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**HEC MONTRÉAL**  
École affiliée à l'Université de Montréal

**L'interdépendance des environnements marketing :  
Trois essais sur la prise de décision stratégique des entreprises  
artistiques**

**par  
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Thèse présentée en vue de l'obtention du grade de Ph. D. en administration  
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Cette thèse intitulée :

**L'interdépendance des environnements marketing :  
Trois essais sur la prise de décision stratégique des entreprises  
artistiques**

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## Résumé

Les entreprises opèrent dans le contexte d'environnements complexes dont l'interdépendance se manifeste dans leurs effets mutuels. Cette recherche explore les décisions stratégiques des entreprises artistiques en réponse aux environnements externes et internes, ainsi que la réaction des marchés aux décisions prises au niveau de l'entreprise. Le premier essai étudie la réaction des entreprises à l'environnement externe, dans le contexte des orchestres symphoniques canadiens. La maladie des coûts de Baumol (1966) se produit dans les industries à faible productivité, telles que les secteurs des arts, de l'éducation et de la santé, où au fil du temps les dépenses augmentent de façon chronique à un rythme plus rapide que les revenus. Flanagan (2012) a constaté que les orchestres symphoniques aux États-Unis évitaient les conséquences négatives de la maladie des coûts en encourageant un fort soutien privé. Dans la présente étude, nous constatons que dans des contextes où le financement privé n'est pas aussi facilement accessible, comme au Canada, les organisations artistiques sont davantage incitées à garder leurs dépenses sous contrôle. Cela peut être compris en termes de dépendance des ressources, où les organismes de financement gouvernementaux font pression sur les organisations pour contrôler leurs dépenses et atteindre un plus grand public. Nos résultats montrent que les orchestres canadiens, comparativement aux orchestres américains, affichent des taux de croissance des dépenses plus faibles au fil du temps et réagissent davantage aux ralentissements économiques.

Le deuxième essai poursuit avec une exploration de la réponse des marchés aux décisions prises au niveau de l'entreprise, dans le contexte de l'industrie cinématographique hollywoodienne. Les prix à remporter sont reconnus pour leur capacité à être un signe de qualité et à faciliter les processus décisionnels des consommateurs et des gestionnaires. Cette recherche postule que la structure de récompense influence la façon dont la valeur économique est dérivée; plus précisément, en raison du coût élevé de la recherche d'un Oscar, la réception d'un prix sera perçue négativement par le marché, ce qui aura un effet néfaste sur la valeur de l'entreprise.

L'effet de l'annonce des studios recevant des Oscars est tel que les studios de cinéma qui remportent l'Oscar du Meilleur film souffrent d'une perte de valeur d'entreprise.

Le troisième essai illustre l'effet de l'environnement interne sur les décisions de l'entreprise, plus précisément comment la structure de propriété influence le comportement de recherche de prix des studios de cinéma. Les prix sont des symboles de réussite et de mérite hautement recherchés et largement utilisés comme signaux de qualité et de performance. Cette recherche démontre que la structure de propriété influence le comportement des entreprises en matière de recherche de prix; le nombre d'actionnaires que les entreprises auront influencera la stratégie qu'elles adoptent pour satisfaire les intérêts des investisseurs. Du fait que les entreprises privées ont beaucoup moins d'actionnaires – avec des intérêts plus convergents – que les entreprises publiques, elles n'ont pas besoin d'envoyer autant de signaux au marché, et elles investissent donc moins dans la recherche de prix. L'industrie cinématographique hollywoodienne est choisie comme contexte empirique pour évaluer le comportement différentiel des entreprises privées et des entreprises publiques. Les résultats révèlent que, bien que la structure de propriété n'ait aucun impact sur la performance des entreprises, les studios publics cherchent davantage à obtenir des prix.

**Mots clés :** dépendance des ressources; environnement de financement; film; prix; secteur des arts; stratégie; structure de prix; structure de propriété, signalisation; valeur d'entrepris

**Méthodes de recherche :** analyse de régression; données de panel; étude d'événement



## **Abstract**

Firms operate in the context of complex environments, the interdependence of which can be seen in their reaction to one another. This research explores the strategic decisions of artistic firms in response to their environment—internal and external—as well as the reaction of the external environment to firms’ decisions. The first essay explores the reaction of the firm to external environments, in the context of Canadian symphony orchestras. The Baumol cost disease (1966) occurs in low productivity industries, such as the arts, education and health sectors, where expenses chronically increase at a rate faster than revenues over time. Flanagan (2012) found that US symphony orchestras avoided the negative consequences of the cost disease by fostering strong private support. In the present study we find that, in contexts where private funding is not as readily accessible, like in Canada, arts organizations have more incentive to keep expenses under control. This can be understood in terms of resource dependence where government funding bodies, due to a homogenous set of demands, put pressure on organizations to control their expenses and reach greater audiences. The results show that Canadian orchestras, when compared to U.S ones, achieve a lower rate of expense increases over time and are more reactive to economic downturns.

The second essay addresses the opposite relationship, specifically the market’s reaction to firm decisions, in the context of the Hollywood film industry. Awards are well-recognized for their ability to signal quality and aid in both consumer and managerial decision-making processes. Awards literature strongly supports the premise of value creation from winning prizes, but warns that value destruction is also possible. This research postulates that reward structure influences how economic value is derived, more specifically, that due to the high cost of seeking an Academy Award, winning will be negatively received by the market, thereby having a detrimental effect on firm value. The effect of the announcement of studios receiving Academy Awards is such that film studios who win the top prize of Best Picture suffer a loss in firm value.

The third essay illustrates the effect of the internal environment on firm decisions, specifically how ownership structure influences the prize-seeking behaviour of film studios. Prizes are highly sought-after symbols of achievement and merit; widely used to signal quality and performance. The current research demonstrates that ownership structure affects the prize-seeking behavior of firms; the number of stakeholders companies have will influence the strategy firms take in satisfying investor interests. As a result of private firms having far fewer shareholders—with more convergent interests—than their public counterparts, they do not need to send as many signals to the market and invest less in seeking awards. The Hollywood film industry is selected as the empirical context to assess the differential behavior of private and public firms. Findings reveal that, while ownership structure has no impact on firm performance, public studios are indeed more prize-seeking.

**Keywords:** arts; film; firm value; funding environment, prizes; prize structure; ownership structure; resource dependence; signaling; strategy

**Research methods:** event study, panel data, regression analysis

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## **List of acronyms**

AMPAS: Academy of Motion Pictures Arts and Sciences

AR: Abnormal return

CAR: Cumulative abnormal return

CAAR: Cumulative average abnormal return

CEO: Chief executive officer

FF3: Fama-French three-factor model

FF4: Fama-French four-factor (momentum) model

HFPA: Hollywood Foreign Press Association

RP: Relative performance

SCAR: Standardized cumulative abnormal return

*To my former self: thank you for always trusting the journey and believing in yourself*

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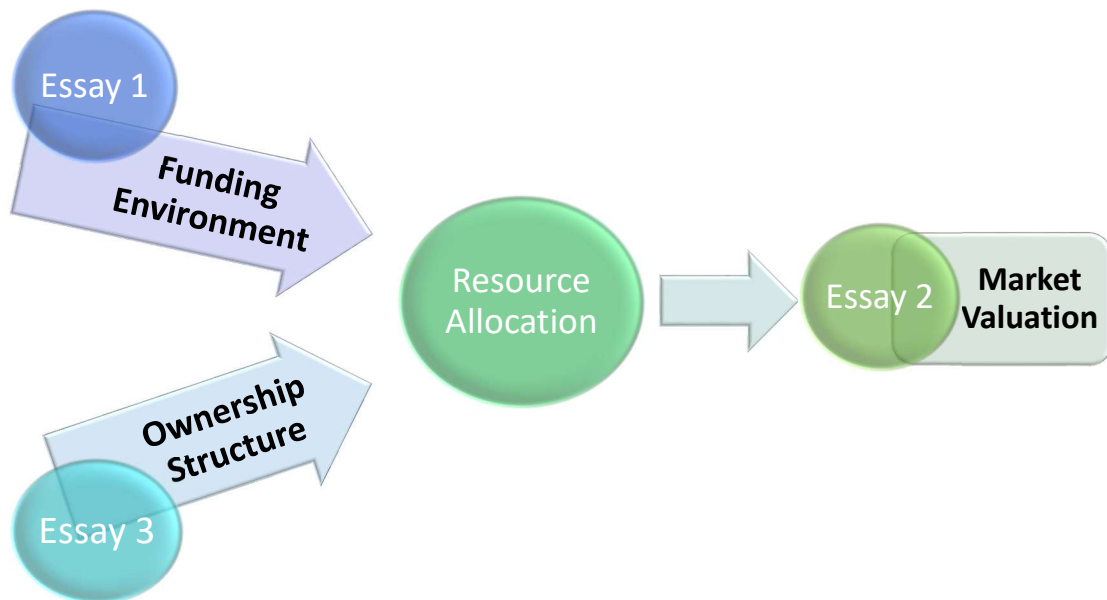
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# Introduction

Firms operate in the context of complex environments, the interdependence of which can be seen in their reaction to one another. This research explores the strategic decisions of artistic firms in response to their environment—internal and external—as well as the reaction of the external environment to firms’ decisions. It is positioned within the marketing-finance interface insofar as it studies how firms manage their resources (especially financial) and the impact resource allocation has on marketing decisions. Although this research does consider the wider impact of consumer markets, its primary focus is the influence of non-consumer based environmental factors: public funding structure, ownership structure and the response of financial markets to artistic firm decisions. The conceptual framework explaining the structure and development of this thesis is illustrated in Figure A below:

**Figure A:** Conceptual framework



The bi-directional relationship between firms and their external environment is studied in the first two essays; essay one explores the impact of the market on firm decision

making, while essay two measures market reactions to firm decisions. The third essay returns to the influence of internal environment factors on firm decisions.

The relationship between strategic decision making and firms' marketing environment is not unique to the arts sector, however, due to the availability of the data, this research is positioned within an arts context. Access to rich historical data provided an opportunity to look at firm decision making at an industry level and to observe changes over time. First, full annual reports for the majority of all Canadian symphony orchestras over an eight-year period allowed for the investigation into the management of financial resources of not-for-profit organizations within the performing arts context. Moreover, publicly available information for the Academy Awards allowed for the examination of prize-seeking behaviour of major Hollywood film studios dating back to the contest's inception. With this data, it was possible to empirically study the behaviour of non-governmental organizations (NGO), as well as public and private companies. Data collection was conducted in stages between 2014 and 2018, covering periods from the 1930's to present. This research uses a hypothetical-deductive epistemology and is positioned within the marketing finance interface, drawing on signaling theory, resource dependence theory, and agency theory.

The first essay explores how artistic firms react to short-term economic changes and long-term structural challenges in different funding contexts. It underlines the differences in strategic response between privately and publicly funded NGOs: American and Canadian symphony orchestras respectively. Due to the culture of philanthropy south of the border, U.S orchestras are less restricted by one particular set of stakeholder demands, whereas Canadian orchestras rely heavily on government support and are held accountable for the allocation of financial resources. Due to the constraints of a public funding structure, Canadian orchestras are careful to keep expenses under control and work diligently to maintain non-performance revenues (government income and other) and increase performance income (appealing to a wider audience). This research demonstrates a tendency for orchestras to keep marketing costs to a minimum, to cut artistic expenses in worsening economic conditions, and to invest in fundraising in order to develop private sector giving.

The second and third essay both look at the prize-seeking behaviours of film studios, first in the reaction of the market to firms' decision to invest in awards, and then in how private studios differ in their prize-seeking behaviour than public studios. The decision by firms to invest in awards is well researched, however, the full cost of prize-seeking has not yet been measured in the case of the Oscars. The Academy Awards are one of the most prestigious prizes not just in film, but the entertainment industry as a whole. Film studios must properly allocate precious resources just in order to contend for the awards and strategic decisions are required all along the journey from writer's desk to theatres. Essay two demonstrates that hunting for an award comes with a considerable price-tag, and the investment required to win the top prize of Best Picture is decidedly higher. As a result, the market reacts negatively to firms who win the Oscar for Best Picture; they evaluate the investment required to win as not being worth the lift in box office revenues award recognition provides. Essay three highlights how private studios seek prizes differently than public studios; as the internal environment defines distinct priorities and responsibilities of the firm. Public studios, due to their presence on financial markets, have a larger number of shareholders' interests to satisfy. It is found that both types of film studios will seek awards, however, those with a public ownership structure will be more prize pursuant as they require more signals of performance to send to investors.

# Chapter 1

## Balancing the score: the financial impact of resource dependence on symphony orchestras<sup>1</sup>

### Abstract

The Baumol cost disease occurs in low productivity industries, such as the arts, education and health sectors, where expenses chronically increase at a rate faster than revenues over time. Flanagan (2012) found that US symphony orchestras avoided the negative consequences of the cost disease by fostering strong private support. In the present study we find that, in contexts where private funding is not as readily accessible, like in Canada, arts organizations have more incentive to keep expenses under control. This can be understood in terms of resource dependence where government funding bodies, due to a homogenous set of demands, put pressure on organizations to control their expenses and reach greater audiences. Using panel data covering a period of eight years and forty-eight orchestras, the results show that Canadian orchestras, when compared to U.S ones, achieve a lower rate of expense increases over time and were more reactive to economic downturns.

**Key words:** Baumol cost disease, funding context, income gap, resource dependence, symphony orchestras

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<sup>1</sup> This article has been published in the *Journal of Cultural Economics* (2017), vol. 41, issue 4, 421-439

## 1.1 Introduction

The Baumol cost disease has often been asserted as inescapable for artistic organisations such as symphony orchestras, theaters and dance companies. This “cost disease” is the resulting cost pressure incurred by businesses in low-productivity growth industries, where the increase of expenses exceeds the increase of revenue over time (Heilbrun 2003). In the arts industry, as in many other service industries, production outputs (i.e. a live performance) are directly proportional to labour inputs (i.e. number of musicians needed) and remain consistent over time. It is due to this inherent economic structure that performing arts businesses land within the low-productivity growth category; where advances in technology and improved efficiency of production provide little benefit to better servicing their customers.

In his study of the state of economic health of orchestras in the United States, Flanagan (2012) presents evidence of the Baumol cost disease. Furthermore, he demonstrates that the negative consequences of this structural deficit have been staved off mostly by a significant development of private support. The struggle to generate sufficient performance income to cover performance expenses has been a century long battle, one that American orchestras are losing over time. Fortunately, the performing arts have also had a long history of philanthropy, enough to keep most orchestras afloat. Flanagan’s research provides insight into the state of top professional orchestras, but does not allow for a clear interpretation of the situation for orchestras and other non-profit organizations outside of the U.S where the funding sources may be different.

The history of the Baumol cost disease and the findings of Flanagan (2012) provide an interesting area worth further research: are the observations made by Flanagan generalizable in contexts other than the United States? What does variations in types of funding sources have on the influence of the cost disease? Given the dynamics between the Baumol cost disease and the organizations external environment, specifically financial environment, a distinction may be found in other countries, like Canada, which rely far less on private support and more on government funding. It is posited in this article that in markets where private giving is not as developed as in the United States, art

organisations have a clearer incentive to better control their expenses; resulting in better control of the cost disease. This can be understood in terms of resource dependence, where art organisations are highly reliant on scarce government funding for survival. Financial resources are a key concern for any arts organization, but depending on whether the funding source composition is high philanthropy, low government support – like in the U.S – or high government support, low philanthropy – like in Canada – the organizations’ management of funder demands will be different (see Table 1.1). In a public funding context, this dependence influences the internal decisions of orchestras in such a way to align with government objectives and policies. With the distribution of public funds, governments need to see that art organisations are meriting the support by appealing to a certain segment of the population. Thus governments are likely to monitor orchestras’ ticket sales and performance income, as a measure of relevancy, in their decisions to allocate public funds.

By investigating the current state of Canadian orchestras, this research seeks to better understand the dynamics and consequences of the Baumol cost disease and how variations of funding influence may affect its evolution. This research can also be extended to explain how other non-profits outside an American funding context are similarly affected by the Baumol cost disease and resource dependence. The remainder of the paper is organized in the following manner: Section 1.2 outlines the theoretical background, including detail of the Baumol cost disease, the study of U.S orchestras by Flanagan (2012), the link to resource dependence, the differences in a Canadian context as well as setting hypotheses; Section 1.3 explains the sample of Canadian orchestras and the modeling approach used to analyse the data; Section 1.4 details the results of the regression analysis and compares the financial situation of Canadian and U.S orchestras; Section 1.5 provides a discussion of the results and their implications in the performing arts and other non-profit (low productivity) industries; and finally section 1.6 lists limitations of the study and areas for future research.

## 1.2 Theoretical Background

### *The Baumol cost disease*

The Baumol cost disease was first introduced by Baumol and Bowen (1966), who explain that due to productivity lag, the cost per unit of output in the performing arts will continue to grow at the rate of the rest of the economy. Generally, costs per unit remain stable (or decrease) in industries where wages rise at the same level as productivity, but the opposite is true in industries where human labour is the output. Heilbrun (2003) offers that economists define productivity as “physical output per work hour” (p. 91), and that most output productivity increases are seen in industries which rely heavily on machinery and technology. Although advances in technology have improved productivity in certain areas of performing arts, for example in recording and distribution (Cowen 1996), there remains an irreducible amount of labour in the industry. Therefore, these technologies provide little opportunity in reducing extension the costs per unit. In fact, due to the nature of live performing arts, the labour inputs and performance outputs are inextricably linked. It is extremely challenging to perform a given play with fewer characters, or reduce the number of musicians in, and rehearsals required by, an orchestra.

