenment, and empowerment. However, we would expect comedy primarily to amuse and provide entertainment, while the other art forms may provide wider benefits. In line with Wisniewska & Zawojka (2019), we would expect drama performances, mostly classical plays, to serve cultural preservation and promotion of national identity, while children's performances have an important educational role for the youngest audience, and experimental performances, an example of art for the art's sake, provide intellectual stimulation and theatrical innovation.

Another way in which to group the theaters is to do so by category, as in Table 3. There are 187 theaters in the 'small' category.² Many of these are located in the large cities, and are thus only represented in 35 municipalities. The 10 'large' theaters are also located in the biggest municipalities, including 3 large regional theaters (*landsdelscenter*) located in Aalborg, Aarhus and Odense. The 65 theater associations (*teaterforeninger*) are more evenly distributed across the country, and are located in 61 municipalities. Furthermore, there are 32 special local theaters (*egnsteatre*) in Denmark. They are professional producing theaters located outside the largest Danish cities,³ financed partly by the state and partly by the host municipality, and they have to live up to certain obligations in terms of quality and number of productions in order to be eligible for state subsidies.

Table 3. Categories of theaters in Denmark. Source: Statistics Denmark.

Category	No. of theaters	No. of municipalities	% of sample
Small	187	35	54.5
Theater associations	65	61	75.6
Large	10	5	25.8
Local theater	32	30	30.7
Total	296	64	

The small theaters are often specialized or experimental. The theater associations are not professional producing theaters, but local associations that mediate and host touring performances from a large number of producing theaters (including the national stage: The

² In Danish: Projektstøttede teatre, driftsstøttede teatre, små storbyteatre.

³ Copenhagen, Frederiksberg, Odense, Aarhus, and Aalborg.

Royal Danish Theatre located in Copenhagen). The local theaters are highly professional producing theaters. Even though it is difficult to categorize the types of benefits the theaters provide based on the types of theaters, we would expect the theater associations to provide more benefits to the users by staging bigger and more entertaining performances. On the other hand, the small theaters, and especially the local theaters, can be expected to provide a higher degree of innovation as well as a sense of identity and community, and thereby more benefits to the non-users in terms of empowerment and enlightenment.

5. Analysis and results

In this section, we will investigate the perceived benefits of having local theaters sited in the community and whether the type of theater matters. We also wish to investigate whether users and non-users see different types of benefits in different types of theaters.

5.1 Willingness-to-pay for local theaters

The first part of the analysis concerns the willingness-to-pay for the local theaters. These theaters are professional and produce their own shows. Respondents were asked if they were in favor of supporting the theaters via their taxes: *Do you generally think that it is okay to pay to the theaters via your tax payments to the state and the municipality?*⁴ 78% of the total sample and 75% of the respondents living in municipalities with local theaters had a positive attitude to paying for the theaters via their own taxes.

The respondents who answered positively as regards paying for theaters via their taxes were then asked several questions about how much they were willing to pay. Respondents living in municipalities with local theaters were asked about their willingness-to-pay for their local theater: *What is the maximum amount you are willing to pay per year via your personal income tax for the theater in your municipality?*

⁴ Table 2.1 in Appendix 2 shows the results.

Table 4. WTP for local theaters and user status, DKK. Weighted average.

	Min	Mean	Median	Max	Std Dev	N
WTP recent users	0.0	153.0	74.5	874.5	202.5	44
WTP past users	0.0	122.3	74.5	1,999.5	246.7	88
WTP non-users	0.0	75.9	29.5	649.5	126.7	137

Table 4 shows, not surprisingly, that recent users have the highest willingness-to-pay, and non-users the lowest. The recent user mean of 153.0 DKK equals 20.5 €, past user mean equals 16.4 €, and non-user mean equals 10.2 €. ⁵

In Table 5, we use the stated WTP for local theaters as dependent variable and a number of control variables describing individual socio-economic and community characteristics in a tobit analysis. Tobit models are commonly used in estimations of WTP, due to the dependent variable being censored with many zero bids.

Table 5. Willingness-to-pay for local theaters, DKK.

	(1)	(2)	(3)	(4)	(5)	(6)
Payment option (open)	-52.8 (38.1)	-47.0 (38.6)	-40.6 (40.9)	-22.4 (41.6)	-37.7 (39.2)	-26.7 (42.0)
Attractiveness: Strongly disagree	-	-	-	-	-	-
Attractiveness: Disagree	168.0 (107.4)	178.7* (108.3)	154.0 (107.2)	163.8 (106.6)	153.2 (105.6)	132.2 (107.7)
Attractiveness: Neither agree nor disagree	276.4*** (95.1)	280.7*** (96.3)	244.9** (95.8)	253.5*** (94.5)	245.2*** (92.7)	225.1** (93.4)
Attractiveness: Agree	421.2*** (112.3)	426.7*** (113.7)	366.2*** (112.4)	383.8*** (114.2)	374.2*** (111.1)	338.0*** (110.6)
Attractiveness: Strongly agree	556.2*** (119.7)	555.2*** (120.6)	478.4*** (120.8)	506.9*** (124.3)	489.4*** (123.5)	438.7*** (121.8)
Number of theaters		-9.4 (6.3)	-9.4 (6.5)	-11.1* (6.6)	-9.6 (5.9)	-7.6 (4.9)
Gender (male)			-97.5** (39.2)	-99.6** (40.1)	-83.8** (37.0)	-77.3** (36.7)
Age: 18-34			-	-	-	-
Age: 35-54			116.7 (73.8)	135.2 (83.6)	126.9 (79.2)	134.8 (84.1)
Age: 55-74			215.5*** (71.3)	235.7*** (77.3)	206.2*** (70.4)	214.1*** (71.4)
Age: 75 <			234.2*** (88.2)	266.0*** (89.5)	235.0*** (82.6)	244.6*** (85.1)
Education: Basic school			-	-	-	-

