The Black Box of Advertising Investments: Assessing the role of risk assessment

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Abstract

Advertising has become an increasingly strategic activity over the last decades and for most companies, even the smaller ones, the advertising is an indispensable asset fully integrated into their business models. Here we discuss some peculiar aspects of this asset focusing on the following contradiction: despite advertising being one of the main investment items for many companies, its risk profile is often ignored. Evidence of such a contradiction rises from economic literature and from a quantitative analysis of the advertising budget allocation in some Italian companies. Such evidence suggests that advertising is perceived as a sunk cost and does not appear to be classified as an investment with a specific risk profile. Under this light, we finally address how new risk management practices and regulator policies are needed to help the development of an efficient and fair advertising market to contribute to global financial stability.

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Introduction

In recent years, advertising has become a crucial strategic activity (see (McStay, 2016) and (Rodgers and Esther, 2017)), as digital advertising continues to gain traction among consumers. Many companies now view advertising as a fundamental aspect fully integrated into their business operations. However, despite its widespread utilization, there has been little effort to assess the potential risks it poses. In this text, we will delve into some unique aspects of this component, with a specific focus on the results of a data analysis on the advertising budgets of Italian companies. This analysis provides insight into the risk attitudes of advertising investors and reflects on potential policies that regulators could implement to foster a risk management culture for these types of investments.

The advertising market is vast, much like the financial market, in terms of the number of participants. However, it has a distinct structure with key players: digital platforms that allow for the creation of advertising content and/or manage the interaction between advertisers and publishers (see (Cheng et. al., 2015), (Comanor and Wilson, 1967), (Guth, 1971)). These platforms act as real markets, but often operate outside the purview of national regulators, implementing policies that are opaque to many and can have a significant impact on the market. The revolution brought about by these large platforms is that they offer a wide variety of advertising investors access to a global market at a relatively low cost.

The advertising market is playing an increasingly vital role. The evidence of its significance can be seen in its economic size (the aggregate value of advertising now accounts for a significant portion of the world's GDP (Nakamura et. al., 2017),), its prevalence (more and more industries are investing in digital advertising) and its impact on the financial performance of companies, which can reach double-digit levels (Ma and Du, 2018).

Access to the global market poses new challenges, such as managing an offer that is characterized by high volatility in terms of cost and profitability, as well as navigating the opaque policies of the platforms themselves. As digital platforms are private companies and not regulated markets, their primary focus is on expanding their business model, rather than catering to the specific needs of their customers ((Lev, 1968), (Lev, 1972)).

Another unique aspect of the advertising market is the diversity of its investors. Advertisers come from a wide range of industries and have varying levels of economic power. In many sectors, investing in advertising is not a voluntary choice and requires a significant investment of financial resources. However, even in these cases, companies often lack proper investment management policies for these digital assets.

The lack of risk assessment in this market can be attributed to its inherent structure. On one hand, there is a dearth of risk management culture and on the other, a significant challenge in obtaining the fundamental information (risk and return) needed to assess these investments. The dominant players in the market only provide limited information on the dynamics of the engagement prices they sell, and there is no independent verification of the fairness of these prices.

The rise of digital platforms has allowed a select few companies to offer low-cost advertising on media that can reach any user. However, this success comes with risks that are primarily borne by the users. Given the limited number of players in the market, these risks can be considered systemic. If one of these company fails to deliver on the promised effectiveness of the engagement actions sold, the damage would be widespread on a relevant part of the market. This scenario not only poses significant financial risks but is also difficult to detect. It is therefore imperative that regulators take action to address these issues.

Data analysis: advertising budget allocation

In this research, we delve into the underlying mechanics of advertising cost allocation, providing a deeper understanding of the risk attitudes of advertising investors. One of the key obstacles we encountered in our analysis was the lack of accurate and comprehensive data on the impact of advertising on businesses, specifically the expected return and risk profile of each individual advertising investment. The lack of this information makes it difficult to apply the standard risk-return analysis techniques, commonly used in financial investments, to advertising cost allocation, making it challenging to accurately identify the risk-taking tendencies of investors.