Historical evidence of the Baumol cost disease is provided by several authors (Flanagan 2012; Heilbrun 2003; Getzner 2002; Baumol and Bowen 1966). As labour costs in the arts, and costs per unit, rise alongside the rest of the economy so too do performance expenses. It has also been found that historically, ticket prices have increased at a far slower rate than performance expenses (Heilbrun 2003). This creates an ongoing and increasing inability for artistic organisations to cover their expenses from earned income which Heilbrun (2003, 95) defines as the “earning gap”. This accounting discrepancy is also sometimes referred to as an income gap, or performance income gap (as per Flanagan 2012). Although overall historical accounts do not paint a bright economic future for the performing arts, it is not all doom and gloom. There has been some positive evidence that in years of high inflation companies exert cost-saving actions while ticket prices rise above regular price levels, which lessens the earning gap (Towse 1997; Felton 1994).

### *The Baumol cost disease in the U.S market*

Two independent factors which impact the financial health of symphony orchestras are outlined and differentiated by Flanagan (2012): one's cyclical and another is structural. He explains that cyclical factors are reliant on general economic conditions either negative or positive, for example periods of recession or business growth. These factors temporarily influence the financial situation of orchestras, but according to Flanagan's analysis of U.S orchestras, any negative impacts faced in unfavorable weather can be reversed in stronger financial times. The other factor is the presence of cumulative long-term financial difficulties. This type of structural deficit is caused by the increase of performance expenses above and beyond the increase of performance revenues, and confirms the existence of the Baumol cost disease (Flanagan 2012). Flanagan (2012, 9) asserts that "the cost disease cannot be repealed without repealing laws of arithmetic", and provides long historical evidence of its impact on the U.S arts environment. It is reported that the cost disease was present through the 20th century and continues into the 21st century. For example, Grant and Hettinger (1940) demonstrate that, in 1940, 60% of expenses were covered by performance income. However in his study of 63 U.S symphony orchestras between 1987 and 2005, Flanagan (2012, 16) reports that in 1990 only 46% of performance expenses were covered by performance revenues, and this figure further dropped to 41% by 2005.

As Flanagan (2012) explains, there are only two ways of handling the cost disease, either by way of cure or offset. A cure would require reducing artistic wages below those of other industry levels or significantly increasing productivity; by reducing rehearsals or the number of artists used in a production. Since neither cure has been sustainable in the U.S symphonic field, the other option is to offset the performance income gap with increasing levels of non-performance income. Results of Flanagan's (2012) analyses demonstrate U.S orchestras' high need to generate non-performance revenue. The performance income gap in twentieth century arts organizations are normally offset by three sources of non-performance income in Europe and the West: government subsidies, private donations and investment income from endowment funds. Of these three sources, private donations are by far the most significant in the U.S; with philanthropy of the elite



arts sector having a longstanding history (Ostrower 2002; Ostrower 1995). This finding is reinforced by Hsiesh (2009) in his study of private non-profit performing arts organizations, where individual donors were found to be the most important source of contributed income in the U.S. In Flanagan's framework, U.S orchestras have been able to offset the deleterious effects of the cost disease by evolving in a highly philanthropically oriented environment. Furthermore, because of the availability of private funding, orchestras did not address the structural deficits or react to negative economic cycles. Becoming decreasingly reliant on performance revenues and more dependent on private funding turns problematic when private donations dry up, such as in times of recession. In reaction to the major economic crisis of 2008 and beyond, many U.S orchestras demonstrated extreme vulnerability (Flanagan 2012).

#### *Resource Dependence in arts organizations*

This behavior can be understood in terms of resource dependence, where Pfeffer and Salancik (1978) explain: organizations survive to the extent that they are effective, by managing the demands of interest groups upon which the organization depends. No organization is completely self-contained and must operate within an environment in which they acquire and maintain resources. It is furthermore explained by Slater and Narver (1990, 22) that "for non-profit organizations the objective analogous to profitability is survival, which means earning revenues sufficient to cover long-run expenses and/or otherwise satisfying all key constituencies in the long run". For arts organizations the most scarce and sought after resource is funding, be it from the private or public sector. Pfeffer and Salancik (1978) state that organizations do not rely on the support of all of their stakeholders in order to survive, but are dependent upon those which control the most critical resources. As demonstrated by Flanagan (2012) and others (Pompe et al. 2011; Hsieh 2009; Cowen 1996), arts organizations are increasingly reliant on non-performance income.

Dependence upon external environments is not a problem so much as is the dependability of those environments (Froelich 1999). As environments change and

tighten, resources become scarce and organizations must adapt their activities in order to survive (Pfeffer and Salancik 1978). In the context of government funding these changes in the environment could be, for example, changes in macro and micro-economic policies, resulting in less public funds allocated towards non-profits. Similarly, fluctuations in government arts spending can be caused by a change in the ruling party, the form of government or political business cycles (Getzner 2002). With growing calls for accountability in the public sector, governments then impose more structure to the subsidies they do provide, which can create, as Macedo and Pinho (2006) explain, constraints upon organizations in the decisions they make. Due to the high income gap and neediness for funding resources of performing arts organizations, and other non-profits, managers must detect and act on any shifts in stakeholder demand (Hsieh 2009; Macedo and Pinho 2006). Moreover, it has been shown empirically by Hsieh (2009) that organizational performance is enhanced by being able to align with stakeholders and adapt to demands.

Sources of funding in the private sector can be quite diverse, with a range of motivations, whereas in the public sector there are only three levels of support: municipal, provincial/ state, or national governments (Froelich 1999). The better a focal organization can control the resources they possess, the less dependent they will be on external organizations to survive, and the more autonomy they hold (Macedo and Pinho 2006; Pfeffer and Salancik 1978). In the context of performing arts, the diversification of funding allows organizations a greater independence from any one financial stakeholder and the freedom to operate autonomously.

### *Differences in the Canadian market*

The key difference between Canadian and the U.S markets for performance arts is the more significant presence of public as opposed to private funding. In the Canadian context, arts organizations depend on less diverse sources of funding, relying on one to three sources of subsidies from government bodies (federal, provincial and municipal), where cultural funding policies align across all levels (Getzner 2002). Whereas in the U.S

arts organizations have a list of foundations, private and public companies, and individuals who contribute from the private sector. The scenario of converse levels of private and public revenue is demonstrated in Table 1.1, where American and Canadian orchestras have nearly identical levels of earned income, but private funding is prominent for U.S orchestras and government funding is scarce.

*Table 1.1: Distribution of Orchestra Revenue*

<b>Revenue type</b>	<b>US orchestras*</b>	<b>Canadian orchestras**</b>
Earned income	37%	37%
Private funding	45%	31%
Government funding	5%	32%

\*Source: Flanagan (2012) \*\*Source: Orchestra Canada

This difference between contexts also presents the distinction between homogeneous and heterogeneous demands of benefactors; where public funding at all three levels of government is tied to relatively consistent demands and stipulations, but private funding can be linked to a myriad of different motivations and demands.

Such wide variations in the motivations in the private sector have been outlined in prior literature for corporate sponsorship and philanthropy, cause related marketing, as well as individual donors (Weinstein 2010; Brammer et al. 2006; Macedo and Pinho 2006; Bussell and Forbes 2002; File and Prince 1998; Ostrower 1995). Although some individual giving is altruistically motivated, incurring fewer demands, it is more likely to be strategically motivated, with benefactors seeking certain benefits (File and Prince 1998). These motivations range from: positive impact towards brand/ company image, community perception, reputation (Weinstein 2010; Brammer et al. 2006; File and Prince 1998), competitive advantage, low cost exposure/ visibility, broader customer base,

customer recall (Weinstein 2010; Brammer et al. 2006; File and Prince 1998), employee satisfaction, morale and loyalty, social responsibility, ethics, (Weinstein 2010; Bussell and Forbes 2002). With each of these different sources of private funding and their corresponding motivations, comes an equally heterogeneous range of stakeholder demands.

With private funding – a critical resource – being scarcer in the Canadian context, the government agents who provide funding have a greater level of control over arts organizations. With the distribution of public funds, comes a particular structure and set of regulations. Orchestras, as any other recipients of these funds, need to demonstrate a certain level of legitimacy. As Pfeffer and Salancik (1978, 24) explain “since organization’s consume society’s resources, society evaluates the usefulness and legitimacy of the organization’s activities”. This distribution of public resources and evaluation of organizational legitimacy is mediated through the government bodies who issue funding. Operational funding is decided through a process of peer evaluation and requires intense monitoring and comprehensive reporting (Froelich 1999).

The level of structure attached to public funding and the relative diversity of private support (heterogeneity of demands), versus the limited portfolio of government support (homogeneity of demands), are two reasons why resource dependence would have a differential effect in the Canadian market and why orchestras would have a greater incentive to control the impact of the Baumol cost disease. By using a performance income ratio (performance income over performance expenses), Flanagan (2012) analyses the performance income gap for U.S orchestras, with the results showing in both cases, cycles and trend (structural deficit), that expenses are less responsive than revenues. In periods of difficult economic cycles revenues of U.S orchestras decrease faster than expenses, whereas in the long-run expenses increased faster than revenues. Consistent with resource dependence and in response to the high profile and high accountability of government funding, it is predicted that Canadian orchestras will work harder to balance the expenses to the performance income. Furthermore, during difficult economic cycles, these orchestras will also be more responsive in terms of their spending. The following hypotheses are proposed:

**H1:** Compared to U.S orchestras, Canadian orchestras will display a lesser increase in their expenses over time.

**H2:** Compared to U.S orchestras, Canadian orchestras will be more reactive to economic cycles in terms of expenses.

**H3:** Compared to U.S orchestras, Canadian orchestras will display a greater increase in revenues from earned income over time.

This research will determine if the Baumol cost disease supports a funding context moderator, by identifying if Canadian orchestras are affected in the same way as American ones. As explained by Pompe et al. (2011), the variety and degree of arts funding sources differs greatly between countries. It is posited that in countries where private sector funding is not as readily available and where public funding is more plentiful, orchestras are required to keep better control of their expenses. Canadian orchestras can positively influence support by aligning to the homogenous set of funding bodies' demands. Conversely, given the need to satisfy a heterogeneous set of demands from a range of financial stakeholders, orchestras in the U.S will not be affected by resource dependence in the same way Canadian orchestras are.

### **1.3 Methodology**

#### *Sample Data*

The data analysed in this research was retrieved from Orchestra Canada, who provided the annual reports for an original set of 73 orchestras from across Canada. The financial years covered were 2004 to 2012, but as not all orchestras had provided reports for the entire period, a reduced sample was generated of 48 orchestras with full data for the eight year span. This reduced sample was still deemed representational as it has

orchestras from all ten provinces of Canada of various sizes. Although full annual reports were available, only a selection of the key quantitative data was used as dependent variables in the analysis, to allow parallels to be drawn with Flanagan (2012), including: total income, performance revenue, non-performance revenue – meaning government subsidies and private support, total expenses, fundraising expenses, and performance expenses – including artistic, production operations, administration and marketing.

### *Data Analysis*

In order to draw direct comparisons, the methods used for this research are analogous with the methods of Flanagan (2012). A fixed effect model which accounts for cycle and trend analysis was developed. This model allows for the identification of the Baumol cost disease, as indicated by a negative performance income ratio. The impact of economic cycles and structural deficits for Canadian and American orchestras can be compared and contrasted.

The estimation of the trends and cycles was performed through a fixed effect approach to account for heterogeneity between orchestras. Each financial measure was predicted by a fixed effect, a time varying unemployment rate and a time trend:

$$Y_{it} = \alpha_i + \rho U_{it} + \lambda_t + \varepsilon_{it}$$

Where:

$Y_{it}$  = financial measures consist of each expense and revenue variable;

$i$  = individual orchestra;

$t$  = year (2004, 2005... 2011);

$\alpha_i$  = fixed effect for each orchestra;

$\rho$  = reaction to economic cycles

$U_{it}$  = unemployment rate of the province of orchestra  $i$  at year  $t$ ;

$\lambda_t$  = changes in trend for all orchestras at year  $t$ ;

$\varepsilon_{it}$  = error term for orchestra  $i$  at year  $t$ .

The original data was transformed prior to analysis. In order to ensure that all trend and cycle coefficients are figures above and beyond yearly increases, all the monetary values were converted into real dollars, and adjusted for inflation with 2005 as the year of reference. Additionally, the yearly unemployment rate in each Canadian province was used as a proxy for economic cycles, so that the coefficient represents the dependent variables response to a 1% change in unemployment. Due to the tendency for financial data to be non-normal, a natural log transformation was applied. A panel regression procedure was performed with SAS using a heteroscedasticity- consistent covariance matrix specification. The third version of Davidson and MacKinnon's (1993, 554) estimator was used since it is preferable when the dataset is of manageable size. Finally, using the method of Schenker and Gentleman (2001) a significance test was conducted to assess the difference between contexts being compared: Canadian versus American orchestras. This method of examining overlap allows a straightforward comparison between the estimated parameters of this research and the results of Flanagan (2012); if the two estimates overlap, the confidence interval of the mean difference will include zero. The following technical analysis will be used to test the hypotheses:  $\lambda$  will be lower for Canadian orchestras' expenses (H1);  $\rho$  will be greater for Canadian orchestras' expenses (H2); and  $\lambda$  will be higher for Canadian orchestras' performance income (H3).

## 1.4 Results

As previously mentioned, the proximity of our approach to that of Flanagan (2012) allows for a direct comparison of the parameters. A direct test of the effects of the Baumol cost disease is to examine the evolution of the performance income ratio over time. The performance income ratio is the performance income divided by performance expenses.

If costs are increasing faster than revenues, a negative time trend should be found. Table 1.2 shows that, in contrast with Flanagan's findings for the U.S market, the performance income ratio remains stable over time for Canadian orchestras (Trend = 5.91%, SE = 31.5%,  $t(47) = .43$   $p = .6710$ ). Note that this value differs slightly from that reported in Table 1.2, as an exponential transformation has been applied. When a log linear model is used, parameters can be interpreted as percentages with good accuracy for very small values, but an exponential transformation must be applied in order to interpret larger parameters, or values for  $\beta$ . This stability is present because performance revenue (Trend = 1.52%, SE = .50%,  $t(47) = 3.06$   $p = .0024$ ) and expenses (Trend = 1.16%, SE = .30%,  $t(47) = 3.61$   $p = .0004$ ) grow at a similar yearly rate in Canada.



*Table 1.2: Revenue trends and cycles for Canadian and American orchestras*

	<i>US Orchestras (Flanagan, 2012)</i>			<i>Orchestra Canada</i>	
	<b>Unemployment Rate</b>	<b>Time Trend</b>	<b>Post-2000 time trend</b>	<b>Unemployment Rate</b>	<b>Time Trend</b>
Performance income ratio	-.695 (.209)***	-.223 (.067)***	-.030 (0.008)***	-.3727 (.269)	.0575 (.315)
Total Revenue	-.014 (.007)*	.029 (.002)***	.001 (.0002)***	-0.0290 (.007)***	.0094 (.003)***
17 Performance Revenue	-.038 (.008)***	.019 (.002)***	-.0001 (.0002)	-.040 (.009)***	.0152 (.005)**
Non-performance income	-.015 (.008)*	.035 (.003)***	.002 (.0003)***	-.0214 (.0096)*	.0069 (.004)***
Government subsidies	-.042 (.015)***	-.044 (.005)***	.001 (.006)**	-.0393 (.015)***	.0161 (.006)***
Private support	-.011 (0.007)*	.044 (.002)***	.0001 (.0002)	-.0126 (.013)	-.0005 (.006)

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01

*Table 1.3: Expense trends and cycles for Canadian and American orchestras*

	<i>US Orchestras (Flanagan, 2012)</i>		<i>Orchestra Canada</i>	
	<b>Unemployment Rate</b>	<b>Time Trend</b>	<b>Unemployment Rate</b>	<b>Time Trend</b>
Total expenses	-0.11 (.004)***	.027 (.001)***	-.0315 (.007)***	.0132 (.003)***
Performance expenses	-0.12 (.004)***	.027 (.001)***	-.0319 (.007)***	.0116 (.003)***
Artistic	-0.004 (0.004)	.021 (.001)***	-.0338 (.008)***	.0083 (0.004)**
Production operations	-.013 (.007)*	.055 (.001)***	-.0274 (.0164)*	.0245 (.007)***
General administration	-.018 (.007)***	.024 (.001)***	-.0274 (.015)*	.0248 (.012)**
Marketing	-.028 (.007)***	.042 (.001)***	.0234 (.043)	-.0214 (.021)
Fundraising expenses	.002 (.012)	.041 (.003)***	-.2975 (.144)**	.1559 (.060)**

\*p < 0.1, \*\*p < 0.05, \*\*\*p

### *Comparing Canada with the U.S*

Results presented in Table 1.3 reveal that total expenses are controlled in such a way that they grow at less than half the historic yearly rate found in the U.S. In support of hypothesis 1, the time trend for Canada corresponds to a 1.32% increase per year (SE = .30%,  $t(47) = 4.10$   $p < .0001$ ) compared to 2.70% (SE = .10%) in the U.S. In worsening economic conditions, no significant difference is found between how orchestra total revenues are affected between countries [.0113, -.0391], but in support of hypothesis 2, Canadian symphonies are more reactive in controlling their expenses. For each 1% increase in unemployment, Canadian orchestras adjust their expenses by -3.15% (SE = .70%,  $t(47) = -4.53$   $p < .0001$ ). In the U.S, this adjustment is almost three times smaller (Rate = -1.10%, SE = .40%). Significance tests unveil marked differences between Canadian and U.S expenses in terms of time trend and response to economic cycles, with administrative expenses the only parallel in both analyses. Confidence intervals were as follows: total expenses [.0204, .0072], performance expense [.0220, .0088], artistic expenses [.0208, .0046], production expenses [.0449, .0161], marketing expenses [.1054, .0241].