⁵ Exchange rate 15.6.2020. Source: <https://www.valuta-kurser.no/75.9-dkk-til-eur>

Education: Upper secondary			81.0* (49.1)	77.8 (50.1)	91.9* (48.7)	71.6 (50.4)
Education: Higher education			187.6*** (44.5)	169.6*** (42.6)	191.3*** (43.1)	160.7*** (43.5)
Income			0.0 (0.0)	0.0 (0.0)	-0.0 (0.0)	-0.0 (0.0)
Marital status: Unmarried			-	-	-	-
Marital status: Married/partnership			-82.3* (46.9)	-97.9** (48.1)	-94.5** (47.0)	-80.6 (49.2)
Marital status: Divorced			-77.8 (62.4)	-91.2 (62.3)	-100.5* (60.4)	-93.2 (63.7)
Marital status: Widowed			-61.5 (89.2)	-88.2 (88.3)	-72.4 (86.4)	-64.0 (87.9)
No. of children			22.6 (23.6)	27.4 (22.6)	15.2 (22.8)	15.0 (22.6)
Distance to Copenhagen				-0.3 (0.3)		
Region: Capital Region					-	-
Region: North Jutland					-101.4 (76.6)	-86.3 (73.4)
Region: Central Jutland					-100.0* (55.9)	-81.0 (56.5)
Region: Southern Denmark					146.1** (73.2)	138.7** (70.0)
Region: Zealand					0.4 (48.2)	11.0 (49.4)
User: Recent						-
User: Past						-18.5 (34.6)
User: Non						-135.5** (58.7)
Constant	-428.8*** (142.1)	-407.0*** (142.6)	-535.6*** (194.5)	-519.3*** (191.9)	-473.4** (186.6)	-437.3** (184.4)
Log-likelihood	98,922.1*** (29,155.0)	97,590.8*** (28,923.2)	91,282.0*** (28,411.6)	91,913.6*** (28,290.3)	89,183.6*** (27,414.5)	90,851.1*** (27,459.0)
N	562	562	552	552	552	532
Pseudo R ²	0.03	0.03	0.04	0.05	0.05	0.05

Note. Dependent variable: WTP in DKK (*What is the maximum amount you are willing to pay per year via your personal income tax for the theater in your municipality?*) Tobit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The questionnaire included the statement *The theater/s in my municipality contributes to making the municipality attractive to live in*. This is added as a variable in the model. The results show that there is a positive and significant association between the view of attractiveness and stated WTP for local theaters. Individuals agreeing to the statement had significantly higher WTP. The size of the coefficients is reduced, but the results are otherwise stable in all versions of the model as further control variables are added to the model.

Most municipalities have only one local theater,⁶ but there can be other types of theaters in a municipality. As number of theaters in the local community might affect the stated WTP for local theaters, this is added as an indicator in (2). The results show a negative, but small and insignificant, association with WTP.

Several indicators describing the characteristics of the respondents are included in (3). The results show that men have a significantly lower WTP for local theaters. Stated WTP is significantly higher for the older age-groups, in particular those over 55. Those with a higher education have significantly higher WTP, while income is insignificant. Married, divorced, and widowed respondents have, on average, a lower WTP in comparison with unmarried respondents, but the results are not significant except for the married category in some versions of the model. Number of children is positively, but not significantly, associated with WTP. The controls show a pattern that is consistent with the findings of previous studies, helping to confirm the validity of the results.

In (4) and (5) we have extended the models to include indicators that describe distance to Copenhagen and show the region in which the municipality of residence is located. The regional indicators are added to test how the valuation of cultural institutions might differ according to location of residence. Individuals living far from urban amenities offered by the big cities, measured as distance to the capital Copenhagen in (4), can be expected to have a lower preference for cultural goods and services. At the same time, they might also attach a relatively higher value on the (fewer) cultural institutions that are present in the community. The results show that distance to Copenhagen is associated with slightly lower WTP for theaters in general, but the difference is marginal and not significant. As an alternative indicator, model (5) includes the various regions, and the results show no clear pattern in average WTP.

User-status details are added as dummies in (7). The results confirm that non-users have a significantly lower WTP for local theaters. The past users also have lower WTP in comparison with recent users, but the difference is not significant. The results thus indicate that user status is of high significance in how local theaters are valued. Of all indicators, being

⁶ Three municipalities have more than one theatre: Herning, Holbæk, Roskilde have two; Holstebro has three.

a user or a non-user is of greatest significance to the individual's WTP, along with age and level of education.

5.2 Attractiveness

The second part of the analysis explores the connection between attractiveness and types of theaters. The respondents were asked if they agreed or disagreed with the statement: *The theater/s in my municipality contributes to making the municipality attractive to live in.* The majority, 51%, agreed that the theater/s contributes to the attractiveness of the municipality. The recent users of theaters responded most positively: 61% agreeing to the statement.