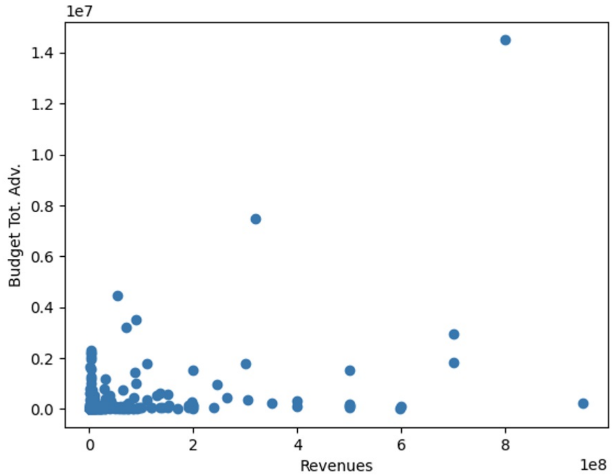
As we have discussed in the introduction, estimating the return on an advertising investment is not a straightforward task and requires detailed information on the impact of advertising on each individual customer transaction. However, such precise tracking of customer behaviour is only feasible for a select few businesses and specific types of advertising. Additionally, estimating the risk profile of an advertising investment (i.e., considering the relative weight of risky scenarios) is even more challenging and requires even more detailed and extensive information. The specifics of a product's promotion policy and its effectiveness are highly sensitive and strategic information that companies are often reluctant to disclose. Given these difficulties in obtaining reliable data, our analysis focuses on the allocation of advertising cost budgets to provide a glimpse into the underlying risk-return picture. We analysed a sample of 1,518 Italian companies, representative of the entire Italian economy.

The dataset provides us with access to the size of advertising budgets, classified by medium (i.e., web, TV, radio, newspaper, cinema, online, billboards), for the period 2010-2011. For each company, we also had access to information on its main characteristics: number of employees (13 classes ranging from 1 to 1,000 employees), the general economic sector (12 different macro sectors), the specific economic sector (75 different sectors), the company's vintage (5 different classes ranging from less than 3 years to 30 years), and the company's economic trend (strong growth, growth, stable, decline).

We analysed the advertising cost allocation by grouping companies with similar characteristics, which allowed us to explore the attitude of each company towards managing advertising costs as an investment. For a traditional investment, we expect the size of the capital at risk (the allocated budget) to depend on the investor's available capital and their risk-return expectations. Thus, the size of the investment is closely tied to the business model of the investor/company.

With this in mind, we plotted the advertising budget (i.e., the invested capital) against the level of revenues (i.e., a proxy for available capital). The resulting scatter plot revealed no clear patterns. The same outcome was obtained when grouping companies by similar features such as economic sector, vintage, and economic trend (see Figure 1). A proportional relationship between advertising budget and revenues was only found when grouping companies by the number of employees (see Figure 2). Thus, as expected, advertising costs and revenue levels are proportional to the size of the companies.

From the initial analysis, it appears that the risk attitude of advertising investors (i.e. the amount of budget allocated in relation to revenue) is closely tied to certain characteristics of the company, such as industry sector, economic trends, and age. To gain further insight into the risk attitude of investors, we plotted the ratio (γ) of advertising budget to revenue level against revenue level (see Figure 3). This ratio allows us to study the risk premium of allocated capital. Figure 3 shows that, on average, the γ ratio has different behaviour across different company characteristics. There is high volatility in the ratio at low revenue levels, but this volatility decreases as the ratio and revenue levels increase. This suggests that the risk premium for advertising investments is less volatile for larger companies compared to smaller ones. Additionally, the plot indicates that the risk attitude of investors in advertising is influenced by the absolute scale of the investments.



