Italian tax incentives for film industry: the impact on the domestic sector and on the State

F. Medolago Albani, B. Bettelli, P. Boccardelli, A. Priante*

Abstract
The national approach to public funding of the film industry has been subject to a shift in recent years, at an international level, moving from a grant and subsidy scheme towards more automatic form of supports, including tax incentives.

The paper aims at analysing the impact of the new tax credit measures for the Italian film industry, introduced in 2008, within the framework of the 2007 financial law, and in force since the third quarter of 2009. The impact is evaluated on both the domestic film production companies and on the State accounts level.

The measure of tax credit for film with cultural requirements provides the film production company with the possibility of offsetting its tax debt (national and regional income tax, VAT, social contribution and costs) during the production, within a cap of 15% of total eligible costs.

Starting from the data collected and processed by the Ministry of Culture since the beginning of the implementation phase, the paper aims at demonstrating the positive balance for the State determined by the increase of private investments on film with cultural requirements and, consequently, of the induced direct and indirect tax return.

A brief description of the measure will be followed by a comparison of the incremental value produced by the film sector throughout the year following the enforcement of the tax credit measures.

Summary
1. The role of tax incentives in the film industry: a general model
2. The Italian tax incentives system for the film industry
3. The effect of tax incentives on the production investments: an input side perspective
4. The effect of tax incentives on the returns: an output side perspective
5. Conclusions

1. The role of tax incentives in the film industry: a general model

The role of public institutions in the economics of culture and of the arts has been frequently advocated in order to avoid market failures. Besides, the creative businesses and particularly the film industries have been investigated for their capability to generate wealth and promote the social and economic development of regions and countries. Notwithstanding, in recent years public bodies in different countries have radically changed their policies for supporting film industry from an approach based on the direct funding of production companies and organizations, to a new one routed on the fiscal leverage and tax incentives. Tax incentives are designed in order to provide production companies with the possibility of offsetting their tax debt (national and regional income tax, VAT, social contribution and costs) during the project. This leads to the opportunity for the industry participants of using their resources to allot greater investments at a lower cost. Indeed, motion picture production companies are organizations which plan, develop, and realize movies on a project basis, and each film can be seen as a prototype, which embodies a relevant component of creativity and non-recurrent content, and employs a wide range of diversified competencies in the artistic (e.g. talents’) as well as technical (e.g. crew’s) side (Conant, 1960; Caves, 2000; Lampel and Shamsie, 2000 and 2003). Besides, the vast majority of the resources involved in the movie production are outside the organizational boundaries of the production companies: that is, production resources are composed by teams of principals that are formed to perform a single film and then disband (Faulkner and Anderson, 1987; Robins, 1993; Jones, 1996; Miller and Shamsie, 1996; Defillippi and Arthur, 1998; Mezias and Mezias, 2000). In other words, industry dynamics enforced the production firms to become hubs with a key role in the resource selection,
bundling and coordination (Lampel and Shamsie, 2003). This way, tax incentives may play a key role in fostering the magnitude and direction of the production investments, and through this generate a larger economic impact.

There are many channels through which investments and activities within the film industry provide a contribution to a regional or national economy. This contribution includes some following standard economic impacts:

- **Direct impacts** – employment and activity in the film industry itself, which include all the phases of film production (pre-production, production and post-production) which physically takes place in the area, together with the distribution and exhibition;
- **Indirect impacts** – employment and activity pulled by the film industry through the supply chain, as a result of film companies purchasing goods and services from local suppliers. This includes, for example, the manufacture or provisioning of production equipment; goods and services sold at theatres; the spending of film crews in hotels, restaurants etc; business expenditure on TV, radio and other advertising; and a wide variety of activity in the business services sector (legal, accountancy, IT etc).
- **Induced impacts** – employment and activities derived by the growth of consumptions due to the spending of incomes on goods and services in the wider economy. This impacts on the industries that supply these purchases, and includes jobs in retail outlets, companies producing consumer goods and in a range of service industries.