To investigate the significance, if any, of the types of theaters located in a municipality in terms of repertoire, we have conducted an ordered logit regression in which the variable indicating the degree to which local theaters contribute to attractiveness of the municipality is used as dependent variable. An ordered-logit model is used due to the dependent variable being a Likert-scale going from 5=strongly agree to 1=strongly disagree, but we do not go deeply into the technical details of the models in the analysis. Table 2.2 in Appendix 2 includes the cut-off points used to estimate probabilities, but this information is left out in Table 6 below.

Repertoire is indicated by separate dummies, as there can be more than one type of theater in the same municipality. The results show that respondents living in municipalities with theaters performing 'experimental' and 'drama' are significantly more positive in the way they see the theaters' contributions to the attractiveness of the municipality. Having theaters performing 'comedy' is also positively associated with attractiveness, but the results are only significant in (4). Theaters with a dance repertoire, however, have a negative association, but the results are not significant when the control variables are added to the model.

Table 2.3 in the Appendix 2 shows the marginal effects of model (6). The results support the picture indicated by Table 6. Individuals living in municipalities with 'drama' and 'experimental' theaters are more likely to agree to the statement about the theaters' contributing to attractiveness. User status and region of residence is also of high significance. Non-users in particular are far less likely to agree to the statement. Individuals living in Southern Denmark and North Jutland in particular are more likely to agree.

Table 6. Attractiveness of municipality and theater repertoire.

	(1)	(2)	(3)	(4)	(5)	(6)
Repertoire: Drama	0.70*** (0.19)	0.71*** (0.18)	0.75*** (0.20)	0.83*** (0.18)	0.68*** (0.18)	0.63*** (0.18)
Repertoire: Children's	0.02 (0.15)	0.02 (0.16)	0.02 (0.16)	0.05 (0.14)	-0.02 (0.13)	0.00 (0.13)
Repertoire: Dance	-0.46*** (0.12)	-0.38* (0.21)	-0.26 (0.22)	-0.17 (0.12)	-0.04 (0.19)	-0.05 (0.20)
Repertoire: Comedy	0.47 (0.31)	0.58 (0.46)	0.43 (0.52)	0.37** (0.16)	0.66 (0.43)	0.67 (0.43)
Repertoire: Experimental	0.90*** (0.25)	0.95*** (0.22)	1.00*** (0.21)	0.92*** (0.12)	0.96*** (0.21)	0.96*** (0.23)
Number of theaters		-0.00 (0.00)	-0.00 (0.01)	0.00 (0.00)	-0.00 (0.01)	-0.00 (0.01)
Gender (male)			-0.52*** (0.10)	-0.55*** (0.10)	-0.53*** (0.10)	-0.45*** (0.10)
Age: 18-34			-	-	-	-
Age: 35-54			0.40** (0.18)	0.40** (0.18)	0.40** (0.17)	0.45** (0.19)
Age: 55-74			0.60*** (0.15)	0.65*** (0.15)	0.65*** (0.15)	0.67*** (0.16)
Age: 75 <			0.85*** (0.23)	0.95*** (0.24)	0.89*** (0.23)	1.03*** (0.22)
Education: Basic school			-	-	-	-
Education: Upper secondary			0.02 (0.15)	-0.03 (0.15)	0.02 (0.15)	-0.06 (0.15)
Education: Higher education			0.22 (0.14)	0.21 (0.15)	0.23 (0.14)	0.06 (0.15)
Income			-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)
Marital status: Unmarried			-	-	-	-
Marital status: Married/partnership			0.24* (0.12)	0.28* (0.12)	0.23* (0.13)	0.21 (0.14)
Marital status: Divorced			0.34* (0.20)	0.36* (0.21)	0.35* (0.21)	0.28 (0.23)
Marital status: Widowed			0.47* (0.26)	0.46* (0.26)	0.48* (0.25)	0.66** (0.27)
No. of children			-0.05 (0.06)	-0.04 (0.07)	-0.03 (0.07)	-0.04 (0.07)
Distance to Copenhagen				0.00** (0.00)		
Region: Capital Region					-	-
Region: North Jutland					0.39* (0.22)	0.39* (0.22)
Region: Central Jutland					0.28 (0.19)	0.28 (0.19)
Region: Southern Denmark					0.70*** (0.22)	0.70*** (0.22)
Region: Zealand					0.06 (0.15)	0.24 (0.17)
User: Recent						-
User: Past						-0.39*** (0.10)
User: Non						-1.35*** (0.16)
N	1,640	1,640	1,612	1,555	1,612	1,558

Pseudo R ²	0.02	0.02	0.05	0.05	0.05	0.08
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Note. Dependent variable: Scale from 5=strongly agree to 1=strongly disagree with the statement *The theater/s in my municipality contributes to making the municipality attractive to live in*. Ordered logit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

As a robustness test of the results, in Table 2.4 in Appendix 2 we have excluded respondents living in the three urban municipalities of Copenhagen, Frederiksberg, and Aarhus. This also excludes the category of theaters with an experimental repertoire, since there are none outside the biggest cities. The results still show that respondents living in municipalities with theaters performing drama are significantly more positive in the way they see the theaters' contributions to the attractiveness of the municipality. Having theaters performing comedy is also positively associated, and theaters with a dance repertoire negatively associated, but the results are not robust. Only 3 theaters outside the largest cities are dedicated to dance and to comedy. This means that the main results of Table 6 apply even when the biggest cities are excluded.

The number of theaters located in the municipality is added as an indicator in (2), but seems to have little effect on the results. In the sample without the biggest cities, in Appendix 2, the variable shows a positive and significant association with attractiveness when added to the model. This could indicate that having more theaters is associated with a more positive view of how the theaters contribute to the attractiveness of the municipality. However, the results become insignificant when regional variables are added in (5).