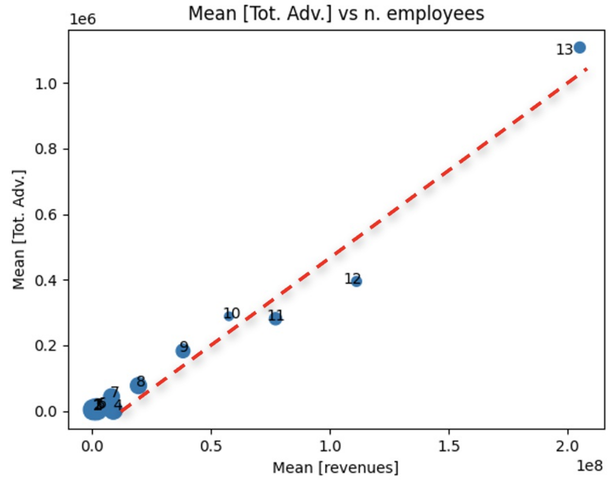
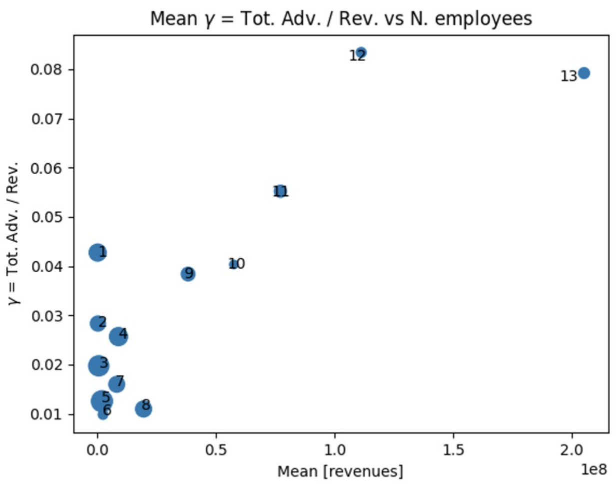


Figure 1. (left) Total. budget advertising vs level of revenues. **Figure 2**. (right) Mean level of budget vs mean level of revenues for companies with same number of employees.



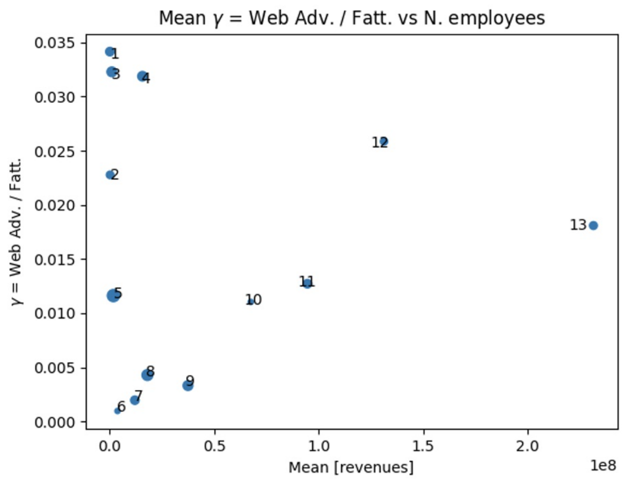


Figure 3. (left) Ratio of total budget advertising and level of revenues vs the mean level of revenues clustered by companies with same number of employees. **Figure 4**. (right) Ratio of budget in new media advertising and level of revenues vs the mean level of revenues clustered by companies with same number of employees.

Results and discussion

The medium chosen as an advertising provider plays a significant role in allocating the advertising budget. Certain media have much higher costs for advertising compared to others (Bezjian-Avery et. al., 1998), and only well-capitalized companies can afford to advertise on them. This distinction between costly and affordable advertising mediums helps to explain why large companies (those with high revenues) may pay a higher risk premium for advertising investments compared to small companies.

Costly advertising investments, such as those provided on traditional media like TV, are considered less risky compared to those delivered on new media. As a result, companies allocate a larger portion of their advertising budget to these low-risk investments in proportion to their revenue levels. Conversely, the high volatility of advertising budgets observed for companies with low revenue levels is attributed to low-cost advertising investments, such as those provided on new media.

The difference in risk attitude between traditional and new media advertising investments is evident when comparing Figure 3 and 4. When the advertising budget pertains to new media, the ratio between advertising budget and revenues does not show a clear increase with increasing company size and volatility is high (see Figure 4). Conversely, when traditional media advertising is included in the budget, the ratio shows a clear increase with lower intra-group volatility. This difference in risk attitude between traditional and new media can be attributed to various factors.

The lack of objective information on the risk-return profile of advertising investments prevents investors from implementing strategies based on the traditional risk-opportunity scheme. Instead, factors external to the risk profile of investments may influence the risk attitude of investors. It must be emphasized that, in the absence of objective information, psychological factors play a significant role in driving investors' managerial actions (Statman, 2008). The connection between a lack of information on investments and non-rational managerial actions is well-established in literature, particularly when the investment budget is considered a sunk cost (see (Arkes and Blumer,1985) and (Cunha Jr and Caldieraro, 2009). Sunk costs refer to an investment that has already been incurred and cannot be recovered. In such cases, the agent continues to pursue their endeavour due to the resources already invested.