But there are also a number of additional impacts which result from the wider role film production plays, and which may also generate economic effects, like:

- **Skills and the labour supply** – the film industry employs highly skilled and trained professionals, adopts new technologies and it improves skill levels in the general economy by helping to retain highly skilled people.
- **Tourism** – the film industry indirectly enhances the tourist industry by encouraging more international tourists to visit film locations, and their spending supports a substantial number of other sectors.
- **Culture** – A distinct film culture has the characteristics of a public good in the sense that it provides a cultural/educational economic externalities.
- **Merchandising** – sales of books, CDs, computer games, toys and models, as well as film-inspired fashion, are all increased as a result of a strong and successful film industry.
- **Promotion and trade** – the film industry has a role in facilitating trade into a location. High quality films produced in a specific area raise the confidence on that area to be a place where to invest in.

Overall the impact is presented in figure 1.

The estimation of the economic impact is, thus, complex and it requires the consideration of the different types of effect. Accordingly, different methodologies could be taken into consideration. In particular, the first set of economic models is that derived from the input-output models developed by the famous economist Leontief. In this type of models the economic evaluation is based on the notion of the general economic equilibrium as the result of the interdependencies between economic agents: each economic agent generates its output acquiring, transforming, and combining different inputs derived from other industries. This way the economic system may be represented as a whole of input-output matrices, which represent the interdependencies occurring between agents.

A corollary of this view is that a growth in the output generated by or in the input resources invested in a specific industry can be evaluated with the use of “multipliers” that estimate the transformation of each input/output of an industry in the input/output of another one, and through it analyse the contribution to the general economic equilibrium. The multipliers most diffused in the literature as well as in the practice are:

- **Turnover multiplier**: it estimates the impact of an investment (input) on the revenues of the industry and, through this, its contribution to the economic system;
Gross value added multiplier: it estimates the impact of an investment (input) on the economic value of the output produced by the industry and, through this, its contribution to the economic system;

Income multiplier: it estimates the impact of an investment (input) on the revenues earned by individuals employed in the industry (profits and wages) and, through this, its contribution to the economic system;

Employment multiplier: it estimates the impact of an investment (input) on the growth of the employment rate in a specific region and, through this, its contribution to the economic system.

Figure 1: the impact of investments and activities in film production

Another class of models is that of the “Computable General Equilibrium”, which are based on the simulation of the general equilibrium provided by Arrow and Debreu with the use of real economic data and statistics aiming at defining the expected levels of supply, demand, and prices of a certain range of markets and industries. Recently, these models have been adopted to estimate the economic impact of fiscal reforms and of development policies based on public spending (e.g. Perry, 2001; Guhields and Francois, 1994; Martin and Winters, 1996; Harrison et al., 1997), as well as in markets and industries highly regulated.

A particular specification of the CGE and I/O models is the “Regional Economic Models” (REMI), which incorporates aspects of other approaches (Input-Output, CGE, Economic Geography). The REMI model has, at its core, the inter-industry relationships found in I/O models. As a result, the industry structure of a particular region is captured within the model, as well as transactions between industries. Changes that affect industry sectors highly interconnected to the rest of the economy have a greater economic impact than those for industries that are not closely linked to the regional economy. REMI models combine the I/O analysis of the matrices of interdependencies between industries, with the evaluation of a specific impact within a region and with the search for a wider economic equilibrium. Differently from the I/O, REMI models are based on a dynamic and local approach, which allows to better estimate the impact of policy making.

In the following sections we aim at analyzing the impact generated by the introduction of a tax incentive scheme for the movie production in Italy.

2. The Italian tax incentives system for the film industry
The Italian Parliament approved a three years package of tax benefits in December 2007, which has then been approved by the European Union at the end of 2008. Applications (including retroactive applications for qualifying productions) have been made step by step available to the beneficiaries between August 2009 and January 2010.