At first glance it appears that revenues for U.S orchestras, bar government subsidies, are growing at a significantly greater rate than for Canadian orchestras. However, it is important to compare the U.S and Canadian contexts in terms of Flanagan's 'post 2000 time trend', as it matches more closely with period covered by the data collected in this study. Further analyses show that overall revenues grow faster in Canada (Trend = .94%, SE = .30%,  $t(47) = 2.82$   $p = .005$ ) than in the U.S after 2000 (Trend = .10%, SE = .02%). Using Schenker and Gentleman's (2001) test of overlap reveals, in support of hypothesis 3 that only total revenue ( $CI_{95\%} = -.0019, -.0149$ ) and performance revenue ( $CI_{95\%} = -.0055, -.0251$ ), in time trend, are significantly different between countries.

A closer inspection of Canadian and U.S revenues and expenses is necessary to understand these differences. The data shows that government funding is growing faster in Canada than in the U.S. The time trend for Canada is equal to 1.61% per year (SE =

.60%,  $t(47) = 2.73$   $p = .0066$ ) while it is .10% (SE = .60%) in the U.S. On the other hand, private support is stagnating in Canada (Trend = -.05%, SE = .60%,  $t(47) = -.08$   $p = .9361$ ) while fundraising expenses show a marked increase of 16.87% per year (SE = 60%,  $t(47) = 2.59$   $p = .0101$ ).

## 1.5 Discussion

This research serves as a significant counterpoint to the work of Flanagan (2012) who outlined the precarious financial situation of orchestras in the United States. Contrary to Flanagan's example, this case illustrates the control that Canadian orchestras have over managing financial resources and the ability not to succumb to structural deficits found in low-productivity growth industries. The orchestras studied in this research suggest that while the costs of producing live performances is continually increasing, measures can be taken to ensure that the performance revenues generated can be sufficient to cover performance expenses. However, this increase in performance revenues is motivated by orchestras' pressure to demonstrate worthiness; along with being recognized through peer evaluation, legitimacy must also be demonstrated at a market level.

This control of financial resources is motivated by external influences. As seen in our results, and those of Flanagan (2012), orchestras across the border are equally reliant on non-performance income; in the U.S this comes from the private sector, where benefactors are highly diverse, whereas in Canada subsidies come more significantly from government. As previously revealed through the literature, having a diverse set of private benefactors – like corporate sponsors, individual donors, foundations and government – results in a diverse and equal set of stakeholder demands. In the case where public sector dominates, strategies and motivations are aligned. This in turn creates a homogenous set of demands put on non-profits, like performing arts organizations. It is this distinction between heterogeneous and homogenous demands, structures, stipulations, and constraints that make Canadian orchestras more reactive to changing economic conditions. Resource dependence cannot have the same focused influence on U.S

orchestras, because arts managers have myriad of stakeholders with varying demands to satisfy.

Due to Canadian symphony orchestras continued relative reliance on government subsidies for support, internal decisions made by the orchestras are influenced by government policies and structures. This has positive effects, as seen in the results – expenses increase at a slower rate for Canadian orchestras compared to their U.S counterparts, as well as being far more reactive when faced with economic recessions. This lack of control in the U.S context appears to be good evidence of the heterogeneous versus homogenous demands, and can likely be attributed to the history of private sector funding, and not having austerity measures imposed by government stakeholders. A positive relationship was found between stakeholder orientation and organizational performance by Hsieh (2009). In the U.S, it is assumed that orchestras still operate to satisfy the demands of key financial stakeholders, but since these demands varying greatly, overall management strategies in response to those demands cannot be observed as they can in Canadian orchestras.

Another result from of comparison of Canadian and U.S contexts worth discussing is the significant increase in fundraising expenses. Although evidence as a result of this expense is yet to be demonstrated in terms of high levels of support private support, Canadian orchestras appear to be making a shift in their reliance on public funding. This increase in fundraising expenses points to the fact that orchestras are trying to diversify revenue and regain autonomy from government funding bodies. This change is again likely to be government initiated; where funding is dependent on the condition that orchestras are able to generate a larger portion of critical revenues. In doing so, orchestras both create more performance income and demonstrate legitimacy, and invest in fundraising with the aim of developing a competence in private funding (Brooks 1999).

Although fundraising expenses are increasing, the absolute amount being dedicated to increasing self-sufficiency is still well below other expenses. Despite these efforts there is yet to be an adoption, or increase, in private support. This may be due to a few reasons. First, because government support of the arts has had a long history in

Canada, many people might believe they are already, indirectly, contributing to funding the industry. As Brooks (1999) explains, the public may have a diminished sense of responsibility due to established government support. Any shift in a cultural sense will take an extended period of time. In the U.S the opposite is true, where social norms and expectations play a large role in the drivers of philanthropy (Brammer et al. 2006, Ostrower 1995) and a rich tradition of philanthropy towards the arts exists due to the intrinsic benefits they provide to society (Ostower 2002; File and Prince 1998; Hutter 1996). Second, because the absolute amount of fundraising expenses being spent is still relatively low, there is a good chance that the level of expense has not reached a significant enough point in order to see a real effect. Like advertising, fundraising might have a long-term cumulative effect. If fundraising expenses and private support revenue can be explained by an 'S' shaped curve, it is likely that orchestras are simply in the early, flat end, of the curve. Considering the absolute amount that orchestras contribute towards fundraising it is much more likely that they sit at the front of the 'S' curve than at the end.

Canadian orchestras do not appear to be hurting from the Baumol cost disease as a result of a dominant tradition of public funding. Although, a hybrid revenue system, combining increased private funding and less government subsidies, seems to be a long-term objective, the impact is yet to be seen. Despite this positive outlook, it is worth considering other areas which may be suffering as a by-product of curing the Baumol cost disease, in particular artistic quality. It is suggested by Heilbrun (2003) that an artistic deficit may be the outcome of performing arts organizations trying to reduce a structural deficit. Our results show that in worsening economic conditions, Canadian orchestras will reduce spending in performance and artistic expenses significantly more compared to U.S orchestras.

In the case of orchestras, they could be trying to reduce costs by simplifying their programs, only staging a standard repertoire to ensure higher ticket sales (Pompe et al. 2011), and/or reducing the number of guest artists and other high-cost performers. The results of this study show that artistic expenses by Canadian orchestras, are increasing by less than 1%, whereas in the U.S these expenses are increasing at just over 2%. Furthermore, at times of economic uncertainty Canadian symphonies cut artistic spending

over 3.3%, while U.S ones only tighten by 0.4%. If restricting artistic development and breadth is in fact undertaken, audiences would certainly suffer a deficit in the quality of the works to which they are exposed, but that information was not available in our data.

## **1.6 Limitations and Future Research**

As is the nature of all research, this study holds certain limitations. To begin with, the sample used in this study is not completely comparable to the one used by Flanagan (2012). Our research combined eight years of financial data for a heterogeneous sample of Canadian orchestras, whereas Flanagan (2012) had access to eighteen years of financials for a more homogenous group of U.S orchestras. Although most of the comparisons made between contexts are for the period after the year 2000, the years covered by our sample follows the years covered by Flanagan's sample. It is for this reason that general trends and discussions are appropriate, but a more exacting comparison between the Canadian and U.S contexts cannot be made.

Furthermore, the Baumol cost disease is assumed to be an issue for most arts organizations and other businesses in low-productivity growth industries, but our research is only capable of outlining the effect of this phenomenon in a single context, that is symphony orchestras. This provides an interesting area of future research, where other sectors of the performing and non-performing arts could be compared to this study and that of Flanagan (2012). The operations of orchestras and their unique historical presence may prove a point of major differentiation, which sets these particular results apart. One particular difference noted by Heilbrun (2003) is that non-performing arts practices, like new creation in visual arts and architecture, adapt and evolve whereas performing arts is heavily based in the presentation of past works. This is particularly true for symphony orchestras. For this reason, it is possible that productivity has a greater potential for growth in non-performance sectors, creating less susceptibility and pressure from cost diseases.

There is potential to study further the varying contexts and to identify the potential existence of an artistic gap; where the cost disease is 'cured'. In the current climate where Canadian arts organizations depend on government funding, they cannot run a fiscal deficit, thus it is expected that these organizations will show less of an earning gap and more of an artistic gap. As the cost disease sets in, organizations adjust their expenses and move towards safer more standardized repertoires, both as a cost saving measure and a way to better predict the reception of their performances (Pompe et al. 2011). If this artistic gap can in fact be detected, then an area of future research would be to identify how arts managers deal with the existence of the Baumol cost disease within their organizations. Different coping mechanisms which limit artistic development are predicted to be executed by arts managers. These strategies might include producing less innovative and/or demanding shows, and repeating programs which were previously successful.

This phenomenon could further be studied in other non-profit contexts as well; where it is referred to as mission drift (Bennett and Savani 2011) or mission dilution (Froelich 1999). It is understood that every revenue stream has its advantages and disadvantages. For example, Froelich (1999) explains how fundraising takes a lot of time and resources, and even when donors are secured, organizations can be affected by revenue volatility. This is why it is seen across the non-profit sector that organizations shift goals, priorities and/or programs in order to secure funding.



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## Chapter 2

# Careful what you wish for: the effect of reward structure on the financial value of an Academy Award

### Abstract

Awards are well recognized for their ability to signal quality and aid in both consumer and managerial decision-making processes. This research postulates that reward structure further influence how economic value is derived. Awards literature strongly supports the premise of value creation from winning prizes, but also advises that certain boundary conditions apply, suggesting value destruction is also possible. The Academy Awards are used herein as an example of a Tullock lottery; when a prize serves as an aid in decision-making, is of discontinuous structure and involves a high cost for seeking it (Rossman & Schilke, 2014). It is predicted that due to the level of investment required, winning an award will be negatively received by the market, thereby having a detrimental effect on firm value. Using an event study methodology, the effect of the announcement of studios receiving Academy Awards is tested. Results of a cross-sectional regression analysis show that film studios who win the top prize of Best Picture suffer a loss in firm value. This research benefits managers in recognizing the cost/benefit trade-off of prize-seeking behaviour.

**Keywords:** Academy Awards, firm value, event study, signalling, reward structure, Tullock lottery



## 2.1 Introduction

Prizes are used prolifically to recognize accomplishments in the sciences, arts, sport, academia, and in business (Frey & Gallus, 2017). As highly sought after symbols of achievement and merit, awards are valued for their ability to convey appreciation and recognition, to provide social and material advantages, and to demonstrate social status (Frey & Gallus, 2017). Despite the prominent role of prizes, there remains a debate in the literature (Gallus & Frey, 2016) and in the industry, surrounding the value of winning awards; Walter Reade Jr., of Continental Film Distributors, famously said “You can’t take major awards to the bank!” (Hefferman, 2004, p. 208).

Although the literature is rich with examples of how awards create value, there is growing evidence of the opposite as well, being the opportunity costs associated with prize-seeking behaviour. Moreover, most awards research uses different outcomes to measure value (e.g., production, productivity), some of which being financial (e.g., revenues) but few provide a complete picture. These studies generally use project-based and not firm-based levels of analysis, and rarely address the boundary conditions of value creation. This research focuses on the indirect effect of how firm financial value is created, or destroyed, due to the market’s interpretation of award signals.

Furthermore, research which explores the implications of reward structure is lacking<sup>2</sup>. It is proposed that the value of receiving prizes is not simply in their ability to signal quality to consumers and the market, but that reward structure can influence how value is derived. In fact, most awards have similar design properties including that of a Tullock lottery (Rossman & Schilke, 2014); when a prize aids in strategic decision-making processes, is discontinuous in nature, and seeking it has associated costs and risks.

The Academy Awards are one of the oldest, most highly-revered cultural awards (Levy, 2016; Vladoiu, 2015), whose structure has been used to model other prominent prizes in the entertainment industry such as the Emmy Awards, Tony Awards as well as the Grammy Awards. The Oscars are studied herein as a highly visible example of an

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<sup>2</sup> For a survey of empirical literature on the effects of awards see Gallus and Frey (2016).

award with Tullock properties. Due to its reward structure, namely the high cost of appealing to Academy juries, the authors expect the net financial value of winning the prize to be negative.

Using an event study methodology, this research captures the effect of winning a prize on a firm's financial value. Historical Oscar's data was comprehensively collected at the film-level, then aggregated to the firm-level and matched to market data. Results show that, counter-intuitively, winning an Academy Award is not enough to increase market value, in fact film studios suffer negative returns on investment for winning the top prize of Best Picture.

This research contributes to the awards literature by providing empirical results supporting the effect of reward structure on the value of winning a prize, as well as a boundary condition under which firm value can be destroyed. Using one of the largest and most revered awards in the entertainment industry, with a comprehensive Oscar's database, this study provides an example of a Tullock lottery in action. A firm-based, as opposed to project-based, level of analysis is used in order to measure the impact of film studios prize-seeking behavior, while stock market data, as opposed to box-office revenue, provides a reliable measure of all predicted future value derived from winning an Academy Award. This research implores managers to consider both the costs and benefits of seeking prizes, as conventional wisdom of awards benefiting shareholders and generating firm value is not always applicable.

## **2.2 Conceptual Framework**

### *The Academy Awards*

The Oscars, officially the Academy Awards of Merit, have been awarded by the Academy of Motion Pictures Arts and Sciences (AMPAS) in recognition of cinematic excellence, since 1929. Acknowledged worldwide for their prestige and impact, the Oscars are the most revered and influential prize in the film industry (Levy, 2016;



Vladoiu, 2015), and constitute the basis for which their equivalent awards: the Tony Awards, the Emmy Awards and the Grammy Awards, in theatre, television and sound recording respectively were modeled.

Several factors contribute to the Oscars being the most coveted award in the film industry, including: historical significance, prestige, peer recognition, scarcity and visibility (Levy, 2016). Its longstanding tradition, over eighty-eight years in the making, positions the Academy Awards as the oldest prize not only in film, but across the entertainment industry. The prestige of the awards stems from the reputation of the Academy, particularly in relation to the democratic process of award nominations and selection. Moreover, due to the subjective nature of judging artistic work, peer-based recognition is considered most valid by winners, as colleagues in the field are best positioned (i.e., most competent) to make this evaluation (Levy, 2016). In this way, it represents a signal from the industry to demonstrate and authenticate the quality of their work to the broader market. Furthermore, the level of competition within the film industry adds to the awards weight. Compared to other competitions, Academy Awards are scarce; hundreds of films released each year all contend for prizes in twenty-four currently awarded categories (AMPAS, 2017). Finally, the Oscars are a highly visible award, even on a global scale, being telecast to several hundred million viewers worldwide (AMPAS, 2016a); which makes its reach, relevance and influence more pervasive than any other award in the entertainment industry.

The entire process of selecting nominees, tabulating results, storing ballots, transporting and distributing the winning name cards, has been managed by accounting firm PricewaterhouseCoopers (PWC) for the past eighty years. The nomination process begins in December each year, when all eligible members of the Academy; approximately 6600 across categories (AMPAS, 2017), are asked to provide candidates for their corresponding branch as well as nominations for Best Picture. After online and paper ballots are tabulated, nominees for each category are publicly announced mid-January, and master ballots are then sent to members to cast their vote. The tallying of winners is done in such a manner that only two partners of PWC are privy to the final results until they are announced on stage at the awards ceremony.

### *Signaling Theory and Award Value*

Although most cultural awards do not provide monetary compensation, they can have a profound impact on the attitudes and intentions of consumers (Frey & Gallus, 2017). Classical signaling theory supports that a firm in receipt of an award, possessing only symbolic value, can still indirectly generate economic value from it. Prominent in the business literature, signaling theory (Basuroy, Desai, & Talukdar, 2006; Connelly, Certo, Ireland, & Reutzel, 2011) revolves around the communication of private information (i.e., a signal) between a sender and receiver in order to alleviate information asymmetry. Connelly et al. (2011) explain the central tenet of signaling theory to be the deliberate communication of positive information, by insiders (i.e., senders), regarding the fundamental quality of some aspect of the individual, product or organization. External cues are used by consumers to infer quality prior to consuming a product, thereby reducing uncertainty and aiding in the decision-making process. Given the experience-based nature of cultural products (Basuroy et al., 2006; Gemser, Leenders, & Wijnberg, 2008), awards are widely used as a signal to establish quality. These signals are used by producers, in order to demonstrate, and consumers, in order to interpret, value. Awards also constitute a signal to the market regarding firm performance, and knowing that consumers will view prizes as a measure of quality, investors usually construe them in an equally positive light.