We have included indicators describing the characteristics of the respondents in model (3). The results show that gender is significant: men are significantly less positive in their view of how the theaters contribute to the attractiveness of the municipality. Age is also of significance, and shows that the older respondents are more positive. There is also a positive, but insignificant, association for education, indicating that individuals with a higher education are more positive. Marital status is of some importance, in particular indicating that widowed respondents are more positive. These controls behave as expected, helping to confirm the validity of the results.

In (4) and (5) we have extended the models to include indicators that describe distance to Copenhagen and in which region the municipality of residence is located. Distance and region

are added to test ways in which preferences might differ according to location of residence.⁷ The results show that there is a small, positive association between attractiveness and distance, indicating that individuals living far from Copenhagen are more positive in their view of how the theaters contribute to the attractiveness of the municipality. Region of residence also seems to matter: residents in Southern Denmark are significantly more positive in their view of how the theaters contribute to the attractiveness of the municipalities. Residents in North Jutland are also more positive. This is interesting, as these are regions with fewer theaters. One interpretation could be that the theaters are more visible and are one of just a few similar cultural goods in these municipalities, and are thus valued higher by the inhabitants. It could also be an indication of decreasing marginal utility of theaters/cultural institutions.

It is expected that user status will be an important factor in explaining WTP, given that users gain private benefit from theaters. The results in model (6) confirm that past users are significantly less positive compared to recent users, and non-users even less. Further analysis indicates that the link between repertoire and attractiveness is primarily explained by user status. In Table 7 we have conducted separate analyses of users and non-users, and the results show no significant association between repertoire of theaters and how the theaters are viewed by non-users as contributing to attractiveness of the municipality. There is no significant pattern in how non-users respond, also where factors of region and distance to Copenhagen are concerned.⁸ However, the patterns for recent users and past users alike are similar to the results in Table 6.

⁷ Getzner (2020) is one of the few studies to investigate how demand for culture differs according to region of residence.

⁸ Distance is tested in a separate (unreported) analysis.

Table 7. Attractiveness of municipalities and repertoire of theater, by user status.

	Recent users	Past users	Non-users
Repertoire: Drama	0.93*** (0.23)	0.77*** (0.26)	0.20 (0.33)
Repertoire: Children's	0.00 (0.23)	0.22 (0.20)	-0.02 (0.31)
Repertoire: Dance	0.23 (0.39)	-0.43 (0.33)	0.64 (0.46)
Repertoire: Comedy	0.96** (0.45)	1.30** (0.64)	-0.47 (0.52)
Repertoire: Experimental	0.82** (0.40)	1.24*** (0.33)	-0.27 (0.76)
Individual characteristics	Yes	Yes	Yes
Region	Yes	Yes	Yes
N	770	494	294
Pseudo R ²	0.07	0.08	0.03

Note. Dependent variable: Scale from 5=strongly agree to 1=strongly disagree with the statement *The theater/s in my municipality contributes to making the municipality attractive to live in*. Ordered logit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Yes/No indicates dummies.

In Table 8 we have used category of theater as an alternative to repertoire. The results show that large theaters and theater associations are positively associated with attractiveness. There is reason to suspect that the results are influenced by region. When excluding the biggest cities,⁹ only the results for theater associations remain significant when regional indicators are included. In the remaining sample, however, only the two municipalities of Odense and Aalborg have large theaters.¹⁰

Table 8 shows a small, positive association with the number of theaters in the municipalities. The pattern of distance and region is similar to the previous tables, with a small, positive association between attractiveness and distance from Copenhagen. The full table and marginal effects are not reported, but show a pattern similar to the previous tables. Residents in Southern Denmark, in particular, are more positive. User status is also of high importance,

⁹ The municipalities of Copenhagen, Frederiksberg, and Aarhus.

¹⁰ Odense and Aalborg have large regional theaters.

and shows that non-users especially are less positive. Gender and marital status are also of some significance.

Table 8. Attractiveness of municipalities and category of theater.

	(1)	(2)	(3)	(4)	(5)	(6)
Category: Small	-0.03 (0.16)	-0.12 (0.16)	-0.12 (0.17)	0.11 (0.17)	0.11 (0.17)	0.15 (0.17)
Category: Large	0.78*** (0.25)	0.47** (0.22)	0.55** (0.22)	0.25 (0.25)	0.58* (0.30)	0.50 (0.32)
Category: Theater associations	0.65*** (0.19)	0.67*** (0.19)	0.68*** (0.20)	0.53*** (0.19)	0.68*** (0.17)	0.62*** (0.17)
Category: Local theater	0.16 (0.19)	0.07 (0.21)	0.13 (0.21)	0.08 (0.21)	0.23 (0.17)	0.29* (0.17)
Number of theaters		0.06** (0.03)	0.06** (0.03)	0.07** (0.03)	0.00 (0.03)	-0.01 (0.03)
Individual characteristics			Yes	Yes	Yes	Yes
Distance				0.00*** (0.00)		
Region					Yes	Yes
User						Yes
N	1,315	1,315	1,295	1,238	1,295	1,249
R ²	0.01	0.01	0.04	0.04	0.04	0.06

Note. Dependent variable: Scale from 5=strongly agree to 1=strongly disagree with the statement *The theater/s in my municipality contributes to making the municipality attractive to live in*. Ordered logit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Yes/No indicates dummies. Respondents living in Copenhagen, Frederiksberg, and Aarhus excluded from the sample.