The package of tax benefits includes measures intended to increase the private investment in the film industry by various players, internal or external to the sector.

The package provides two kinds of measures: a credit for taxes (“tax credit”), and a tax abatement for profits (“tax shelter”).

Tax credit gives the possibility of writing off, or reducing, all tax liabilities and other tax debts including employer and employ payroll taxes, national and regional income taxes, VAT, social charges and contributions and withholding taxes.

Because of its nature, the tax credit is therefore addressable to any kind of eligible film project, depending neither on its budget level nor on the reliability of the applicant company.

Under the tax shelter structure, part of the declared profit invested in film production and distribution is not considered as taxable income.

For the year 2010 the law specifies that there is a financial endowment of about Euro 80 million and Euro 15 million to cover the tax credit and tax shelter measures, respectively.

Tax credit provides for six different measures (Table 1 and 2):

1) tax credit for Italian producers related to the investment in the production of a national film or a coproduction
2) tax credit for Italian distribution companies investing in the distribution of national film or a coproduction
3) Tax credit for Italian external investors investing in the production of a national film or a coproduction
4) Tax credit for Italian distributors and exhibitors investing in the production of a national film or a coproduction
5) Tax credit for Italian exhibitors investing in digital equipment (under a de minimis regime)
6) Tax credit for Italian line producers for the production of foreign films commissioned by foreign production companies

The scheme provides also for three different tax shelter measures: tax shelter for Italian production companies investing profits in the production of a national film or a coproduction; tax shelter for Italian distribution companies investing profits in the distribution of national film or a coproduction; tax shelter for external investors investing profit in the production or distribution of national film or a coproduction.

To be eligible for tax incentives, a film must pass a cultural test. The Italian Law provides two specific tests: one for national films, the other specifically designed for foreign films.

<table>
<thead>
<tr>
<th>TAX CREDIT</th>
<th>RATE</th>
<th>MAX. ANNUAL CREDIT PER COMPANY (in euros)</th>
<th>MAX. ANNUAL INVESTMENT PER COMPANY (in euros)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTERNAL COMPANY</td>
<td>40% investment in the production of films of Italian nationality</td>
<td>1 million</td>
<td>2.5 million</td>
</tr>
<tr>
<td>PRODUCTION COMPANY</td>
<td>15% production cost</td>
<td>3.5 million</td>
<td>23.33 million</td>
</tr>
<tr>
<td>DISTRIBUTION COMPANY</td>
<td>15% expenses for the distribution of Italian films of cultural interest</td>
<td>1.5 million</td>
<td>10 million</td>
</tr>
</tbody>
</table>
Based on an extensive dataset of Italian film projects collected since the beginning of the implementation phase by the Italian Ministry of Culture on the use of new tax incentives, we analyzed the effect of the Reform on the financial flows from the public authorities to the industry participants, as well as its impact on the industry and its capability to create value. In this respect we performed two different types of analysis: the former aims at analyzing the impact of tax incentives on the level of inputs (investments) within the industry, while the latter
tries to test its direct impact on the capability of the industry to create economic value. Both analyses are directed to provide interesting insights for a more general evaluation of the economic impact of tax incentives measures on film production. As a matter of fact, the analyses will allow to analyze the impact of the reform on the industry at the input and output sides.

3. The effect of tax incentives on the production investments: an input side perspective

The motion picture production is an activity requiring different types of resources, which are divided into two main budget components, “above” and “below” the line: the former is composed by those expenditures that are negotiated or spent before filming begins. These costs can include rights for the material on which the screenplay is based, as well as the salaries for the screenwriter, producer, actors, and director; on the contrary, the below-the-line component includes the salaries of the non-starring cast members and the technical crew, as well as the use of the film studio and its technical equipment, travel, filming location, and catering costs.

In order to make our analyses we collected data from the Italian Ministry of Culture on the budget and other relevant variables of Italian movies that accessed to incentives. In particular, we analyzed projects with expenses occurred between the 1 June 2008 and 31 May 2010.