Although the Academy Awards are seen as a peer-based recognition of artistic excellence, movies are still produced for the sake of making a profit. Awards are therefore used as a signal of quality to help sell films (Jowett & Linton, 1980). Rossman and Schilke (2014) advocate that although prizes hold—sometimes exclusively—symbolic value, consumers receiving this positive information converts the producer’s symbolic value into economic value. Being the most sought-after prize in the industry, the Oscars possess strong signaling value. This is demonstrated across the film industry where both award nominees and winners benefit from significant increases in box office sales after subsequent announcements of a nomination and/ or win, whichever the case may be. For example, the nominees of Best Picture (2008-2012) generated over 50% of profits from

box office sales alone, however, the winners earned \$13.8 million more than their nominated counterparts on average (“Making the Cut”, 2014).

These benefits, however, do not come without a trade-off, and investors equally receive the associated costs of prize-seeking behaviour as a signal. The awards literature suggests that winning prizes do not exclusively lead to positive value, but rather certain boundary conditions exist which lead to negative outcomes—financial and otherwise. In the case of top management prizes, such as those awarded to chief executive officers (CEO) Malmendier and Tate (2009) and Wade, Porac, Pollack, and Graffin (2006) show negative effects suffered after the fact, in both actor and firm performance. For example, mixed results are found in crowning CEO of the Year; whereby a firm’s abnormal returns see a positive increase in the short-term, however, in the long-run the effect is negative (Wade et al., 2006). They find that the increased status and public attention, after receiving an award, can lead CEO’s to overestimate the returns of their actions and partake in overzealous corporate decision-making (Wade et al., 2006), as well as increasingly divide their time by engaging in public and private activities outside the company (Malmendier & Tate, 2009). In the years following the receipt of a prestigious business award, Malmendier and Tate (2009) found that—particularly in companies with weak corporate governance—CEOs compensation increased, while their performance and shareholder value decreased. As Wade et al. (2006) explain, the structure of top CEO certification leads to a winner-takes-all outcome, thereby incentivizing managers to act in their own best interest. This can lead to problems of agency (Malmendier & Tate, 2009); whereby agents (i.e., CEOs, employees), even aware of broader organizational goals, make decisions which maximize their own reward allocation and not that of the principle (i.e., employers, shareholders) (Gubler, Larkin, & Pierce, 2016).

Another example from the corporate sector, Gubler et al. (2016) warn that both the benefits and costs of implementing reward programs need to be carefully considered; they find that in the case of attendance awards, firms can suffer significant costs from reduced workers efficiency and overall output. Reward programs serve to incentivize extrinsically motivated employees, but can have an adverse effect on employees who were previously intrinsically motivated, who perceive the implementation as inequitable.

Furthermore, in the field of mathematics, it is found that researcher productivity—as measured by publication output—significantly decreases after scholars win the Field’s Medal (Borjas & Doran, 2015). This effect is due in part, as with CEO awards, to winners engaging in activities outside their main career. Although most awards are lauded for their ability to signal quality to consumers, in the case of top literary prizes, Kovacs and Sharkey (2014) find the opposite to be true; although readership initially increases after the announcement of the awards, quality evaluations of winning titles decreases at a faster rate than those of finalists across the competitions.

### *Reward Structure*

The reward structure of the Academy Awards holds common ground with other top prizes, with one property in particular being a Tullock lottery. The term Tullock lottery is also known in the economics and game theory literature as a Tullock auction, and is a straight-forward form of an all-pay auction; whereby all participants must buy into the auction or contest but the prize is only awarded to the highest bidder (Klemperer, 1999). Auction theory suggests that due to the uncertainty and information asymmetry in decision making (Foreman & Murnighan, 1996) participants can fall victim to a “winner’s curse”; which results when players make bidding decisions without properly accounting for all statistical and economical information (Thiel, 1988). Similarly, Hong and Shum (2002) explain the winner’s curse to be an adverse-selection problem arising from a contest winner being overly optimistic about the value of a prize. It is extremely difficult to estimate the value of an item at auction (i.e., contract, commodity, object), and firms must use their own best estimates, which can easily be biased (Thiel, 1988). As Foreman and Murnighan (1996) suggest, bidders will frequently overestimate the value of an prize, bid too high and subsequently incur a loss from winning.

In the case of the Oscars, it is challenging to estimate the true or full cost of seeking, and/or winning, an award. Even more difficult is predicting the future value of winning an award because future cash flows hold no present value. Therefore, studio agents (i.e., producers) are likely to overestimate the value of winning the award. Research

shows that the phenomenon of the winner's curse is very persistent; neither repeated experience nor additional information completely eliminates a bidder's propensity to over invest in winning because the emotional reaction to winning, or desire to win, overshadows rational decision making (Foreman & Murnighan, 1996). This suggests that although studios may reduce the pattern of exceedingly over investing in the production of Oscar-worthy films, having suffered financial losses from previous investments will not eliminate their prize-seeking behavior because managers believe they can deal with the associated risk.

Rossman and Schilke (2014) suggest three conditions must hold in order for the reward structure of a Tullock lottery to be present, being: the award must serve as an external cue aiding in decision-making, be discontinuous in nature, and involve a high cost for seeking it. The first two properties can be easily identified in the Oscars. As discussed above, the Academy Awards are used to signal value to peers, consumers and the market, and a discontinuous structure simply indicates that the award is not designed as a ranking system, rather there is a clear winner and non-winners of the prize; in this case, within each category. What is most important is the cost or risk associated with seeking an Oscar. In order to appeal to award judges, represented here by the Academy, firms must heavily invest in both direct (economic) and indirect (artistic) terms.

#### *Economic costs of seeking awards*

On average, production budgets have risen historically as movies incur more competition within the entertainment and leisure time market (Jowett & Linton, 1980). Increases in economic costs have also been a result of technological advances and the rise of actors wages following the destruction of the studio system (Kaplan, 2006); thereby increasing the investment, and the risk, necessary to produce a film. Production costs include everything from sets and physical property, to stars and cast, studio overhead and production and direction. Moreover, films sustain extensive marketing budgets to cover the cost of advertising, publicity—through the media, and promotional activities including gimmicks, interviews and other movie tie-ins in order to generate strong word-of-mouth

(Jowett & Linton, 1980). Although advertising expenses can be split between distributors and exhibitors, the rest of the marketing costs are incurred by the studios alone. Furthermore, heavy lobbying of Academy members is carried out before and during the nomination period in order to garner interest and support for films. .

### *Artistic costs of seeking awards*

Aside from direct investments of capital, indirect and opportunity costs must also be considered while seeking an Academy Award. The financial value of receiving an Oscar nomination has been demonstrated by Nelson et al. (2001) and Variety (2006), whereby films of the same genre, theme and quality differ significantly in box office success due to the advent of receiving nominations. On the one hand, producers who gain the validation of elite juries can signal quality to audiences and drive revenues through a type of reverse-engineering of mass appeal (Rossman & Schilke, 2014). Similarly, Holbrook (1999) advocates that approval from the Academy can influence market success, but only in the short-term. On the other hand, prize-seeking behaviour can be seen as a risky strategy as the tastes of prize juries and general audiences are known to be extremely divergent, thereby sacrificing direct audience appeal. Holbrook (1999) explains that ordinary consumers lean towards entertainment which is more readily accessible and easier to digest, whereas professional critics are attune to more complex and intellectually taxing artwork. This is a pivotal consideration when the market potential of a film is being forecast, because investors naturally want to maximize their returns. As Jowett and Linton (1980) explain, this pressure to be profitable can constrain innovation, leading to a formulaic approach to producing movies. Studio agents may be tempted to encourage the crafting of Oscar-worthy films by engaging directors and/or actors with previous award nominations and wins, or choosing a particularly successful genre/theme such as drama, war, historical or biographical. Importantly, films deemed worthy of an Academy Award are generally all released at the end of the year in order to correspond with “Oscar’s season”, thus flooding the market, and competing, with other similarly designed films (Jowett & Linton, 1980; Kaplan, 2006; Nelson, Donihue, Waldman, & Wheaton, 2001).

### *Net Value of Winning an Academy Award*

Rossman and Schilke (2014) state that winning prizes—which constitute Tullock lotteries—is valuable, but seeking these prizes is very costly. Their results, however, are based on a constructed measure of Oscar appeal—accounting only for the artistic cost of producing “Oscar bait”—and uses film-level box office data to measure the effect, which does not reflect the overall value of the studios. Moreover, Jowett and Linton (1980) suggest that attendance (i.e., box office) is an insufficient measure of a film’s success because it only represents a portion of total revenues, and more importantly, is calculated after the fact—thereby giving it no predictive power. The opacity of the Academy Awards process makes it difficult for firms to strategically construe their bids, therefore, they must go all-in; while the discontinuous structure of the prize lends to a winner-takes-all outcome. The strategic decisions made by studios can come with a heavy price tag without any guarantee of recognition from the Academy. This research therefore proposes the following hypothesis:

H1: Given the level of investment (economic and artistic) required to attain an Academy Award, the net value of winning will be negative.

Especially difficult is winning the award for Best Picture; which represents the top prize of the contest (Kaplan, 2006). Being the most open—hence competitive—category, with members from all branches permitted to submit nominations, film studios must appeal to the entire Academy in seeking their nominations as well as their vote for Best Picture. The formula for producing a Best Picture worthy film is costly and the criteria for appealing to the Academy within this category is difficult to define. It is therefore further proposed that:

H2: Given the increased difficulty of securing the Academy Award for Best Picture, winning will have the most negative effect of any category.

Furthermore, Basuroy et al. (2006) suggest that credible signals coming from a studio will have a positive impact on box office revenue based on perceived quality, however, credibility is subject to the signals cost in terms of up-front investment and ability to recoup these costs with future revenue. Given the steep price of seeking the award and the small probability of winning, it is reasonable to predict that the market will negatively react to the signal of receiving an Oscar. To the best of our knowledge, there is no current research using firm-level financial metrics to demonstrate what the net effect of winning—or being nominated and not winning—a prize is. Due to the cost of seeking these prizes being both artistic and economic, the net value of winning for the firm might still be negative.

## **2.3 Methods**

### *Event Study Methodology*

As highlighted above, investors are constantly on the lookout for signals of future firm performance, therefore, this research uses an event study methodology to determine the effect of winning an Academy Award on a film studio's financial value. Event studies are a useful way of measuring the short-term effects, whether positive or negative, of marketing actions on firm value, by analyzing the change in a firm's stock market price on the day of an event. An event is defined as the disclosure of information, generally made public through a press announcement; event studies assume this information to be new to the public and the marketing action of interest to be unanticipated. Events can be denoted by voluntary firm announcements, but can equally be announcements made by competitors or third party entities (Sorescu, Warren, & Ertekin, 2017).

This method is widely used in the marketing and finance literature to measure the impact of strategic marketing decisions on firm value, for example: new product development alliances (Kalaignanam, Shankar, & Varadarajan, 2007), new product



preannouncements (Sorescu, Shankar, & Kushwaha, 2007), brand acquisition and disposals (Wiles, Morgan, & Rego, 2012), and the expansion of distribution channels (Homburg, Vollmayr, & Hahn, 2014). It is also used in the awards literature to appraise the impact of winning awards on firm performance, including: quality awards (i.e., given by companies to their suppliers, or awards from independent organizations) (Hendricks & Singhal, 1996), high-profile quality achievement awards (i.e., Malcolm Bridge and J.D. Power and Associates Award) (Balasubramanian, Mathur, & Thakur, 2005), environmental awards and certifications (Jacobs, Singhal, & Subramanian, 2010), and the Clio Award for advertising (Tippins & Kunkel, 2006).

Event studies are an appropriate method for integrating firm-level financial data with marketing variables, and as a quasi-experiment allows for a direct cause and effect test to be implemented (Srinivasan & Hanssens, 2009). The expected future cash flow of a firm upon receiving an accolade can be assessed in the reaction of investors—whereby positive information will result in a positive effect on stock price, and vice versa (Geyskens, Gielens, & Dekimpe, 2002). This method is based on the efficient market hypothesis which states that stock prices reflect all public information, and all new information is immediately observed by investors and reflected in the stock market (E. Fama, F., 1991; Sorescu et al., 2017). Stock returns are a more suitable metric of award value compared to accounting measures; such as revenue (i.e., box-office), because the former is a forward-looking performance indicator whereas the latter is a backward-looking, or historical indicator (Geyskens et al., 2002).

### *Data Collection*

Although the Academy Awards, as an annual event with a known short-list of nominees, does not constitute an unexpected event, the announcement of the winners at each ceremony does represent new public information. In order to test the effect of this announcement, a comprehensive database was created using publicly available information, about each film awarded a prize and the studio responsible for its distribution. Film-level data was collected (i.e., record of all wins and nominations) and

then aggregated to the firm-level in order to capture market reaction—in this case stock price fluctuations. The financial impact of awarded films could not be measured without aggregation, and the firm is considered to be an important covariate, as mimicking past Oscar appeal strategy is more likely to be reproduced within the same studio (Jowett & Linton, 1980; Rossman & Schilke, 2014).

Data was collected from the beginning of the awards’ history, excluding the first edition; as the winners had been announced three months prior to the awards ceremony being held (AMPAS, 2016b), which nullifies the ability to measure investor reactions, along with other inconsistencies compared to subsequent years. Each nominee and winner for nine of the major/original (Dirks 2017, Simonton 2002), and most stable, Academy Awards were recorded up until the 89th edition, in 2017. More specifically, data for the following awards was collected: Best Picture, Best Actor/ Actress, Best Supporting Actor/Actress, Best Director, Best Cinematography, Best Production Design, and Best Adapted Screenplay. This collection resulted in a dataset with over 5000 observations. See Table 2.1 for the descriptive statistics of the dataset.

*Table 2.1: Descriptive statistics of Academy Awards database (studio comparison)*

<b>Film Studio</b>	<b>Years in Contention</b>	<b>Best Picture Wins</b>	<b>Average BP Wins / year</b>	<b>Best Picture Nominations</b>	<b>Average BP Nominations / year</b>	<b>Years Active</b>
Columbia	49	12	0.24	66	1.35	88
United Artists	34	12	0.35	49	1.44	88
20 <sup>th</sup> Century Fox	60	11.5	0.19	78	1.30	88
Warner Bros.	64	10	0.16	80	1.25	88

Paramount	51	10	0.20	63.5	1.25	88
MGM/ Loew's	32	9	0.28	55	1.72	88
Universal	36	7.5	0.21	45	1.25	88
Disney	19	3.5	0.18	25	1.32	88
RKO	12	2	0.17	19	1.58	65

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Although all films within these categories were included, financial data could only be sourced for publicly traded American film distribution companies. The Hollywood film studios included in the dataset, each considered majors at one point in history, were: 20th Century Fox, Disney Pictures, Columbia Pictures, Loew's/ MGM, Paramount Pictures, RKO Pictures, United Artists, Universal Pictures, and Warner Bros. Pictures. All subsidiaries to these corporations were also included [e.g. DreamWorks (Paramount/Disney), Focus Films (Universal), Miramax (Disney), Orion (Warner/ MGM), Tristar (Colombia)]. Wins and nominations by minor and independent studios were also collected for completeness despite the financial impact of winning an award being immeasurable. The primary and secondary—where co-productions existed—distributor associated with each nominated and winning film was recorded.

Most major film studios operate as distributors, whereas most film production is done by smaller or independent firms. The distributor, and not producer, of each film was collected as their existence was more stable<sup>3</sup>, and the financial impact of receiving an award has greater marketing implications to distributors than producers. As Jowett and Linton (1980) explain distributors are responsible for reaching an audience, they take all

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<sup>3</sup> Prior to the 1950's, film studios were fully vertically integrated (i.e., they controlled production through to distribution and exhibition), however, a Supreme Court ruling in 1948 (the Paramount Decree), found most studios to be in breach of antitrust laws. This resulted in the major studios divesting themselves of all movie theatre chains, and changed the way films were produced and distributed.

the risk but also receive a greater portion of profits. Although the nine major studios do not represent an exhaustive list of all distribution companies, their wins account for 88.9% of all prizes awarded in the nine categories of interest (see Table 2.2). Evidence from Jowett and Linton (1980) support the level of market share held by the major studios demonstrated in the awards dataset; they suggest that although the total number of films distributed by the majors declined as independent studios prominence increased, 92% of all movie rental revenues belonged to the top eight firms.

Financial data for each film studio was collected through the Centre for Research in Security Prices (CRSP) database<sup>4</sup>. A careful history of each studio was constructed in order to properly assign the corresponding PERMNO (i.e., unique security identifier) to each company, including when they first became, or were last publicly traded, as well as all mergers and demerges. When a studio is merged or bought by a larger conglomerate, it is not possible to separate firm-level from parent-level data, therefore parent-company financial data is substituted. This resulted in a financial dataset of 583 observations and provides a conservative measure of financial fluctuations, making any significant results particularly important.

*Table 2.2: Descriptive statistics of Oscars database (Major vs Independent studios)*

<b>Award category</b>	<b>Major studios wins</b>	<b>Independent studio wins</b>	<b>Total Awarded</b>	<b>Percentage (Major/Total)</b>
Best Picture	77.5	10.5	88	0.881
Best Actor	78.5	10.5	89 <sup>5</sup>	0.882

<sup>4</sup> Due to inconsistencies in the early edition of the Academy Awards, studios' financial data was only analyzed from 1934 onward.