In Table 9 we have conducted separate analyses for users and non-users, and show that the results are primarily explained by user status. There is no significant association between category of theaters in the community and how non-users view them as contributing to the attractiveness of the municipality. Theater associations are significantly positive for recent and past users alike, but the coefficient indicating large theaters is only significant at a 10% level among the recent users. The results indicate that primarily users value theaters as a local amenity contributing to attractiveness, and that users living in municipalities with theater associations are significantly more positive. Non-users do not seem to be affected by the types of theaters in the municipality.

Table 9. Attractiveness of municipalities and category of theater, by user status.

	Recent users	Past users	Non-users
Category: Small	0.34 (0.21)	-0.11 (0.22)	0.13 (0.35)
Category: Large	0.81* (0.49)	-0.31 (0.41)	0.75 (0.71)
Category: Theater associations	0.79*** (0.19)	0.87*** (0.25)	0.39 (0.23)
Category: Local theater	0.32 (0.22)	-0.10 (0.23)	0.61 (0.39)
Individual characteristics	Yes	Yes	Yes
Region	Yes	Yes	Yes
N	571	419	259
Pseudo R ²	0.06	0.08	0.03

Note. Dependent variable: Scale from 5=strongly agree to 1=strongly disagree with the statement *The theater/s in my municipality contributes to making the municipality attractive to live in*. Ordered logit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Yes/No indicates dummies. Respondents living in Copenhagen, Frederiksberg, and Aarhus excluded from the sample.

6. Discussion and conclusion

While consumer externalities are the dominant argument for public subsidies to the performing arts (and other cultural institutions), there is little knowledge about what exactly these externalities consist of, and how they relate to characteristics of the supply of cultural institutions. Theaters (and other cultural institutions) present many different types of performances, and it is reasonable to expect that the size of the market and non-market values will depend on the types of theaters and performances provided. While it can be expected that some performances exclusively provide pure entertainment to the users, other types of theaters can be expected to provide larger externalities in terms of benefits to non-users, e.g. by providing enhanced prestige, identity or educational values to the community. The main aim of this study is to investigate the perceived benefits of theaters serving the local community, and whether the type of theater matters.

Based on consumer externalities as the fundamental argument for public support and on the model of cultural policy rationales developed by Skot-Hansen (2005), we have suggested the hypothesis that users and non-users will perceive different kinds of benefits from different types of theaters:

H₁: Only users will benefit from theaters providing pure entertainment as no externalities are expected.

H₂: Non-users of theaters will only benefit from theaters providing consumer externalities, such as enlightenment and empowerment to the community in the form of e.g. education value, identity value, innovation, and aesthetic value.

We have used repertoires and classification of type of theater as broad indicators of the types of benefits the theaters provide. These indicators are, of course, only rough indicators, but they are the only indicators available.

In line with Wiśniewska and Czajkowski (2019), we will assume that entertainment performances amuse and relax, but also encourage new audiences. Drama performances, mostly classical plays, serve cultural preservation and promotion of national identity. Children's performances mostly play an educational role for the youngest audience, and experimental performances, an example of art for the art's sake, provide intellectual stimulation and theatrical innovation. Based on these assumptions, it can be expected that only users will benefit from entertainment performances, while drama, children's performances, and experimental performances will have wider impacts on the society in the form of identity value, educational value, innovation, and aesthetic values, from which not only users, but also non-users can benefit (consumer externalities).

The first part of our analysis concerns willingness-to-pay for the local theaters, and indicates that the non-use value of theaters is important, as many other empirical studies have shown (Hansen, 1997; Noonan, 2003; Snowball, 2008). The results of our study also show that user status is of high significance in how local theaters are valued. Recent users have a significantly higher WTP for local theaters in comparison with non-users. As the local theaters, which are the empirical object of this analysis, fall into the same broad category of theaters, it is not possible to divide these benefits any further based on repertoire.

The second part of the analysis explores the connection between attractiveness and repertoire and types of theaters. The results show that type of theater and repertoire have a significant impact on the benefits perceived by the users, while non-users show no preferences for the types of theater located in the municipality. The results show no significant association between repertoire/category of theaters and how non-users view the theaters' contribution to

the attractiveness of the municipality. Returning to our hypothesis, this means both can be rejected.

Only users care about the types of theaters, and among the users we find that theaters with a broader, traditional repertoire and revivals (theater associations) seem to be most highly valued. This interpretation is in line with Werck and Heyndels (2007), a study that found the public revealed a preference for productions with a larger cast, plays in national language, and revivals rather than new plays. It is also in line with the Wiśniewska and Czajkowski (2019) finding that entertainment and drama theaters had the highest mean WTP, and experimental and children's the lowest, and with the Grisolia and Willis (2011b) study that found lowest utility from experimental productions.

One interesting finding shows that the perceived benefits of theaters differs according to where the respondents live. The results reveal that region of residence and distance to Copenhagen are important factors: individuals living far from Copenhagen, especially residents living in Southern Denmark, were more positive in their view of how the theaters contribute to the attractiveness. This is perhaps a surprising result, as these are regions with fewer theaters. One interpretation could be that the theaters are more visible and are one of just a few similar cultural goods in these municipalities, and are thus valued higher by the inhabitants. This could indicate that the public benefits of theaters are relatively higher compared to private benefits in these municipalities. It might also be an indication of decreasing marginal utility of theaters/cultural institutions. In future research, it would be interesting to study how preferences for culture, arts, and types of institutions vary according to type of region, as few studies seem to have included this type of spatial perspective (with e.g. Getzner (2020) as a notable exception).