Our study focuses on identifying the effects of tax credits on total cost of production of film works. Being a tax savings, and not a capital contribution, it is likely that production companies with a lower investment capability are rather few in the sample because of their limits of undertaking the investment compared to firms able to use immediately the credit. Thus, the projects investigated are medium-high budget productions, which may render partially biased the analysis.

According to the tax credit law, eligible costs are those occurred before the 1 June 2008. However, the law and particularly the entire set of operational norms and procedures have been approved and made available to potential applicants since the 15 July 2009. Thus projects and expenses referred to the period between June 2008 and July 2009 can benefit of the incentives thanks to retroactivity, which make them eligible. So far, these last types of retroactive projects cannot be properly considered incentivized, because they result from decisions that did not take into full consideration the possibilities of exploiting the tax credit leverage.

By comparing the requests, regarding the national production ante- and post-measure (“retroactive” and "non-retroactive”), it is possible to evaluate the differences in value for the different costs that can be referred to the major effects of tax incentives. Besides their date of production, other cautions must be taken into consideration in both samples:

- **Retroactive**: the total cost of production may not include costs that do not generate tax credit; in the associated production, the total cost of production could refer exclusively to costs incurred directly by the company applying; in the international co-productions, the total costs of production may be the amount of expenditure actually incurred by the Italian manufacturer; overheads may or may not be registered to the cost of production.
- **Non-retroactive**: few movies have completed the entire process from the first communication to the final certification of costs; in the “non-retroactive” sample are listed also those movies only with the first communication of the cost estimates; same issues of retroactive movies.

The analysis focuses on the significance of the differences in value of the inputs between the two sample of movies, and it is performed based on the theory of significance, developed by Ronald Aylmer Fisher (1890-1962): it is a methodology which proposes to test a single accurate assumption, known as “null hypothesis”. Testing the null hypothesis means that the researcher aims at verifying whether in the “population” there is no statistical difference between the categories to compare and that, therefore, the existing differences are due to the variance of the

---

1 The contribution was developed statistically through the invaluable support of Dr. Fabio Ferrazza, junior analyst at the Direzione Generale Cinema
2 Expenses occurred before the 1 June 2008 are not considered eligible.
distribution. In other words testing the null hypothesis allows to estimate the probability that the variables presented in the two samples are statistically equivalent or significantly different. Due to the short time of application of the tax credit, the samples investigated are composed of a small number of movies. When the reduced size of samples generates greater variability in the distribution of variance, the difference between the average is analyzed through the Student's t-test. The t-test applies only when the comparison between the averages of the two samples shall be examined in equal distribution and shape of variability in populations of reference. Results of our analysis show a difference statistically significant between the average budget of the two samples, as indicated in table 3.

<table>
<thead>
<tr>
<th></th>
<th>Retroactive Sample</th>
<th>Non-retroactive Sample</th>
<th>Difference</th>
<th>% difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>s.d</td>
<td>Mean</td>
<td>s.d</td>
</tr>
<tr>
<td>1 Total Cost</td>
<td>4,595,140</td>
<td>1,295,945</td>
<td>5,908,653</td>
<td>1,198,038</td>
</tr>
<tr>
<td>2 Social contribution</td>
<td>343.991</td>
<td>106.947</td>
<td>521.251</td>
<td>160.562</td>
</tr>
<tr>
<td>8 Costs of goods and services</td>
<td>1,484.132</td>
<td>394.627</td>
<td>1,906.536</td>
<td>542.015</td>
</tr>
</tbody>
</table>

*Coefficients are significant at p < 0,05

The average difference in the total cost of the two samples is about 1.3 millions of Euro € (22% of the average total cost of the non-retroactive sample) and the difference is statistical significant with p<0,05. Similar results apply to the specific costs of social contributions and for purchasing goods and services. Being the tax credit a measure allowing firms to withdrawing the 15% of the total cost of production, we can argue that firms that applied for benefiting of these incentives have invested more than what the State returned them (7% more due to the spread between the 22% of total cost between non-retroactive and retroactive movies, and the 15% of the benefit earned with the tax credit). Thus the net effect on the input side is positive.