<sup>5</sup> Two Best Actor Oscars were awarded in 1932

Best Supporting Actor	73.5	7.5	81 <sup>6</sup>	0.907
Best Actress	70.5	18.5	89 <sup>7</sup>	0.792
Best Supporting Actress	75.5	5.5	81 <sup>8</sup>	0.932
Best Cinematography	106	9	115 <sup>9</sup>	0.922
Best Director	76	12	88	0.864
Best Production	103	8	111 <sup>10</sup>	0.928
Best Adapted Screenplay	77.5	10.5	88	0.881
Total Awarded	738	92	830	0.889

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### *Data analysis*

Abnormal returns, calculated as the difference between actual and expected returns, are used herein as the dependent variable, as they provide an unbiased estimate of future earnings generated by an event (E. Fama, F., 1991; Sorescu et al., 2017). Daily stock return data is used, as limitations can be easily controlled for and produces greater signal-to-noise ratio than monthly data (Binder, 1998). A number of different benchmark asset pricing models can be used to estimate the normal, and subsequently abnormal, stock

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6 The Oscar for Best Supporting Actor was first awarded in 1937

7 Two Best Actress Oscars were awarded in 1969

8 The Oscar for Best Supporting Actor was first awarded in 1937

9 Two Oscars were awarded for Best Cinematography from 1937-1968 (black & white and colour)

10 Two Oscars were awarded for Best Production from 1941-1968 (black & white and colour)

return; the normal return being the expected return of a stock given current firm and market variables, and the abnormal being the return found in excess of what was expected. The expected returns of the film studios are calculated using an estimation period between 255 and 46 trading days prior to the announcement of Oscar winners. The length of the estimation window should be long enough in order to avoid serial autocorrelation of the abnormal returns and done prior to event in order to ensure “that the parameters of the normal return model are not influenced by the returns around the event” (MacKinley, 1997, p. 20). As such the expected return of a firm on the day of announcement is modeled as:

$$E(R_{it}) = \alpha_i + \beta R_{mt} + \epsilon_{it}$$

This is a basic market model, where the expected return  $E(R)$  of firm (i) at time (t) is explained as a function of normal returns, the return of the market ( $R_{mt}$ ) and an error term. The market model is an appropriate way to calculate normal and abnormal returns provided issues of correlation, heteroscedasticity and variance between firms is modeled for (Binder, 1998). As per (MacKinley, 1997), under general conditions, ordinary least squares is a consistent procedure for estimating parameters  $\alpha$  and  $\beta$ . These parameters are obtained by regressing  $R_{it}$  on  $R_{mt}$  over the estimation period. The residual in this equation represents the excess abnormal return; calculated daily as follows:

$$\epsilon_{it} = AR_{it} = R_{it} - E(R_{it}) = R_{it} - (\alpha_i + \beta R_{mt})$$

This abnormal return is attributed to the unexpected event of the announcement of a film studio receiving an Academy Award, and due to market efficiency it is an unbiased estimate of the future earnings generated by this event (E. F. Fama, 1970; Geyskens et al., 2002; Srinivasan & Hanssens, 2009).

The abnormal return must then be aggregated over two dimensions—over time and across firms. First abnormal returns are aggregated over the event window in order to measure the total impact of the Academy Award winner announcements. The event window is defined as the day directly preceding the awards ceremony and two days after

[+1, +2]<sup>11</sup>. Alternative larger event windows [-2, 2], [-5, 5], and [-10, 10] are also tested in order to account for any unlikely information leaks or delayed effects. The following equation is used to calculate the cumulative abnormal return (CAR) for each of the event windows:

$$CAR_i(-t1, t2) = \sum_{t=-t1}^{t2} AR_{it}$$

Subsequently aggregated over all of the firms gives:

$$\overline{CAR}_i(-t1, t2) = \sum_{t=-t1}^{t2} \overline{AR}_t$$

The CAR is then converted to an identically distributed variable by dividing CAR by its standard deviation (McWilliams & Siegel, 1997; Srinivasan & Hanssens, 2009):

$$\theta_1 = \frac{\overline{CAR}(-t1, t2)}{var(\overline{CAR}(-t1, t2))^{1/2}}$$

The standardized CAR<sub>i</sub> is used as a robustness check in order to mitigate any issues of heteroscedasticity caused by firm or event differences in estimated residuals (Geyskens et al., 2002; Homburg et al., 2014). If found significant, CAR is assumed to measure the average effect of the event on the value of the firm (McWilliams & Siegel, 1997).

The Oscars database was combined with a financial dataset; containing the daily stock returns of each of the film studios, and transformed in order to conduct a cross-sectional regression analysis. The independent variable in this analysis is the relationship between a given studio and outcome; of winning, or being nominated and not winning, the prize. Each of the nine awards were modeled as covariates in order to control for

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11 The actual day of the event [0] is not used as the Academy Awards are held in California (PST) and telecast after the stock market closes on the East Coast, therefore the outcome of the awards are only integrated once the New York Stock Exchange and NASDAQ opens the following day.

possible varying levels of impact on abnormal return. A studio fixed effect is included using dummy variables in order to account for firm-level differences. Year is modeled in sequence by a fixed effect and continuous measure of the median year, to control for changes in the effect of winning an Academy Award over time. The following regression model was used to measure the impact of the independent and control variables on cumulative abnormal return:

$$\text{CAR}_i(-t_1, t_2) = \alpha + \beta_1(\text{Best Picture}) + \beta_2(\text{Best Actor}) + \beta_3(\text{Best Supporting Actor}) + \beta_4(\text{Best Actress}) + \beta_5(\text{Best Supporting Actress}) + \beta_6(\text{Best Director}) + \beta_7(\text{Best Cinematography}) + \beta_8(\text{Best Production}) + \beta_9(\text{Best Adapted Screenplay}) + \beta_{10}(\text{Year}) \text{ OR Year dummies} + \text{Studio dummies}$$

## 2.4 Results

### *Main Effect of Winning an Academy Award*

The descriptive statistics and correlation of variables are presented in Table 2.3; showing a moderate correlation between Best Picture and Best Director ( $r = .67$ ), Best Picture and Best Adapted Screenplay ( $r = .52$ ), and Best Director and Adapted Screenplay ( $r = .49$ ). However, variance inflation factors for all covariates fall well below the threshold of 10 ( $r_j^2 \geq .9$ ) ruling out any issue of multicollinearity (Tamhane & Dunlop, 2000).

Analysis of the daily average abnormal returns and cumulative average abnormal returns, of 583 announcements on the day of the event, plus a five-day window on either side of the event, is presented in Table 2.4. Results demonstrate a significant positive shift in stock prices on the day prior to the event ( $\text{AR}_i = .15\%$ ,  $t = 1.69$ ,  $p < .05$ ), however a significant negative shock is found on the day Oscar winners are announced ( $\text{AR}_i = -.21\%$ ,  $t = -2.53$ ,  $p < .01$ ). This negative effect accumulates in the days following the announcement, but event windows  $[+1, +1]$  and  $[+1, +2]$  are most significant ( $\text{CAAR}_i = -.21\%$ ,  $t = -2.53$ ,  $p < .01$ ) and ( $\text{CAAR}_i = -.23\%$ ,  $t = -1.98$ ,  $p < .05$ ) respectively.



**Table 2.3: Descriptive statistics and correlation matrix (N=583)**

Variables	M	SD	1	2	3	4	5	6	7	8	9
1 Best Picture	.10	.30									
2 Best Actor	.10	.29	.32***								
3 Best Supporting Actor	.09	.29	.19***	.03							
4 Best Actress	.09	.28	.11***	.10***	.01						
5 Best Supporting Actress	.10	.29	.14***	.80**	.15***	.15***					
6 Best Cinematography	.13	.35	.25***	.14***	.11***	.07**	.13***				
7 Best Director	.09	.29	.67***	.26***	.20***	.05	.13***	.26***			
8 Best Production	.13	.34	.25***	.10***	.07*	.10***	.21***	.40***	.22***		
9 Best Adapted Screenplay	.10	.30	.52***	.31***	.18***	.10***	.16***	.14***	.49***	.17***	
10 Median year	-1.82	25.22	-.04	-.04	.03	-.06	.02	-.08	-.03	-.06*	-.03

\*p<0.1, \*\*p<0.05, \*\*\*p<0.01



*Table 2.4: Daily Average Abnormal Returns & Cumulative Average Abnormal Returns*

A: AAR <sub>t</sub>						
Day	N	M	Patell Z	t-value	Generalized Sign Z	
-5	582	0.13%	0.873	1.72**	1.13	
-4	583	-0.06%	0.075	-0.74	1.76**	
-3	583	-0.15%	-1.519*	-1.88**	-2.48***	
-2	583	-0.11%	-1.544*	-1.43*	-1.23	
-1	583	0	-0.244	-0.03	0.26	
0	583	0.15%	1.938**	1.69**	1.92**	
1	583	-0.21%	-2.569***	-2.53***	-2.23**	
2	583	-0.02%	0.104	-0.27	0.84	
3	583	0.16%	2.033*	1.781*	1.425*	
4	583	-0.08%	-0.385	-0.904	1.259	
5	583	-0.13%	-1.136	-1.376*	-0.733	
B: CAAR[-t <sub>1</sub> , t <sub>2</sub> ]						
Event Window	N	M	Weighted CAAR	Patell Z	t-value	Generalized Sign Z
(0,0)	583	0.15%	0.14%	1.94**	1.69**	1.92**
(0,+1)	583	-0.06%	-0.05%	-0.45	-0.53	-0.32

<b>(0,+2)</b>	583	-0.09%	-0.04%	-0.30	-0.61	-0.15
<b>(0,+5)</b>	583	-0.14%	0.00%	-0.01	-0.61	1.67**
<b>(+1,+1)</b>	583	-0.21%	-0.19%	-2.57***	-2.53***	-2.23**
<b>(+1,+2)</b>	583	-0.23%	-0.18%	-1.74**	-1.98**	-1.31*
<b>(+1,+5)</b>	583	-0.29%	-0.14%	-0.87	-1.38*	0.60

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\*p<0.1, \*\*p<0.05, \*\*\*p<0.01

### *Regression analysis*

The results of a robust regression using S method, in order to manage outliers, are shown below in Table 2.5. This analysis was estimated using a market model, with an event window of [+1, +2]; which corresponds to the day directly following the Oscars and the second day after. Five models were estimated with the award for Best Picture showing a consistent significant negative effect, while year and studio effects are consistently non-significant. The other eight awards have varying parameter estimates (i.e., negative, neutral and positive), however, none as strong as Best Picture, nor do any reach significant levels, even when Best Picture is removed (Model 3). This is not to say they have no effect on firm value, or do not represent a signal of performance for investors, however, due to the level of analysis—films aggregated to studio level—it is possible that the effect does not reach significance because the signal is not as strong as with Best Picture. In the full model (Model 2) Best Picture has the most detrimental effect on firm value ( $\beta_{BP} = -1.08$ ,  $SE = .51$ ,  $t = -2.10$ ,  $p = .04$ ). Best Picture continues to show a more significant, albeit slightly lesser, negative impact when it is the only award regressed (Model 1) ( $\beta_{BP} = -.85$ ,  $SE = .35$ ,  $t = -2.35$ ,  $p = .02$ ). The effect is again present when testing a year fixed effect (Model 4), ( $\beta_{BP} = -.76$ ,  $SE = .33$ ,  $t = -2.21$ ,  $p = .03$ ) and Model 5, ( $\beta_{BP} = -.85$ ,  $SE = .49$ ,  $t = -1.74$ ,  $p = .08$ ). Our predicted negative effect of winning an award is thus supported with analogous results across models. Given that Best Picture is the most sought-after Oscar, and studios must lobby to the entire Academy, instead of just one cohort—as is the

case in the other categories—it is dually expected that this prize would be the most costly to seek out. These results represent a conservative, and not absolute measure of value destruction of film studios, as we recall that parent-company level abnormal returns were used when a film studio fell under the umbrella of a conglomerate.

**Table 2.5:** *Effect of winning an Academy Award (market model window [1,2]) N=508*

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
Intercept	-.11 (.13)	-.20 (.16)	-.20 (.16)	.43 (1.04)	.25 (1.05)
Best picture	-.85** (.35)	-1.08** (.51)	-	-.76** (.33)	-.85* (.49)
Actor	-	-.72 (.39)	-.21 (.38)	-	-.07 (.37)
Supporting actor	-	.63* (.37)	.58 (.37)	-	.65* (.36)
Actress	-	.43 (.37)	.40 (.37)	-	.43 (.35)
Supporting actress	-	.17 (.37)	.17 (.37)	-	.19 (.35)
Cinematography	-	-.01 (.34)	-.01 (.34)	-	.03 (.32)
Director	-	.47 (.51)	-.13 (.42)	-	.31 (.49)
Production	-	-.28 (.35)	-.34 (.35)	-	-.22 (.33)
Adapted screenplay	-	-.31 (.42)	-.50 (.41)	-	-.43 (.40)
Year (continuous)	.004 (.005)	.004 (.005)	.004 (.005)	-	-

Year (fixed effect)	-	-	-	Yes	Yes
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\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01

The effect of award year is consistently non-significant, less a handful of sparse years pre-1967. The studio fixed effect, included to account for firm-level differences, did not reach significance, and was therefore removed from the model. The day of the week upon which the awards ceremony fell was also used as a control variable, but like year and studio never reached significance nor affected the main results, and was also removed.

*Validation Analysis*

Additional analyses were conducted in order to validate the robustness of these results including: robust regression using M method and OLS, estimating abnormal returns with Fama-French three and four factor models (see Appendices A and B), and standardized cumulative abnormal returns (see Appendix C); all of which produced analogous results. Different event windows were tested to measure shifts in abnormal return before and after the announcement of winners. The day directly following the Oscars [+1,+1] provided non-significant parameter estimates for Best Picture across all models, though still directionally consistent with the other windows. On the other hand, longer windows (i.e. [+1,+5]) tend to compound the negative effects of winning Best Picture (see Table 2.6) ( $\beta_{BP} = -2.16$ , SE = .93, t = -2.38, p = .02). This suggests that the market does not immediately overreact to the announcement of award winners, but the negative effect escalates within the first few days following the news.

**Table 2.6:** Effect of winning an Academy Award (market model, window [1,5]) N=508

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
Intercept	-0.19 (.23)	-0.31 (.29)	-0.31 (.29)	.61 (1.87)	.45 (1.88)
Best picture	-1.37** (.62)	-2.16** (.91)	-	-1.26** (.60)	-1.98** (.88)
Actor	-	-.49 (.69)	-.76 (.68)	-	-.28 (.67)
Supporting actor	-	.46 (.66)	.36 (.67)	-	.24 (.64)
Actress	-	1.08* (.65)	1.01 (.65)	-	1.15* (.63)
Supporting actress	-	.21 (.65)	.21 (.65)	-	-.03 (.62)
Cinematography	-	.26 (.60)	.25 (.60)	-	.39 (.57)
Director	-	1.30 (0.90)	.11 (0.75)	-	1.20 (.87)
Production	-	-1.02 (.62)	-1.15 (.62)	-	-1.04 (.60)
Adapted screenplay	-	.12 (.74)	-.26 (.73)	-	.02 (.72)
Year (continuous)	.02*** (0.01)	.02*** (0.01)	.02*** (.01)	-	-
Year (fixed effect)	-	-	-	Yes	Yes

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01

Another analysis is conducted to verify as Rossman and Schilke (2014) suggest, that producers who invest in a Tullock lottery but do not convert their investment into a win, will pay severely. In order to test this possibility, a variable representing being nominated for Best Picture but not winning was added to the regression. The results again held for the negative effect of winning Best Picture ( $\beta_{BP} = -.74$ ,  $SE = .39$ ,  $t = -1.92$ ,  $p = 0.06$ ), being nominated, but not winning was directionally positive, but did not reach significance ( $\beta_{Disappoint} = .34$ ,  $SE = .27$ ,  $t = 1.28$ ,  $p = .20$ ). This suggests that the market reacts differently than the box office in terms of investments towards appealing to prize juries; specifically that being nominated for, but not winning, Best Picture is less damaging to firm value than winning the award.

As some studios are nominated widely, while others are not, it could be expected that the market reacts differently to underdogs as opposed to Academy favorites. Therefore, a measure of relative performance was created using an odds ratio formula, in order to test the firm's performance, based on the probability of winning after the announcement of award nominees. This index is based on the epidemiology measure of relative risk, which measures the ratio of the probability of an event or condition occurring (Hennekens and Buring, 1987), in this case the likelihood of a particular film studio winning an Oscar, relative to the competition.

$$\text{Relative Performance (Risk)} = \frac{a}{(a+b)} \div \frac{c}{(c+d)}$$

$$RP = \frac{\text{Studio } i \text{ wins}}{(\text{Studio } i \text{ wins} + \text{nominatio})} \div \frac{\text{All other studio wins}}{(\text{All other studio wins} + \text{nominat})}$$

(Whereby  $a$  represents the number of wins of studio $_i$ ,  $b$ , the number of nominations received by studio $_i$ ,  $c$ , the number of wins by all other studios, and finally  $d$ , the number of nominations received by all other studios.) In this context, the performance of a film studio is akin to the probability of winning an award. The market sets an expectation based on the number of nominations a film studio receives in a given year, across major



categories, and then evaluates its performance after the winners are announced. A relative performance measure was calculated for all categories, as well as Best Picture alone, and added into the regression models above. All simple and interaction effects for Best Picture's relative performance are non-significant. However, when testing the full model with total relative performance, the negative effect of winning Best Picture still remains ( $\beta_{BP} = -1.14$ ,  $SE = .52$ ,  $t = -2.20$ ,  $p = 0.03$ ), suggesting that relative performance—whether you are a favourite or underdog—does not affect how the market interprets the value of winning an Oscar.