The main contribution of our paper is that even though we can confirm that non-users are in favor of supporting the theaters via their taxes, the type of supply is of no consequence for non-users' valuation. This is an interesting new finding, with wider implications for valuation studies in particular and cultural policy in general.

Firstly, the result raises questions about the use of stated preference methods in valuation of performing arts and other cultural institutions. Stated preference methods build on the assumption that respondents understand and have full information about the good to be

assessed, including an understanding of the externalities provided, in order to make their evaluation. Our study shows that this may not be the case, as the type of theater and supply have no significant impact on non-users' assessments.

Secondly, if cultural policy decisions are based on the assumption of consumer externalities (as the theoretical argument), other types of studies may be needed in order to assess the benefits to non-users. Our study is, however, only the first step in analyzing the various public and non-use benefits that cultural institutions represent, and the distinction between different kinds of values and benefits needs to be further conceptualized in future studies.

We have used repertoire and classification of types of theater as broad indicators of the types of benefits the theaters provide. These indicators are, of course, only rough indicators, and the main limitation of our study. Having better indicators for the benefits (externalities) provided by the various theaters would have increased the reliability of our study. However, finding better indicators of consumer externalities is a major challenge and an important task for future research.

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Appendix 1

Table 1.1: Descriptive statistics of the sample. Weighted average.

	Total	Recent users	Past users	Non-users
Age distribution (%)				
18-34	26.6	27.5	28.6	22.1
35-54	31.8	30.2	35.5	29.4
55-74	30.2	31.7	25.6	34.1
75 <	11.4	10.6	10.4	14.4
Regional distribution (%)				
Capital Region	29.9	37.0	26.7	18.3
North Jutland	9.7	8.0	8.9	14.8
Central Jutland	23.1	22.0	24.8	23.0
Southern Denmark	21.7	19.9	22.7	24.3
Zealand	15.6	13.1	16.8	19.6
Educational distribution (%)				
Basic school	25.1	20.2	23.6	36.5
Secondary education	41.9	38.4	44.3	45.5
Higher education	33.0	41.5	32.1	18.1
Gender (%)				
Women	52.0	56.5	51.9	43.4
Men	48.0	43.5	48.1	56.6
Marital status (%)				
Unmarried	34.0	32.7	37.7	31.1
Married/registered partnership/separated	52.6	47.1	50.0	50.2
Divorced	10.4	10.2	10.2	11.3
Widowed	4.5	5.0	7.7	5.4
Average income 2018, DKK	334,015.8	386,463.5	308,183.4	270,398.3
Average no. children living at home	0.6	0.6	0.7	0.6
Sample size	1,929	864	576	378

Appendix 2

Table 2.1: The theater/s in my municipality contributes to making the municipality attractive to live in.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Mean	N
Total in municipalities with local theater/s	13.7	37.5	33.4	9.4	6.1	2.1	507
Total in municipalities with theater/s	16.8	37.2	31.8	9.4	4.7	2.0	1,532
Total	15.5	53.6	32.6	10.9	5.4	2.0	1,769
Recent users	22.1	38.4	28.2	9.4	1.8	2.3	778
Past users	12.9	37.5	33.5	9.8	16.4	2.6	510
Non-users	2.7	26.5	41.3	16.4	13.1	3.1	298

Table 2.2: Attractiveness of municipalities and repertoire of theater.

	(1)	(2)	(3)	(4)	(5)	(6)
Repertoire: Drama	0.70*** (0.19)	0.71*** (0.18)	0.75*** (0.20)	0.83*** (0.18)	0.68*** (0.18)	0.63*** (0.18)
Repertoire: Children's	0.02 (0.15)	0.02 (0.16)	0.02 (0.16)	0.05 (0.14)	-0.02 (0.13)	0.00 (0.13)
Repertoire: Dance	-0.46*** (0.12)	-0.38* (0.21)	-0.26 (0.22)	-0.17 (0.12)	-0.04 (0.19)	-0.05 (0.20)
Repertoire: Comedy	0.47 (0.31)	0.58 (0.46)	0.43 (0.52)	0.37** (0.16)	0.66 (0.43)	0.67 (0.43)
Repertoire: Experimental	0.90*** (0.25)	0.95*** (0.22)	1.00*** (0.21)	0.92*** (0.12)	0.96*** (0.21)	0.96*** (0.23)
Number of theaters		-0.00 (0.00)	-0.00 (0.01)	0.00 (0.00)	-0.00 (0.01)	-0.00 (0.01)
Gender (male)			-0.52*** (0.10)	-0.55*** (0.10)	-0.53*** (0.10)	-0.45*** (0.10)
Age: 18-34			-	-	-	-
Age: 35-54			0.40** (0.18)	0.40** (0.18)	0.40** (0.17)	0.45** (0.19)
Age: 55-74			0.60*** (0.15)	0.65*** (0.15)	0.65*** (0.15)	0.67*** (0.16)
Age: 75 <			0.85*** (0.23)	0.95*** (0.24)	0.89*** (0.23)	1.03*** (0.22)
Education: Basic school			-	-	-	-
Education: Upper secondary			0.02 (0.15)	-0.03 (0.15)	0.02 (0.15)	-0.06 (0.15)
Education: Higher education			0.22 (0.14)	0.21 (0.15)	0.23 (0.14)	0.06 (0.15)
Income			-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)
Marital status: Unmarried			-	-	-	-
Marital status: Married/partnership			0.24* (0.12)	0.28* (0.12)	0.23* (0.13)	0.21 (0.14)
Marital status: Divorced			0.34* (0.20)	0.36* (0.21)	0.35* (0.21)	0.28 (0.23)
Marital status: Widowed			0.47* (0.26)	0.46* (0.26)	0.48* (0.25)	0.66** (0.27)
No. of children			-0.05 (0.06)	-0.04 (0.07)	-0.03 (0.07)	-0.04 (0.07)
Distance to Copenhagen				0.00**		
Region: Capital Region					-	-
Region: North Jutland					0.39* (0.22)	0.39* (0.22)
Region: Central Jutland					0.28 (0.19)	0.28 (0.19)
Region: Southern Denmark					0.70*** (0.22)	0.70*** (0.22)
Region: Zealand					0.06 (0.15)	0.24 (0.17)
User: Recent						-
User: Past						-0.39*** (0.10)
User: Non						-1.35*** (0.16)
Cut1	-2.22*** (0.17)	-2.22*** (0.17)	-1.74*** (0.22)	-1.34*** (0.22)	-1.46*** (0.23)	-1.93*** (0.26)