4. The effect of tax incentives on the returns: an output side perspective

In order to estimate the impact of the incentives on the output side, we developed a model estimating the impact on film-specific variables and the relationships of these latter with the economic return generated on the market. In particular, with the adoption of a matched-sampling procedure we calibrated a model to make evidence of the incremental role of the tax incentives on the revenues generated by each movie. This type of analysis aims at identifying the distinctive role of tax incentives on the revenues generated by the movie, through the creation of a sample of movies paired with respect to some relevant productive variable. The primary aim of the analysis is to investigate the effect of tax incentives on the production, and thus our endeavor necessitates that we obtain a non-treatment sample of movies not-awarded with the tax credit. It is a clear requirement that a control sample useful for comparison consists of projects that are similar to our main sample of movies that benefited of the incentive, in the sense of being equivalent in terms of investments, product strategy, and distribution policies. As a matter of fact, movies with different product strategies (e.g. different genres, different target audience) as well as distribution policies (extensive or selected), and budgets can be considered substantially heterogeneous and thus they cannot be compared to enlighten the distinctive role of tax incentives.

The analysis has been done on a total sample of 28 cases, out of which 20 are retroactive and 8 non-retroactive. To draw a sample from the characteristics of the properties of a limited or unlimited statistic population, it is required that the sample is representative of the population from which it came. The two groups created in the present analysis (“retroactive” and “not retroactive” films) cannot be considered probabilistic samples, however they can be considered representative. Indeed, they are not representative of the entire population of Italian films, but of those Italian films ranging from medium to high budget productions.
We rely on a combination of exact and propensity score matching in generating the sample of non-incentivized movies. The exact matching procedure is used to ensure that particular characteristics of the movies are exactly duplicated in the control sample. The propensity score matching procedure matches on an estimated likelihood given observables rather than on regressors (Rosenbaum & Rubin, 1983). It ensures that the incentivized and the non-incentivized are equally likely to produce box office revenues given some specified covariates. One of the advantages of the propensity score matching procedure is that it allows us to match using multiple continuous regressors to identify a matched control sample.

Heckman et al. (1997, 1998) underlined that propensity score matching and its ability to find appropriate matched firms heavily relies on using the right data and measures to obtain useful probabilities of being treated. Results of the matching procedure are optimal when the definitions and the data measures are the same across the treated observations and the control group. Additionally, it is fundamental to choose the right input variables to estimate the propensity scores. We therefore choose variables for the matching procedure that are suggestive in terms of the project capability to generate revenues. By doing so, we compare movies otherwise likely to perform equally in terms of our dependent variable.

For this reason, we used budget, movie genres, distribution policies (number of opening screens), and other product specific attributes (e.g. novel or adapted script, new movie or a sequel) to create a sample of matched pairs composed of incentivized and non-incentivized Italian movies released in the time window 1 January 2007–31 May 2010. We also introduced a dummy variable for the incentivized subset of projects, estimating the membership to the category of retroactive or non-retroactive movies.

To analyze the differential role of tax credit on the output generated by the movies, we decided to introduce one of the critical resources in the motion picture production, namely the human capital. Human capital is the strategic component of the creative production, and it normally holds the lion’s share of the budget. Although in a movie project it is possible to identify a large number of professional figures, we decided to focus on the most relevant on the artistic as well as the technical side, i.e. actors, directors, photographers, producers, and scriptwriters. For all figures we collected data estimating the depth and breadth of their experience as well as their quality ratings based on the number of awards and nominations received.