Although stock market prices are a more complete measure of the effect of award performance on firm value, other financial measures were also tested for completeness. Production budgets and gross domestic revenue are commonly used as metrics in the award literature, therefore, data was collected for films nominated for Best Picture, again aggregated to the firm-level and all figures adjusted for inflation. This data shows that as Jowett and Linton (1980) stated, production budgets did steadily increase over the history of the Academy Awards, on the other hand, the trend for gross domestic revenues was flat, if slightly decreasing. These effects were stronger still when outliers (i.e., *Gone with the Wind* and *Titanic*) were removed. When production budgets and gross domestic revenue are regressed alongside winning and being nominated for Best Picture, all estimates are non-significant. Best Picture remains the strongest influence within the model and interacts significantly with production budgets, ( $\beta_{BP \times \text{Production budget}} = -.72$ ,  $SE = .40$ ,  $t = -1.80$ ,  $p = 0.07$ ), confirming the expectation that the markets assesses winning the top prize as not being worth the investment associated with seeking it. Ideally, the study would also directly measure the effect of marketing, promotion and lobbying costs, unfortunately, these expenses are not publically available to the same degree as production budgets. However, it is expected that a similar effect would be present, given the collinear relationship between production costs and print and advertising budgets (McKenzie & Walls 2012, Prag & Casavant 1994).

Although the most coveted in the industry, the Academy Awards do not reside in a bubble, with several other prizes being presented earlier in the year, including: the Golden Globe Awards, the Critics' Choice Movie Awards, the Screen Actors Guild

Awards and the British Academy Film and Television Awards. It could be argued that a relationship exists between the winners of these prizes, and that the market, as represented by investors, could predict the outcome of Best Picture by carefully watching the results of previous film award ceremonies. With fourteen prizes in the film category, including two for Best Picture, the Golden Globes being similarly structured and timed as the Oscars were chosen as a comparable accolade in the film industry to analyse. Established in 1944, the Golden Globes are presented by the Hollywood Foreign Press Association (HFPA) at an annual ceremony in January. In order to test the subjective probability of film studios winning the Oscar for Best Picture, corresponding Golden Globes data was collected and analysed in the regression model. All Golden Globes Best Picture winners, between 1944 and 2017, were collected and matched to the nominees and winners of the Oscar for Best Picture. There is a strong correlation between the Academy Awards and Golden Globes winners, with 68.5% of films winning prizes for Best Picture in both competitions, while aggregating to the firm-level demonstrates an even stronger tie with 76.7% of film studios converting a Golden Globe win into an Oscar win. This does not however translate into an effect of winning a Golden Globe on the market value of winning an Oscar. When both Best Picture variables are regressed over firm value, while controlling for year and studio, no main or interaction effects of a Golden Globe reach significance, however, the negative effect of Best Picture (Oscar) is still present ( $\beta_{BP} = -.69$ ,  $SE = .39$ ,  $t = -.79$ ,  $p = .08$ ).

The effect of previous years' wins and nomination could also be expected to affect the impact of winning an award in the current year, therefore a series of regressions including lag effects, controlling for year and studio, are modeled. While none of the simple nor interaction lag effects of winning Best Picture reach significance, the negative impact of Best Picture remains ( $\beta_{BP} = -.94$ ,  $SE = .35$ ,  $t = -2.66$ ,  $p = .01$ ). When testing the simple lag effects of any win or nomination in the previous year, again only Best Picture reaches significance ( $\beta_{BP} = -.90$ ,  $SE = .33$ ,  $t = -2.72$ ,  $p = .01$ ). This effect remains directionally negative but loses significance when testing the interaction effect of all lags, none of which are significant. These results point to the market being myopic; previous years' performance of film studios has no effect on the current years' impact of winning an Oscar.

Although individual years proved to not impact the effect of winning an Oscar for Best Picture, shifts within the industry create distinct eras which might influence market reactions. Three key periods in the Hollywood film industry are tested, the first two as defined by Miller and Shamsie (1996): being the Golden Years of the major studios (pre 1950's), during which major conglomeration created an oligopoly, and then the decline of the studio system and disintegration of distribution caused, in part, by the Paramount Decree.

A discontinuity factor was modelled within the regression in order to account for the two eras outlined by Miller and Shamsie (1996); they demonstrate that the first era was stable and predictable whereas the second era was quite uncertain. It is anticipated that the signaling power of winning an Academy Award will differ between the two periods. This method is a reliable way of capturing the causal effects—of the Paramount Decree and disintegration of distribution—by distinguishing a discontinuous function from a smooth function (Angrist & Pischke, 2009). The main effects of the Best Picture award and discontinuity factor were modeled on firm performance, controlling for studio and year, all of which reached significance ( $\beta_{BP} = -.99$ ,  $SE = .35$ ,  $t = -2.81$ ,  $p = .01$ ), ( $\beta_{Discontinuity} = -1.03$ ,  $SE = .42$ ,  $t = -2.45$ ,  $p = .02$ ). The interaction effects of these variables were also significant, with Best Picture interacting most strongly with the discontinuity factor ( $\beta_{Discontinuity \times BP} = -2.87$ ,  $SE = 1.49$ ,  $t = -1.92$ ,  $p = .06$ ). Furthermore, a third era is added beginning in 1979, when major studios were being bought, sold and merged by major conglomerations. A regression using dummy variables for the three eras is modeled, controlling for studio; the results of which show significance around the Paramount Decree ( $\beta_{Paramount} = -.81$ ,  $SE = .37$ ,  $t = 2.19$ ,  $p = .03$ ), and the effect of Best Picture holding ( $\beta_{BP} = -1.53$ ,  $SE = .72$ ,  $t = -2.19$ ,  $p = .04$ ), however no interactions between the top prize and eras reach significance. This suggests that prizes in the Golden Years and Post Paramount Decree follow a different trend, but when looking at the entire history of the Academy Awards, these effects dissipate.

An important consideration when conducting event-studies is the elimination of confounding events; any events which occur within the same window as the event of interest which can affect the abnormal returns in question. However, when working with

a targeted sample, eliminating events can negatively affect results by failing to detect the effect of events which contribute to firm performance (abnormal returns). As this research uses firm and/or parent company level data, any announcements which mention the conglomerates would need to be removed. Furthermore, given the prominence of its following and exposure in the mainstream media, the likelihood that Oscars announcement would be dwarfed by another event is slim. Exclusion of confounding events was not undertaken as Sorescu et al. (2017) concluded that—like long-term event studies—the elimination of confounding events for short-term event studies may also be unnecessary. In their analysis of nearly 300 000 press releases, the comparison of full subsamples and subsamples with confounding events removed returned very proximal CARs, none of which were found to be significantly different from one another (Sorescu et al., 2017).

Another important issue which commonly plagues event studies is that of sample selection (Sorescu et al., 2017). Seeking an Oscar is a deliberate choice, but winning is outside the direct control of the studios, therefore, the announcement of winning an award cannot be subject to a self-selection bias. Although the broadcast of film studios winning Academy Awards differs to the direct announcements of marketing actions by firms, it demonstrates the positive outcome of past strategic decisions. Winning represents the ideal outcome of a series of decisions a studio has taken in order to be in the running, including strategic choices in: production, advertising, timing release and publicity. It is beyond the scope of this research to measure all of these decisions, however nominations act as a proxy of the strategic choices on the whole, as they represent the first stage of recognition for a firm's award seeking efforts. Like the announcement of prize winners, award nominations represent a non-voluntary firm announcement, the outcome of which is outside their direct control.

Previous Oscar wins can also be considered in order to mitigate bias, as past prize-seeking behaviour is a likely predictor of future behaviour (Robinson, Tuli, & Kohli, 2015; Rossman & Schilke, 2014). Previous award wins were tested using a lag effect, as detailed above, with no level of significance reached. Finally, the number of award categories are not expanded given the non-significant results of all currently tested

categories, other than Best Picture; it is unlikely that any of the categories not sampled would yield a significant result.

## **2.5 Discussion**

### *Theoretical Implications*

Using firm-level data analysis and a forward-looking measure of value, this research offers a new perspective to the awards literature by demonstrating the importance of reward structure; having Tullock properties creates a boundary condition in deriving value from obtaining prizes. While the value of awards and the design of prizes are both well researched, evidence of the relationship between these concepts was lacking. The results of this study clearly demonstrate the impact of reward structure on the value of winning an Academy Award. Although counter-intuitive, this research provides empirically rigorous evidence showing that appealing to juries of top prizes is consistently too costly for a firm to derive financial value from winning.

This research contributes to the awards literature by examining prize value with the most complete Oscars database to date; using an event-study methodology to combine the awards data with firm-level financial data, a direct cause and effect is tested. Furthermore, the use of stock market data—being a forward-looking indicator—represents a stronger measure of performance compared to research which uses box-office data. This research suggests that investors do not consider the associated cost of appealing to the Academy as being worth the investment, and interpret winning Best Picture as a risky signal, thereby destroying firm value. results of robust analyses show that winning Best Picture has a negative effect on a studios abnormal return, regardless of the estimation, asset pricing model, day of the week, studio, year, era, production budget or previous performance. Although the market does not react immediately to Oscar winners, negative effects are present when considering an extended (two day) event window.

Our study responds to the call by Rossman and Schilke (2014) to further explore how structure effects reward allocation. Academy Awards do constitute a Tullock lottery, where the reward structure reflects a winner-takes-all condition, however, this study challenges previous constructions of prize value. It provides contrasting evidence to Rossman and Schilke (2014), whereby even winners of a Tullock lottery suffer negative returns on investment. Moreover, though they suggest the Oscars to have a more blurred level of discontinuous structure, due to the many categories included within the awards, our results point to Best Picture—as a top prize—being in and of itself discontinuous from the other categories. Building on the work of Gallus and Frey (2016), who outline boundary conditions where awards can destroy value at an individual level, this research further demonstrates how awards can destroy the firm-level value of a film studio, or even their parent company. The results similarly add to the work of Frey and Gallus (2017), by providing empirical information to the effect of winning an award, as well as the effect on non-award recipients.

### *Managerial Implications*

Marketing and promotion is considered at every step of a film's life, from production to distribution through exhibition (Jowett & Linton, 1980). As an important signal of quality to both consumers and investors, seeking an award is a key consideration throughout the film making process, with both artistic and economic investment needed in order to appeal to prize juries. Studios intending to produce Oscar worthy films make certain artistic decisions in order to increase their chances of attaining an award. Unfortunately, there is no proven formula in producing an Oscar winning film, and studios risk trading mass audience appeal, and the subsequent box-office revenue, in order to adhere to Academy standards and expectations. Steep economic investments are also common as marketing budgets increase alongside production budgets. Films released during Oscars season face stiff competition for the consumer's dollar, and subsequently studios bear heavy advertising and PR expenses (e.g., interviews with stars and directors).

Aside from attracting audiences, studios must also create buzz around their films and lobby Academy members for their nominations.

Although awards nominations and wins may provide increased box-office returns, the results herein point to the net effect of receiving Academy recognition on a studio's value to be negative. Studio executives may argue that winning Academy Awards has a cumulative positive effect on firm value, but investor reactions argue otherwise. Even if winning an Oscar in previous year(s) makes one more likely to win in subsequent years (Kaplan, 2006) the market is actually myopic to these results, therefore constant prize-seeking behavior is more likely to exhaust a studio's resources. Moreover, if a studio wins an award for a film which does not have an exorbitant budget, they must still consider the total investment as each film represents part of the larger portfolio and investing in one area reduces the studios ability to invest in another area. For example, 20<sup>th</sup> Century Fox won the Best Picture in 2015 for *Birdman*, with a production budget of under 19 million, however, they were also nominated for *The Grand Budapest Hotel*, with a budget of over 32 million, bringing their total Best Picture investment to nearly 51 million. As in the case of superstar CEO's, it is more likely that the short-term notoriety of winning awards benefits studio executives and not the studios shareholders, and studio owners would be wise to hold managers accountable for diversifying the portfolio of their films in order to balance the Blockbusters (which bring in the highest revenue through mass-appeal) and Oscar-worthy films, with less resource intensive productions (as the least risky option) in any given year. Although Oscar appeal is a constantly shifting construct, and evolves over time, the case of films achieving both award and Blockbuster statuses at the box-office is still the exception, not the rule. Managerially speaking, this research is a warning to producers who may disregard the short-term detrimental effect on market value of the studio, for investors' perspective of the value of winning top prizes differ from conventional thought. Although highly revered, the Academy Awards are also one of the most sought after prizes and come with a very high price tag attached. It would behoove managers to weigh the different costs and benefits of seeking an Oscar before diving head-first into the pool of hopefuls.

## 2.6 Limitations and Future Research

There are several avenues whereby this research could be extended. To begin with, although the results of this research suggest that winning an Oscar destroys financial value, the current methodology is only capable of capturing the market's immediate reaction. It is possible that the short-term loss represents a trade-off of value in the long-term, therefore, additional research is needed to determine if the market recognizes the benefits of winning an Oscar in the long-run.

While this research covers the recognition of artistic achievement, differences are expected when prizes are a measure of a more observable quality; where more tangible measures are concerned, the value of an award as a signaling device is expected to be lower. In the case of management awards, for example prizes associated with Total Quality Management (Balasubramanian et al., 2005), less of an effect on firm value creation is predicted, as the requirements for winning are more objective reducing the diagnostic power of the award. Moreover, the source of the award—specifically the composition of deciding bodies—is likely to impact the value of the award in a similar way. The Academy Awards are an example of a well-established and stable prize, with a large body of peer evaluators. Other awards where the voting members are comprised in a more ad hoc fashion, such as the Palme d'Or presented by the Cannes Film Festival, are expected to have less of a diagnostic effect given the unpredictable tastes, and unstable composition of the jury.

This research reveals a boundary condition under which award structure negatively effects the derivation of value from winning a prize. The destruction of value suffered by firms winning Oscars is impacted by it being a Tullock lottery; whereby the award is discontinuous in nature and holds a high cost for seeking it. Differences may exist however, where awards are continuous in nature due to the signal being less easy to interpret, for example the Olympics. It is predicted that the relationship would be a partial step function for the number of positions/ prizes; with the diagnostic power of winning lessening as you go down the ranks. The results also reveal the cost of seeking a prize is crucial to how value is derived from winning an accolade; in this case the net investment



required to even be in the running for an Academy Award for Best Picture is quite prohibitive. It is expected, however, that differences will exist where the cost of pursuit is low and/ or unobservable, for example where there is no nomination process—and by extension—no cost of campaigning like for a Nobel Peace Prize. Future research should explore how awards without Tullock properties impact the creation, or destruction, of firm value.

The impact of award structure is further demonstrated insofar as this research explores the conditions of a two-stage tournament, however, awards can be structured to have one, two or multiple stages. Although our example of the Oscars reveals no significant diagnostic information being derived from the first stage (i.e., nomination) in terms of predicting the value of winning; as demonstrated by a non-significant effect of relative performance, nominations may still have an impact on firm value (Nelson et al., 2001). Furthermore, given the aggregate level of data analysis, the results above are conservative in nature, and although Best Picture was the only prize to reach significance, it is possible that being nominated and/or winning an award in one of the other categories may still have positive or negative effects on firm value.