Cut2	-0.97*** (0.17)	-0.97*** (0.16)	-0.46** (0.23)	-0.06*** (0.22)	-0.18 (0.22)	-0.62** (0.25)
Cut3	0.68*** (0.17)	0.69*** (0.16)	1.25*** (0.24)	1.67*** (0.23)	1.56*** (0.23)	1.20*** (0.26)
Cut4	2.51*** (0.19)	2.52*** (0.18)	3.14*** (0.25)	3.57*** (0.25)	3.47*** (0.25)	3.20*** (0.27)
N	1,640	1,640	1,612	1,555	1,612	1,558
Pseudo R ²	0.02	0.02	0.05	0.05	0.05	0.08

Note. Dependent variable: Scale from 5=strongly agree to 1=strongly disagree with the statement *The theater/s in my municipality contributes to making the municipality attractive to live in*. Ordered logit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 2.3: Marginal effects, model (6) Table 6.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Repertoire: Drama	-0.02*** (0.01)	-0.05*** (0.01)	-0.09*** (0.03)	0.09*** (0.03)	0.07*** (0.02)
Repertoire: Children's	-0.00 (0.01)	-0.01 (0.01)	-0.00 (0.02)	0.00 (0.02)	0.00 (0.01)
Repertoire: Dance	0.00 (0.01)	0.00 (0.02)	0.01 (0.03)	-0.01 (0.03)	-0.00 (0.02)
Repertoire: Comedy	-0.03 (0.02)	-0.05 (0.03)	-0.09 (0.06)	0.09 (0.06)	0.07 (0.05)
Repertoire: Experimental	-0.04*** (0.01)	-0.07*** (0.02)	-0.13*** (0.03)	0.13*** (0.03)	0.11*** (0.02)
Number of theaters	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Gender (male)	0.02*** (0.00)	0.03*** (0.01)	0.06*** (0.01)	-0.06*** (0.01)	-0.05*** (0.01)
Age: 18-34	-	-	-	-	-
Age: 35-54	-0.02** (0.01)	-0.04** (0.02)	-0.05*** (0.02)	0.07** (0.03)	0.04** (0.02)
Age: 55-74	-0.03*** (0.01)	-0.06*** (0.02)	-0.08*** (0.02)	0.10*** (0.02)	0.07*** (0.01)
Age: 75 <	-0.04*** (0.01)	-0.08*** (0.02)	-0.13*** (0.03)	0.14*** (0.03)	0.12*** (0.03)
Education: Basic school	-	-	-	-	-
Education: Upper secondary	0.00 (0.01)	0.00 (0.01)	0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)
Education: Higher education	-0.00 (0.01)	-0.00 (0.01)	-0.01 (0.02)	0.01 (0.02)	0.01 (0.02)
Income	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Marital status: Unmarried	-	-	-	-	-
Marital status: Married/partnership	-0.01 (0.01)	-0.02 (0.02)	-0.03 (0.02)	0.03 (0.02)	0.02 (0.01)
Marital status: Divorced	-0.01 (0.01)	-0.02 (0.02)	-0.04 (0.03)	0.04 (0.03)	0.03 (0.03)
Marital status: Widowed	-0.02*** (0.01)	-0.05*** (0.02)	-0.09** (0.04)	0.08*** (0.03)	0.08** (0.04)
No. of children	0.00 (0.00)	0.00 (0.01)	0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)
Region: Capital Region	-	-	-	-	-
Region: North Jutland	-0.03*** (0.01)	-0.06*** (0.02)	-0.09*** (0.03)	0.10*** (0.03)	0.08*** (0.03)
Region: Central Jutland	-0.02** (0.01)	-0.04** (0.02)	-0.05** (0.02)	0.06** (0.03)	0.04** (0.02)
Region: Southern Denmark	-0.03*** (0.01)	-0.07*** (0.02)	-0.12*** (0.03)	0.12*** (0.03)	0.10*** (0.03)
Region: Zealand	-0.01 (0.01)	-0.02 (0.02)	-0.03 (0.02)	0.04 (0.03)	0.02 (0.02)
User: Recent	-	-	-	-	-
User: Past	0.01*** (0.00)	0.03*** (0.01)	0.06*** (0.02)	-0.05*** (0.01)	-0.05*** (0.01)
User: Non	0.07*** (0.01)	0.12*** (0.02)	0.13*** (0.01)	-0.20*** (0.02)	-0.12*** (0.01)

Table 2.4: Attractiveness of municipality and repertoire of theater (excluding Copenhagen, Frederiksberg, and Aarhus).