We then run a number of regression models to test whether the projects in the incentivized sample receive a better reception from the market and thus generate greater box office revenues, which implies that with an equivalent product strategy and investment intensity there is a growth in the output potential. Our results give support to this hypothesis since the role of human capital on box office revenues in the incentivized projects is significantly greater than in those non-incentivized. In particular, the difference between the coefficients of the human capital in the two subsamples presents a t-value of -1.65 significant at the 1% level (p<0.01), indicating a more effective role in the incentivized sample.

These results indicate that tax incentives have produced a larger capability of production companies to select and employ more valuable resources (e.g. resources with a positive impact on economic value) at an equivalent budget of those that did not benefit tax credits, supporting our hypothesis of a positive impact on the output side.

5. Conclusions

Overall, there are some major conclusions that can be drawn from this analysis, even though the spectrum of deepening remains vastly interesting. Notwithstanding the very limited time of observation, which did not allow a definite terms of references, including in itself a continuity in the progress towards a milestone observation, the relevant number of cases and the peculiarity of the film industry, have allowed a form of understanding of what can realistically be the main trend.

4 Deeper details on predictors, control variables, measures, and data are available from the authors upon request.
5 Tables of results and other statistics are available from the authors upon request.
The introduction of a fiscal measure applied to tangible and intangible services, such as the ones related to cinema that we have decided to observe, created a definite shift towards the approach of the film making procedures, timings, results. Timelines have been changed accordingly and cost stability became a goal to reach and maintain. It almost felt like there was more certainty in the costs, therefore higher costs could be affordable. More stable costs incur into lower risks, even though rising the overall level of the investment (budget).

The main questions was: were these films going to be made anyways or was the tax credit the condicio sine qua non they got made? At this stage, we should not be afraid to say that, given the limitations of scope and timeframe of our analyses, the answer is positive. The perspective is indeed limited by the short running impact of the law disposition, which does not allow yet an even approximate estimation of the trade-off effect between positive impact for the industry and cost for the State. The increase in the spread between 15% and 22% in fiscal contributions can give serious and solid hopes the road is definitely the right one. If aiming at strengthening the sector, one needs to work on the reinforcing intelligent and systematic self-sustainability.

*Authors*

**Francesca Medolago Albani**, Head of Research Area at ANICA, Rome, Italy  
(f.medolago@anica.it)
Francesca Medolago Albani is Head of the Research, development and membership relations Area at ANICA, the Italian association of film and audiovisual industries. She is Professor in charge at Lumsa University in Rome, Italy.

**Barbara Bettelli**, Lawyer specialised in media and entertainment, Rome, Italy  
(barbara.bettelli@belaw.it)
Avv. Barbara Bettelli is a lawyer specialised in media and entertainment, advising film, broadcasting, copyright and intellectual property, media, games, advertising, sponsorships, communication sectors. Author of publications, professor and coordinator of intellectual property, cinema and audiovisual law at university master courses at Università la Sapienza and LUISS.

**Paolo Boccardelli**, Associate Professor at Luiss Guido Carli University, Rome, Italy  
(pboccard@luiss.it)
Dr. Paolo Boccardelli, Ph. D. in Management, is an Associate Professor of Management and Strategy at Luiss Guido Carli University. Head of the International Area of Luiss Business School, is the Director of the Ph. D. in Management and of the International MBA. Dr. Boccardelli actually serves as the Scientific Director of the International Observatory of Audiovisual and Multimedia of the Fondazione Roberto Rossellini.

**Alessandra Priante**, Ministry of Culture – Direction for Cinema, Rome, Italy  
(a.priante@cinecittaluce.it)
Alessandra Priante is a first degree business graduate at Bocconi University with an International Master in Audiovisual Management. She then successfully merged her extensive experience in corporate finance and M&A operations with her cultural expertise, joining since 2002 the Ministry of Culture - Direction for Cinema, creating an RSU for the design, set-up and implementation of the most important sector reforms: from law 28/2004 to the current fiscal incentives system. She represents Italy in various international and European Institutions and lobbies and teaches film management at some of the most representative Universities in Italy for post-graduate students.

*References*