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**Appendix A** - *Effect of winning an Academy Award (FF3 model, window [1,2])*

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
Intercept	-.09 (.13)	-.17 (.15)	-.17 (.15)	.71 (1.08)	.55 (1.09)
Best picture	-.91** (.36)	-1.14** (.53)	-	-.80** (.34)	-.99* (.51)
Actor	-	-.01 (.40)	-.16 (.40)	-	.005 (.38)
Supporting actor	-	.60 (.39)	.55 (.39)	-	.54 (.37)
Actress	-	.50 (.38)	.47 (.38)	-	.40 (.36)
Supporting actress	-	.20 (.38)	.20 (.38)	-	.15 (.36)
Cinematography	-	.07 (.35)	.05 (.35)	-	.04 (.33)
Director	-	.43 (.52)	-.19 (.44)	-	.39 (.50)
Production	-	-.37 (.36)	-.44 (.36)	-	-.20 (.34)
Adapted screenplay	-	-.30 (.44)	-.50 (.43)	-	-.37 (.41)
Year (continuous)	.003 (.005)	.003 (.005)	.003 (.005)	-	-
Year (fixed effect)	-	-	-	Yes	Yes
Studio (fixed effect)	Yes	Yes	Yes	Yes	Yes

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01

**Appendix B** - *Effect of winning an Academy Award (FF4 model, window [1,2])*

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
Intercept	-.09 (.13)	-.18 (.15)	-.18 (.15)	.75 (1.08)	.58 (1.09)
Best picture	-.91** (.36)	-1.16** (.53)	-	-.79** (.34)	-1.01** (.50)
Actor	-	.03 (.41)	-.12 (.40)	-	.05 (.38)
Supporting actor	-	.65 (.39)	.60 (.39)	-	.59 (.37)
Actress	-	.46 (.38)	.43 (.38)	-	.36 (.36)
Supporting actress	-	.17 (.38)	.17 (.38)	-	.13 (.36)
Cinematography	-	.02 (.35)	.0002 (.35)	-	-.02 (.33)
Director	-	.45 (.53)	-.18 (.44)	-	.43 (.50)
Production	-	-.34 (.37)	-.41 (.37)	-	-.16 (.35)
Adapted screenplay	-	-.31 (.44)	-.51 (.43)	-	-.39 (.41)
Year (continuous)	.003 (.005)	.003 (.005)	.003 (.005)	-	-
Year (fixed effect)	-	-	-	Yes	Yes
Studio (fixed effect)	Yes	Yes	Yes	Yes	Yes

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01



**Appendix C** - *Effect of winning an Academy Award (DV=SCAR, window [1,2])*

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 4</b>	<b>Model 3</b>	<b>Model 5</b>
Intercept	-0.03 (.05)	-0.07 (.06)	-0.31 (.38)	-0.07 (.06)	.25 (.38)
Best picture	-0.34*** (.12)	-0.46** (.18)	-	-0.30** (.12)	-0.38 (.18)
Actor	-	-0.04 (.14)	-0.09 (.13)	-	-0.01 (.13)
Supporting actor	-	.27** (.27)	.25 (.13)	-	.28 (.13)
Actress	-	.17 (.13)	.16 (.13)	-	.16 (.13)
Supporting actress	-	.14 (.13)	.14 (.13)	-	.16 (.13)
Cinematography	-	-0.04 (.12)	-0.04 (.12)	-	-0.02 (.12)
Director	-	.17 (.18)	-0.09 (.15)	-	.11 (.18)
Production	-	-0.12 (.12)	-0.15 (.12)	-	-0.09 (.12)
Adapted screenplay	-	-0.05 (.15)	-0.13 (.15)	-	-0.08 (.14)
Year (continuous)	.001 (.002)	.001 (.002)	.001 (.002)	-	-
Year (fixed effect)	-	-	-	Yes	Yes
Studio (fixed effect)	Yes	Yes	Yes	Yes	Yes

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01

## **Chapter 3**

# **Going for the gold: The effect of ownership structure on the prize-seeking behavior of Hollywood film studios**

### **Abstract**

Prizes are highly sought-after symbols of achievement and merit; used widely across industries to signal quality and performance. The current research demonstrates that ownership structure affects the prize-seeking behavior of firms. One key difference between private and public firms is the number of stakeholders they need to satisfy; whereby public firms have vastly more to report to through their presence on financial markets. Having fewer investors, it is easier for private firms to satisfy their convergent interests. Unlike public firms, private ones do not need to send as many signals to the market and therefore invest less in seeking awards. The film industry is selected as the empirical context as major Hollywood studios have been both privately and publicly owned throughout their history. A comprehensive Oscar's database is used to assess the differential behavior of these companies. Findings reveal that, while ownership structure has no impact on firm performance, public studios are indeed more prize-seeking.

**Keywords:** Academy Awards, prize-seeking, ownership structure, signaling

### 3.1 Introduction

Firms regularly seek the recognition and prestige vested in winning awards. Prizes represent one of the many signals of performance film studios can send their investors, however, prize-seeking behaviour is not without an associated risk. As demonstrated in the previous Chapter (2), although winning an Academy Award is well documented to have positive impacts on popular appeal and box office success (Carrillat, Legoux & Hadida, 2018), the market negatively interprets the signal of receiving jury recognition, whereby film studios winning the top prize of Best Picture suffer a loss in firm value. Strong evidence of the differential strategic decision making of publicly and privately-held firms is well documented in the literature (Barry, Lepetit & Tarazi 2011; Capron & Shen 2007; Boyne 2002; Casile & Davis-Blake 2002; Trostel & Nichols 1982); therefore, this study expands with the specific example of contrasting prize-seeking behaviour between ownership structures.

Over the course of the Oscars long history, the major Hollywood film studios have fluctuated between being privately and publicly owned. One key difference between these two structures is the number of stakeholders they need to report to; whereby public firms have far more interests to satisfy through financial markets. Having fewer investors, it is more costly for private firms to access capital, but easier to satisfy their convergent interests.

It is therefore hypothesized that the ownership structure will directly impact the prize-seeking behavior of film studios; more specifically, that public firms will be more pursuant of awards. A comprehensive database of all wins and nominations, across nine categories, was used in order to assess the differential prize-seeking behavior and performance of all major studios spanning the history of the Academy Awards. The results support the hypothesis, demonstrating that public studios, as compared to private studios, are indeed more prize-seeking (receiving more nominations). It is furthermore revealed that, once nominated, ownership structure does not influence the odds of winning an award; although public studios are found to win more prizes overall, their relative performance is not significantly different than their private counterparts. This research

also demonstrates how the boards of public companies can incentivize CEOs—by increasing their ownership through restricted stock-holdings specifically—to partake in more prize-seeking behaviour, whereby increases in stock-price volatility has them aligning with long-term firm interests.

## **3.2 Conceptual framework**

### *Signaling theory and prize-seeking behaviour*

One of the key stages in the decision-making process is the integration and application of information. Individuals use external cues in order to make inferences regarding a particular object of interest, thereby reducing uncertainty and aiding in making an informed decision. First introduced by Spence (1973) in the context of the job market, and later developed by Ross (1977) in the study of managerial incentives, signaling theory revolves around the communication of private information (i.e., a signal) between a sender and receiver in order to alleviate information asymmetry. Connelly et al. (2011) explain the central tenet of signaling theory to be the deliberate communication of positive information, by insiders (i.e., senders), regarding the fundamental quality of some aspect of the individual, product or organization.

The basic signaling model is used to distinguish between firms of high quality from firms of low quality. Firms, in possession of private information regarding their true quality, send signals as a strategy to elicit a particular reaction from the intended receiver. Given the experience-based nature of cultural products such as films (Basuroy et al., 2006; Gemser et al., 2008), awards are widely used as a signal to establish quality. The positive impact of artistic recognition on film performance is well supported in the literature (Hadida, 2009). These signals are used by distributors, in order to demonstrate, and consumers, in order to interpret, value. By extension, prizes also represent important signals of firm performance. Distinct from the direct communication of private information firms disseminate, prizes represent a third-party signal of quality and

performance and represents more diagnostic information than firm-generated signals (Basuroy et al., 2006).

Awards are seen as a positive signal given the plethora of benefits associated with winning (Carrillat et al., 2018; Frey & Gallus 2017). It is important to note however, that conditions exist in which receiving prizes, however accurate a signal of quality they may be, can have a negative impact on the individual or firm (Wade et al., 2006).

Connelly et al. (2011) explain one of the key characteristics of an efficient signal is that of observability; the extent to which a signal is visible in the market. Furthermore, Frey and Gallus (2017) assert the more prestigious the awarding body, the more highly regarded the prize will be. The Oscars are used as the empirical context for this study given they are the foremost recognized prize in the entertainment industry and that their presenting body, the Academy of Motion Pictures Arts and Science, is similarly revered (Levy, 2016).

### *Ownership structure*

Although ownership structure can be indicative of a firm's life-cycle; whereby it begins as a privately-held entrepreneurial pursuit and with time grows large enough to transition into a publicly-traded company (Trostel & Nichols, 1982), this is not always the case. Ownership structure is not indicative of the size of the company and many conditions exist by which one structure is preferable to another. Certain major Hollywood film studios have consistently been publicly run over the course of the industry's history, whereas others have fluctuated between being publicly and privately held<sup>12</sup>. The principal distinction between these two ownership structures is how each access, or raises, capital. Public companies raise capital by selling shares to be traded on a registered stock exchange; whereas private firms cannot legally transfer their holdings publicly and must rely on private investors.

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<sup>12</sup> See Chapter 2 for a detailed history and discussion of the Academy Awards

Ownership is directly related to how a company raises capital; in both cases firms are owned by their shareholders, however, there is a distinct difference between the number of shareholders public versus private companies can have. The number of shares traded by private firms is smaller than their public counterparts; generally limited to the company founders, management and a small number of private investors (Trostel & Nichols, 1982). Public firms can also provide shares to management and employees but are in large part owned by the general public through their presence on capital markets.

Disclosure of information and reporting requirements are another major difference between public and private ownership structures. Whereas private firms have no obligation to disclose their earnings or any other company information, public firms must make quarterly earnings, as well as annual reports, available to all their investors/ the public (Trostel & Nichols, 1982). However, the financial benefit of being listed on the stock market can outweigh the exorbitant costs of compliance public studios must bear, by providing them with access to increased capital; allowing them to maintain growth and even expand.

Given the large number of shareholders, public firms have many divergent interests to satisfy (Boyne, 2002), therefore need to send myriad signals to the market. These signals come in many forms including, but not limited to: financial reporting of the firm, diversity of members of the board, the appointment of high profile CEOs, initial public offerings (IPO), as well as the announcement of strategic partnerships and expansion projects.

Seeing as private firms have fewer investors, it is more likely that goals between owners and management will be aligned (Boyne, 2002); this convergence in interests negates the need to send signals to shareholders and the overall market. This research therefore proposes the following hypothesis:

H1: Prize-seeking behavior differs between public and private film studios; specifically, that public studios are more, and private studios less, prize-seeking.

### *CEO compensation*

Both managerial risk-taking and the strategic compensation of a firm's top executives is well researched (Glover & Levine 2017; Ke, Petroni & Safieddine 1999); the relationship between these two subjects is of particular interest to our study. Although it might seem natural that CEOs base their business decisions in alignment with the wellbeing of the firm, this is not always the case (Bebchuk & Fried 2003). While shareholders entrust investment decisions to managers inside the firm, CEOs make decisions based on personal incentives linked to their compensation (Glover & Levine, 2017; Bebchuk & Fried 2003).

The convergence of interests between owners and management can be missing in public companies where CEOs have no stake in the firm. In order to mitigate the risk of agency; whereby an agent (i.e., a CEO) operates against the best interest of the principle (i.e., the firm) (Hoskisson, Chirico, Zyung & Gambeta 2017; Bebchuk & Fried 2003), managers should be strategically compensated. CEO compensation is generally composed of equity (i.e., stocks and options) and non-equity (e.g., salary, bonus and pension). The challenge for boards of directors is to find the balance in their CEO compensation strategy to incentivize risks which maximize value creation, without promoting excessive risk-taking (Boulash, Liñares-Zegarra, M'Zali & Scholtens, 2018).

Boulash et al. (2018) attest that stock options provide CEOs with a natural incentive toward risk-taking activities through the firm's stock price volatility. For example, although prize-seeking, and winning more specifically, can negatively impact firm value—as represented by stock price—the long-term gain from these activities may still be positive; thereby increasing stock price volatility and the potential for higher returns. Their behaviour towards prize-seeking may therefore be influenced by the stake an executive has in the firm. CEOs who hold stock in the company will be more risk-loving, as they are invested in the long-term gain/ benefit of their strategic decisions, whereas executives who only receive fixed compensation (i.e., salary and bonus) will be more risk adverse, looking toward the short-term performance of the firm as it can directly influence their remuneration (i.e., pay-for-performance). Moreover, the type of stock they

own will differentiate between short-term and long-term outlooks. Stock granted in the form of options have different terms to maturity, with restricted stock especially incentivizing long-term, and thereby riskier, strategic decisions. This research therefore further proposes the following hypothesis:

H2: CEOs of public companies who are incentivized towards long-term interests, through equity-based compensation, are more prize-seeking.

### **3.3 Methods**

#### *Data collection*

In order to test the effect of ownership structure on the prize-seeking behavior of film studios, a comprehensive database was created using publicly available information, about each film awarded a prize and the studio responsible for its distribution. Film-level data was collected (record of all nominations and wins) and then aggregated to the firm-level.

Data was collected from the beginning of the awards' history, excluding the first edition due to inconsistencies in process and timing compared to subsequent years. Each nominee and winner for nine of the major (Dirks, 2017), and most stable, Academy Awards were recorded up until the 89th edition in 2017, being: actor and supporting actor, actress and supporting actress, director, picture, production, cinematography and adapted screenplay. The Hollywood film studios included in the dataset, each considered majors at one point in history, were: 20<sup>th</sup>/ 21<sup>st</sup> Century Fox, Disney Pictures, Columbia Pictures, Loew's/ MGM, Paramount Pictures, RKO Pictures, United Artists, Universal Pictures, and Warner Bros. Pictures. A full history of each studio was recorded including mergers/ demergers and if the firm was privately or publicly traded. Wins and nominations by minor and independent studios were also collected for completeness. This data collection resulted in a dataset with over 5000 observations, see Table 3.1 for descriptive statistics.



For more details on the data collection process and awards database descriptive statistics, refer to Chapter 2 (Table 2.1).

*Table 3.1: Descriptive statistics of Hollywood film studios*

<b>Film Studio</b>	<b>Years Public</b>	<b>Years Private</b>	<b>Total Oscar Wins</b>	<b>Total Oscar Nominations</b>	<b>Years active</b>
20th Century Fox	83	5	123.5	569	88
Warner Bros.	88	0	112.5	569.5	88
Columbia	88	0	107.5	549	88
Paramount	88	0	99	531	88
MGM/ Loew's	61	27	87	432.5	88
United Artists	43	45	82	391	88
Universal	73	15	70	363	88
Disney	88	0	37.5	222.5	88
RKO	28	37	19	120	65

The annual compensation data for a subset of the firms was collected in order to test the different ways executives are incentivized towards certain behaviours or strategic decisions. Compensation data for 102 of the observed public studios (approximately 12% of the total dataset), ranging from 1992-2017, was collected from the COMPUSTAT database. Information for the CEOs age, total compensation (i.e., salary and bonus), shares owned, options granted, shares acquired on options exercised, shares acquired on vesting and restricted stock holdings was collected.

## *Data analysis*

The main dependent variables tested at a firm-level were: total nominations received, total prizes won, and number of Best Picture nominations and wins. This research uses award nominations as a measure of prize-seeking behaviour; as only studios who are actively pursuant are likely to receive them, and award wins as a measure of studio performance. Whether a studio was privately or publicly held in a given year, is the main independent variable used to measure the effect of ownership structure, as well if the firm was in a transition period; defined as being in the first or last two years of either ownership structure. Award category was a secondary independent variable tested, specifically the award for Best Picture, as demonstrated in Chapter 2, the top prize can produce different/ stronger effects than the other categories.

In order to reinforce the main analysis, supplementary independent variables were tested including firm relative performance and CEO compensation. Relative performance is a measure based on the relative risk formula (detailed in Chapter 2). The total number of awards won by a studio is not a sufficient measure of firm performance, as there is significant variance between the number of nominations and wins studios received from year to year. By measuring the relative, as opposed to absolute, performance of each studio it is possible to mitigate any bias created by this variance. Several variables denoting CEO compensation are also tested (i.e., salary and bonus, shares owned, options granted, shares acquired on options exercised, shares acquired on vesting and restricted stock holdings) in order to extract any evidence of personal motivations driving executives in their decision to seek prizes.

In order to mitigate any heterogeneity between firms a film studio fixed effect was included in all regression analysis. Finally, three distinct eras, as defined in Chapter 2, are included as control dummy variables to account for changes in the Hollywood film industry (i.e., the studio system and dissolution of) as well as variations in the structure of the awards (i.e., addition/ removal of award categories and fluctuations in the number of nominations in certain categories).

### 3.4 Results

#### *Main effect of ownership structure*

Preliminary analyses were conducted using mixed models in order to test the impact of ownership structure on the total number of nominations and wins received by a studio in a given year, as well as the number of nominations and wins for the Best Picture category. Logistical regression is used to model Best Picture wins in order to account for the binary nature of the outcome. Results presented in Tables 3.2 show that private film studios receive fewer total Oscar nominations and wins. In support of our research proposition that private firms are less prize-seeking, a significant negative effect for total nominations is found ( $\beta_{\text{Private}} = -3.63$ ,  $SE = .53$ ,  $t = -6.81$ ,  $p < .0001$ ). Furthermore, there is a negative significant relationship between being a private firm and winning Academy Awards ( $\beta_{\text{Private}} = -.92$ ,  $SE = .17$ ,  $t = -5.52$ ,  $p < .0001$ ).

Moreover, being a private firm has a significant negative effect on Best Picture wins ( $\beta_{\text{Private}} = -2.06$ ,  $SE = -.59$ ,  $t = 12.03$ ,  $p = .0005$ ) and nominations ( $\beta_{\text{Private}} = -.59$ ,  $SE = .09$ ,  $t = -6.41$ ,  $p < .0001$ ). Although the top prize shows distinct effects in the market value of winning an Oscar, these results indicate there is no difference in the prize-seeking behaviour of private firms between award categories. It is found in the previous Chapter (2) that Best Picture is the most costly prize to seek, therefore, it is not surprising that private firms would be adverse to seeking it given they have no particular propensity to even pursue less costly awards.