	(1)	(2)	(3)	(4)	(5)	(6)
Repertoire: Drama	0.73*** (0.18)	0.61*** (0.19)	0.65*** (0.20)	0.73*** (0.19)	0.63*** (0.19)	0.61*** (0.19)
Repertoire: Children's	-0.02 (0.17)	-0.22 (0.21)	-0.23 (0.22)	-0.18 (0.19)	-0.16 (0.17)	-0.12 (0.20)
Repertoire: Dance	-0.53*** (0.15)	-0.61*** (0.13)	-0.51*** (0.12)	-0.23 (0.15)	-0.19 (0.15)	-0.21 (0.18)
Repertoire: Comedy	0.89 (0.64)	0.87 (0.62)	0.72 (0.73)	0.40*** (0.14)	0.77 (0.58)	0.78 (0.58)
Number of theaters		0.07** (0.03)	0.07** (0.03)	0.07** (0.03)	0.04 (0.04)	0.03 (0.04)
Gender (male)			-0.52*** (0.13)	-0.55*** (0.13)	-0.54*** (0.13)	-0.45*** (0.12)
Age: 18-34			-	-		
Age: 35-54			0.22 (0.21)	0.21 (0.21)	0.23 (0.21)	0.24 (0.21)
Age: 55-74			0.53** (0.21)	0.59*** (0.21)	0.58*** (0.21)	0.58*** (0.22)
Age: 75 <			0.86*** (0.29)	0.96*** (0.30)	0.90*** (0.29)	1.00*** (0.29)
Education: Basic school			-	-		
Education: Upper secondary			0.09 (0.16)	0.02 (0.16)	0.09 (0.15)	-0.01 (0.16)
Education: Higher education			0.23 (0.16)	0.20 (0.16)	0.23 (0.16)	0.06 (0.17)
Income			0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Marital status: Unmarried			-	-		
Marital status: Married/partnership			0.18 (0.14)	0.25* (0.14)	0.17 (0.14)	0.17 (0.15)
Marital status: Divorced			0.31 (0.19)	0.35* (0.20)	0.32* (0.20)	0.23* (0.21)
Marital status: Widowed			0.47* (0.28)	0.48* (0.28)	0.48* (0.27)	0.63** (0.27)
No. of children			0.02 (0.06)	0.02 (0.06)	0.03 (0.06)	0.02 (0.06)
Distance				0.00** (0.00)		
Region: Capital Region					-	
Region: North Jutland					0.35 (0.21)	0.65*** (0.21)
Region: Central Jutland					0.26 (0.21)	0.37* (0.21)
Region: Southern Denmark					0.66*** (0.23)	0.84*** (0.23)
Region: Zealand					0.06 (0.18)	0.22 (0.19)
User: Recent						-
User: Past						-0.33*** (0.12)
User: Non						-1.20*** (0.16)
Cut1	-2.15*** (0.16)	-2.15*** (0.16)	-1.68*** (0.24)	-1.26*** (0.25)	-1.43*** (0.26)	-1.87*** (0.25)

Cut2	-0.97*** (0.15)	-0.97*** (0.15)	-0.48** (0.23)	-0.07 (0.24)	-0.22 (0.26)	-0.64** (0.29)
Cut3	0.70*** (0.15)	0.71*** (0.15)	1.25*** (0.24)	1.69*** (0.26)	1.53*** (0.26)	1.18*** (0.29)
Cut4	2.62*** (0.17)	2.63*** (0.17)	3.23*** (0.26)	3.68*** (0.28)	3.53*** (0.29)	3.27*** (0.32)
N	1,315	1,315	1,295	1,238	1,295	1,249
Pseudo R2	0.01	0.01	0.03	0.04	0.04	0.06

Note. Dependent variable: Scale from 5=strongly agree to 1=strongly disagree with the statement *The theater/s in my municipality contributes to making the municipality attractive to live in*. Ordered logit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Yes/No indicates dummies. Respondents living in Copenhagen, Frederiksberg, and Aarhus excluded from the sample.

Table 2.5: Attractiveness of municipality and category of theater, by user status.

	Recent users	Past users	Non-users
Category: Small	0.34 (0.21)	-0.11 (0.23)	0.13 (0.35)
Category: Large	0.81* (0.49)	-0.31 (0.41)	0.75 (0.71)
Category: Theater association	0.79*** (0.19)	0.87*** (0.25)	0.39 (0.29)
Category: Local theater	0.32 (0.22)	-0.10 (0.23)	0.61 (0.39)
Individual characteristics	Yes	Yes	Yes
Region	Yes	Yes	Yes
Cut 1	-2.38*** (0.76)	0.80 (1.01)	-1.49 (1.17)
Cut 2	-0.46 (0.76)	1.90* (1.01)	-0.50 (1.15)
Cut 3	1.34* (0.77)	3.82*** (1.02)	1.50 (1.13)
Cut 4	3.38*** (0.80)	6.06*** (1.05)	4.21*** (1.09)
N	571	419	259
Pseudo R ²	0.06	0.08	0.03

Note. Dependent variable: Scale from 5=strongly agree to 1=strongly disagree with the statement *The theater/s in my municipality contributes to making the municipality attractive to live in*. Ordered logit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Yes/No indicates dummies.

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