The advertising investment can be considered a sunk cost if it is not possible to measure or account for the potential future return of the investment. In such cases, the advertising budget allocation ignores poor performance or high-risk scenarios of investments, attempting to recover the original allocated budget. Therefore, through the mechanism of sunk costs, the lack of information on the risk-return profile of advertising investments may be responsible for additional risks for investors due to their irrational budget allocation.

Discussion II: risks and regulator

The analysis previously conducted illustrates situations where investors in advertising do not exhibit rational behaviour. Advertising investments exhibit a risk premium that is less volatile for large companies as opposed to small ones, thus the risk attitude of investors depends on the absolute scale of investments. Such behaviour demonstrates an intrinsic difficulty in estimating the risks associated with these investments, a challenge that even the most exposed and capitalized companies struggle to overcome. In fact, the risk associated with advertising is not quoted on markets, unlike in the financial sector. Therefore, for investments in advertising, the quantification of risk is based on non-consensus elements. Additionally, there are no real risk mitigation strategies available, as the market cannot offer hedging contracts (derivatives) against poor advertising performance.

Due to the unique characteristics of the advertising market, we propose an active role for regulators in promoting a new culture of risk management. The main initiative that regulators should take is to require advertising providers to fully disclose the internal mechanisms they use to sell engagement actions. As we have emphasized in our analysis, the lack of information on the underlying mechanisms of advertising is the main source of risk. Moreover, conflict-of-interest issues of the major digital platforms hinder the online advertising market from achieving efficiency equilibria.

Drawing on the experience of regulators in the financial world, a strategy to increase awareness of the risks associated with investments is to communicate the risk profile of each investment by comparing it to a reference risk-free investment. Therefore, the advertising industry should also develop and provide a common metric that allows for the comparison of the performance of different advertising strategies based on objective historical information.

Such new policies would also help investors to implement basic risk management strategies for advertising. For example, based on the information provided by advertising providers, investors could diversify their investments. Furthermore, this information could be used to implement the best managerial actions, such as optimizing the impact of advertising on the company's financial performance or responding to sudden and significant changes in market conditions.

Finally, having an estimate of the risk profile of an investment as well as its potential performance would allow for accounting for advertising not just in terms of cost, but as a real investment (White and Miles, 1996), with potential returns weighed against risks on invested capital.

Conclusions

In this article, we delve into the topic of advertising and examine the risks that investors may encounter. Despite being a widely used tool in the business world, the advertising industry is not often examined from a risk perspective. However, we believe that understanding the potential dangers is crucial given the significant economic and social impact of advertising. Not only is it a crucial component in any business, but advertising also has the power to move and concentrate vast amounts of financial resources among a select few. This makes the advertising market highly susceptible to systemic risks.

Investors in advertising face a unique set of risks, including the potential for budget devastation and underwhelming returns. These risks are compounded by the business practices of various advertising providers, who often do not provide transparent information about the mechanisms behind the creation and sale of engagement actions. The lack of basic information for evaluating the economic potential of these investments is a major contributor to investors' risk attitude.

In conclusion, our analysis of the allocation of advertising budgets among Italian companies highlights the importance of understanding and addressing the risks associated with investing in advertising. The behaviour of investors in advertising can be likened to that of economic agents for whom the invested budget is perceived as a sunk cost. In the absence of detailed information on advertising, these investors attempt to recover the original allocated budget whatever return is accounted.

Therefore, in such a context, it is imperative to introduce initiatives that foster the development of a new culture of risk management, and this can only be achieved through the efforts of regulators. We hope that regulators will implement policies that promote transparency among advertising companies and third-party monitoring. Furthermore, they should mandate these companies to provide a comparative assessment of the risk and performance associated with the sale of advertising. These new policies would aid in the development of the market and provide investors with a better understanding of the risks they are facing. Moreover, they would enable investors to adopt new strategies and methodologies for risk mitigation.

In today's fast-paced world, it is more crucial than ever to address the risks inherent in the advertising industry. The future presents a landscape where advertising, with the advent of new media, will become increasingly pervasive. From being a service provider, large platforms will transform into essential partners for businesses, yet without the means to mitigate their power and impact on finances.

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