**Table 3.2:** *The effect of ownership structure on prize-seeking behaviour and firm performance*

Variables	Total Oscar Nominations	Total Oscar Wins	Best Picture Nominations	Best Picture Wins <sup>†</sup>
Intercept	9.50**** (.77)	2.01**** (.24)	1.23**** (.13)	-1.73**** (.21)

Private	-3.63**** (.53)	-.92**** (.17)	-.59**** (.09)	-2.06**** (.59)
Golden Era	.26 (.41)	-.06 (.13)	.22*** (.07)	-.06 (.31)
Post-Paramount	-.38 (.36)	-.08 (.11)	-.21**** (.06)	-.33 (.26)
Studio (fixed effect)	yes	yes	yes	yes

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\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01, \*\*\*\*p < 0.001

† modeled with logistical regression

As firms transition between ownership structures; from public to private or private to public, this research tests for any differences in their prize-seeking behaviour given these shifts. Similar effects are found when removing transition years (i.e., the first two and last two years of either structure) thus isolating years in which a studio had stable ownership in place. Results presented in Table 3.3 show that compared to all years, private firms in stable years receive slightly more Best Picture and total nominations, as well as total wins, yet slightly fewer Best Picture wins. This suggests that a firm’s prize-seeking behaviour may differ in transition years, and warrants further investigation.

*Table 3.3: The effect of ownership structure on prize-seeking behaviour and firm performance—excluding transition years*

<b>Variables</b>	<b>Total Oscar Nominations</b>	<b>Total Oscar Wins</b>	<b>Best Picture Nominations</b>	<b>Best Picture Win<sup>†</sup></b>
Intercept	5.76**** (.51)	1.06**** (.16)	.62**** (.62)	-2.00**** (.19)
Private	-3.30**** (.58)	-.90**** (.18)	-.51**** (.10)	-2.59**** (.78)

Golden Era	.40 (.41)	-.02 (.13)	.25**** (.07)	.02 (.31)
Post-Paramount	-.15 (.36)	-.04 (.11)	-.17*** (.06)	-.28 (.26)
Studio (fixed effect)	yes	yes	yes	yes

---

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01, \*\*\*\*p < 0.001

† modeled with logistical regression

The first and last two years of a film studios ownership structure is added into the regression, as separate independent variables, to test a firm's behaviour over the course of their transition. The results presented in table 3.4 reveal a strong pattern in the years a studio shifts between ownership structures. Private firms are non-too concerned with seeking awards given the sharp decline in total Oscar nominations received in the last two years a studio is public and the first two years it is private ( $\beta = -4.25$ ,  $SE = 1.48$ ,  $t = -2.87$ ,  $p = .004$ ) and ( $\beta = -5.04$ ,  $SE = 1.35$ ,  $t = -3.72$ ,  $p = .0002$ ) respectively. However, when transitioning back to a public structure (last two years private), compared to stable years, the number of nominations begin to increase ( $\beta = -2.64$ ,  $SE = 1.45$ ,  $t = -1.82$ ,  $p = .07$ ). The first two years a studio is public is directionally consistent with the former results, although not statistically significant ( $\beta = -1.56$ ,  $SE = 1.45$ ,  $t = -1.08$ ,  $p = .28$ ), indicating the propensity to reengage in prize-seeking behaviour when returning to public ownership. The pattern of total Oscar wins and Best Picture nominations mirror that of total nominations.

*Table 3.4: The effect of ownership structure on prize-seeking behaviour and firm performance—controlling for transition years (Public studios as reference)*

<b>Variables</b>	<b>Total Oscar Nominations</b>	<b>Total Oscar Wins</b>	<b>Best Picture Nominations</b>
Intercept	5.98**** (.51)	1.12**** (.16)	.65**** (.09)
Last 2 years Public	-4.25*** (1.48)	-1.26*** (.46)	-.61** (.26)
First 2 years Private	-5.04**** (1.36)	-1.40**** (.43)	-.78**** (.23)
Private	-3.97**** (.59)	-1.07**** (.18)	-.61**** (.10)
Last 2 years Private	-2.64* (1.45)	-.04 (.45)	-.48* (.25)
First 2 years Public	-1.56 (1.45)	-.67 (.45)	-.22 (.25)
Golden era	-.09 (.41)	-.11 (.13)	.20*** (.07)
Post Paramount	-.58 (.37)	-.15 (.11)	-.24**** (.06)
Studio (fixed effect)	yes	yes	yes

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01, \*\*\*\*p < 0.001

### *Supplementary analysis*

Additional analyses were run to determine if the level of performance; defined as the conversion of nominations into wins, differs significantly between public and private film studios. The results presented in table 3.5 show that relative performance—of firms in all years, as well as transition years excluded—does not reach significance. This indicates that private and public studios perform the same; that once nominated, ownership does not impact the likelihood of winning, and that it is simply the prize-seeking behavior that contrasts the two structures. A separate relative performance

measure for Best Picture awards specifically was calculated and regressed in the model; the results of which are non-significant, suggesting again the odds of winning are no greater for private studios than for public studios.

*Table 3.5: The effect of ownership structure on firm relative performance*

Variables	General RP		Best Picture RP	
	General RP	transition years excluded	Best Picture RP	transition years excluded
Intercept	-4.9 (10.09)	1.14 (6.66)	32.82** (14.74)	18.87* (9.72)
Private	6.03 (6.96)	7.96 (7.46)	-13.97 (10.17)	-19.33 (10.89)
Golden era	-3.26 (5.31)	-3.43 (5.3)	5.04 (7.76)	5.41 (7.74)
Post Paramount	1.08 (4.70)	1.13 (4.6)	-2.57 (6.86)	-2.85 (6.75)
Studio (fixed effect)	yes	yes	yes	yes

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01, \*\*\*\*p < 0.001

As owners and managers can have conflicting interests, and as a clearer delineation between these stakeholders exists in public companies, an additional analysis is conducted in order to uncover any evidence of boards of directors incentivizing CEOs towards prize-seeking behaviours. All CEO compensation variables were added to the regression model, with only restricted stock holdings reaching significance. The results of a reduced model are presented in table 3.6, with a positive and significant effect for restricted stock

holdings ( $\beta_{\text{Restricted}} = .007$ , SE = .002,  $t = 3.24$ ,  $p = .001$ ), demonstrating that CEO's can be incentivized towards prize-seeking behaviour with long-term stock holdings.

Although a similar, and even stronger, effect is found for the ratio of unvested (restricted) stocks to total compensation awarded to a CEO, further data collection and analysis is needed in order to reinforce this finding. It is proposed that executives who hold a high option to stock ratio will be more forward looking when stock price volatility is high; this ratio represents a stronger measure of long-term interests as it accounts for the relative, and not only absolute, value of a CEO's stake in the firm.

**Table 3.6:** *The effect of CEO compensation on prize-seeking behaviour and firm performance*

<b>Variables</b>	<b>Total Oscar Nominations</b>	<b>Total Oscar Wins</b>	<b>Best Picture Nominations</b>
Intercept	11.79**** (2.22)	2.07*** (.74)	.91** (.39)
Total compensation	.00003 (.0001)	.00001 (.00004)	-.00002 (.00002)
Restricted stock holdings	.007*** (.002)	.002*** (.0007)	.0009** (.0004)
Year (continuous)	-.22*** (.07)	-.04* (.02)	-.007 (.01)
Studio (fixed effect)	yes	yes	yes

\* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ , \*\*\*\* $p < 0.001$

### *Robustness analysis*

In order to substantiate the main results above, a number of robustness analyses were conducted, including using different independent variables to measure year effects,



testing for interactions between independent variables and using an alternative regression model. The main analyses use dummy coded variables to control for year effects, therefore two other measures are tested: one continuous, for the median year, as well as a year fixed effect. Results for all dependent variables are comparable to the main result, with mostly weaker parameter estimates when regressing the median year ( $\beta_{\text{Private}} = -3.42 / = -.90 / = -.46 / = -1.94$ ) while slightly stronger estimates are found when using a year fixed effect ( $\beta_{\text{Private}} = -3.86 / = -.97 / = -.65 / = -2.23$ ) for total nomination, total wins, Best Picture wins and Best Picture nominations respectively. Although certain variations in the award and industry structure are present across the Oscars history, private structure is found to negatively interact with the Golden era for total number of awards won ( $\beta_{\text{PrivateXGoldenEra}} = -.60$ ,  $SE = .30$ ,  $p = .05$ ), suggesting that public film studios were at an advantage at the inception of the Awards, however there was no difference in the prize-seeking behavior between firms. No other interactions between ownership structure and era were found to be significant.

Finally, a poisson regression model was tested in order to mitigate any issues of using count data, the results of which are analogous to the main analysis; confirming that private studios are less prize-seeking ( $\beta_{\text{PRIV}} = -1.13$ ,  $SE = .07$ ,  $p < .0001$ ) and by extension win less awards than public studios ( $\beta_{\text{PRIV}} = -1.59$ ,  $SE = .19$ ,  $p < .0001$ ).

### **3.5 Discussion**

This research demonstrates the impact of a firms' internal environment, specifically ownership structure, on their prize-seeking behaviour. Although public companies have greater access to capital through financial markets, one cost of this access is the requirement to send myriad signals to their investors. This leads public film studios to be more pursuit of Academy Awards as they represent strong signals of performance. It may seem counter intuitive that private film studios seek awards less, as they have fewer signals in their arsenal to send to investors, however, given the results of Chapter (2) which demonstrate the heavy cost of attaining award recognition, it is not surprising that they are more discerning in their prize-seeking behaviour. Moreover, private firms have

far fewer shareholders to report to, making the interests between owners and managers more convergent, thereby reducing the imperative to send as many signals.

The results—using a comprehensive database of Oscar nominations and wins awarded to major Hollywood film studios—confirm that publicly-held studios are more inclined toward prize-seeking than their privately-held counterparts. There is a highly significant negative effect of having a private ownership structure on all dependent variables; indicating that private film studios seek, and win, not only less Best Picture prizes, but less Academy Awards in general.

Although private firms generally have a shallower depth of management, as well as lower quality of information and financial reporting (due to lower compliancy requirements), this is not reflected in the performance capabilities—specifically the conversion of award nominations into wins—of Hollywood film studios. The results demonstrate no difference in relative firm performance between ownership structures; both public and private studios achieve approximately the same rate of recognition for their cinematographic pursuits once accounting for the number of nominations a firm receives. Even if a public firm, for a prescribed set of reasons, decides to contract and transition into a private structure, it is not to say that all capabilities of being publicly held are lost.

While the prize-seeking behaviours of public and private studios are clearly contrasted, the results provide evidence that these behaviours are not always consistent with their ownership structure and rather studios may mirror one another's strategies in years when the firm is approaching a transition. Public studios will reduce their prize-seeking activities in the last two years before consolidating back into a private structure, whereas private studios will regain prize-seeking activities in the last two years before going public.

Furthermore, it is found that public studios executives can be incentivized toward prize-seeking behaviour by being compensated with stock options in the company. Although winning these awards can have a negative short-term effect on firm value, the signal of winning increases the volatility of stock prices, and therefore the long-term

potential return on investment. With investors looking at quarterly and yearly performance, public companies are generally under more pressure to focus on the short-term, with strategic decisions based on maintaining healthy growth rates and earnings for shareholders. Conversely, private firms are generally under less pressure as shareholders are invested for longer periods. This research provides evidence of conditions under which managers of public firms can be encouraged to look toward long-term strategies like their private counterparts.

### **3.6 Limitations and Future Research**

Although this research demonstrates the importance of the Academy Awards as a signal of performance for public film studios, awards in other contexts may produce alternative results. Future research should explore settings in which the award and ownership structures differ. The Oscars, for example, are a two-stage tournament, however award contests can be structured from single to multiple stages. It is expected that the value of an award, as a signal of quality, will increase as the number of stages increase; due to the contenders/ competitors being more visible. The Academy Awards are also structured to be discontinuous in nature, meaning simply there is a single definitive winner and set of all others, while there are also prizes with a continuous structure whereby there are several ranked winners. It is expected that as the number of levels increase, the signal of the award will become less diagnostic, and therefore less valuable.

The Oscars have other defining properties which vary in other awards; specifically, what the contest recognizes and who the prize is endowed by. Artistic quality is a very subjective and difficult to observe measure, hence cultural awards serve as a direct proxy of quality. In other contexts, prizes are used to measure more observable qualities; for example, the MTV Movie awards are a measure of popularity, which is far more observable. It is anticipated that award signals will be less valuable in settings where the outcome is more predictable and therefore less diagnostic. Similarly, by whom the award is being endowed is also expected to impact the diagnosticity, and value, of pursuing a prize. In awards environments where the tastes of the jury (like the Academy)

are somewhat predictable/ stable, the prize is more diagnostic, whereas juries with less predictable tastes (like at Cannes) should create a less valuable signal of performance.

The value of seeking prizes, as a signal of quality, is in part dependent on the ownership/ funding structure of the firms in contention. While this research demonstrates a difference in the perceived importance of winning awards between public and private film studios, further variations may be found in contexts where the intended recipients have more, or less, stakeholders to satisfy. It is expected where fewer divergent interests need be fulfilled, the less valuable the signal of an award will be; for example, NGOs primarily focus on satisfying government interests—being dependent upon them for funding—and therefore have fewer signals to send. The same logic would apply for the expected limited prize-seeking behaviour of government bodies, except perhaps where an award could signal quality to a very large and heterogeneous set of stakeholders; for example, The World’s Most Livable City award.

Finally, this research studies the strategic decision of seeking prizes; as well as the use of CEO compensation to incentivize this behaviour, however, it does not evaluate the appropriateness of the strategy itself. Although the awards literature demonstrates the value of winning prizes, there are contexts in which the opposite is also true; for example, when there is high cost associated with seeking an accolade. Future research should investigate when prize-seeking behaviour is in fact an optimal strategy, taking into consideration the particular award properties and environmental contexts. This would further reveal the conditions under which CEOs should be encouraged toward prize-seeking activities and when they should be more discriminating in their pursuit.

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## Conclusion

The objective of this thesis was to study the relationship between environments of artistic firms; looking at the bigger picture and all smaller moving parts, the underlying strategic nature of decision making is revealed. More specifically this research explores the impact of internal and external environments on firms' allocation of resources and the markets response to those decisions. The first essay addresses how Canadian symphony orchestras funding environment impacts the allocation of their financial resources. Results show that conditions of public funding lead Canadian orchestras to manage their budgets better than U.S orchestras—who are primarily privately funded—in both worsening economic conditions and over time. Essay three similarly looks at the impact of funding on resource allocation, but in terms of the relationship between ownership structure and prize-seeking behaviour. An analysis of the differential propensity of Hollywood film studios to invest in prizes reveals a *laissez-faire* attitude of private studios, compared to their public counterparts, toward Academy Awards, as well as the use of CEO compensation incentives in public studios to promote prize-seeking behavior. The relationship between firm value and winning an award is studied in essay 2; specifically, an event-study methodology is used to capture the market's response to the announcement of Oscar award winners. Findings demonstrate the deleterious effect of winning Best Picture on the distributing film studios stock price due to the resource intensive investment needed in order to be seek the prize.

This thesis has several contributions and managerial implications. In the first essay the impact of a public funding environment on the ability for Canadian orchestras to avoid a cost disease typically associated with the arts is demonstrated. Although both Canadian and U.S. orchestras are reliant on non-performance revenue, resource dependence does not incentivize U.S orchestras to control their expenses as closely as Canadian ones. However, it is still suggested that Canadian performing arts organizations focus on developing a stronger philanthropic culture in order to reduce dependence on government bodies and avoid being artistically restricted. The second essay contributes a new boundary condition under which award structure has a detrimental effect on the value



derived from winning a prize; the cost of appealing to prize juries is consistently too high to positively impact firm value. This research provides contrasting evidence to the literature, whereby even winners of a Tullock lottery suffer negative returns on investment. Rigorous empirical evidence demonstrates a case in which investors negatively evaluate artistic-recognition, and that even at the firm-level, winning one award can have a destructive impact. It is recommended that firms diversify their project portfolios in order to balance the production of Oscar-worthy films with Blockbusters and less resource intensive productions. The final essay exemplifies the differential evaluation of prize-seeking behaviours based on the number of shareholder interest's managers need to satisfy. It demonstrates how the value of an award, as a signal of performance, is less noteworthy in private as opposed to public companies. This study also provides evidence of the propensity for firms of one ownership structure to adopt the strategies of the other when transitioning between structures. It also rejects the assumption of award signals distinguishing between the quality of firm resources or decisions; as demonstrated by the relative performance of both types to be roughly equivalent. Finally, this research is an example of how CEOs behavior can be directed to align with ownership interest using equity compensation incentives.

This research could be extended in several ways. To begin, while this thesis covers the impact of funding structure in hybrid environments, future research could study the variances in fully government funded, and/or full privately funded (e.g., through sponsorship, philanthropy and sales) firms; specifically, how are firm resources managed differently and how does the market evaluate firm decisions differently. Although ownership structure is explored in essay three, it is inextricably linked to funding environment, which this research eludes to but does not study directly, therefore future research could investigate the interaction of ownership and funding. The allocation of artistic firm resources is specifically studied with the examples of direct financial resources (i.e., the management of annual budgets), and indirect financial resources (i.e., the investment into seeking prizes). However, further examples of resource allocation could be used (e.g., programming, innovation, advertising, building infrastructure, partnerships, mergers and acquisitions) to study the strategic decisions resulting from the interaction of environments. Another important area where this research should be

extended is in the valuation of strategic decisions. Essay two explores market valuation, in the reaction of investors, however, long-term valuation and survival analysis is needed to determine if/ how the negative firm value experienced in the short-term eventually dissipates. Finally, with ample access to rich historical data, researchers have plenty of opportunities to use sales data (e.g., tickets, books) to look at firm decision making at an industry level and to observe changes over time.