

# The Economic Impact of the Louvre

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May 2009

The importance of cultural activities for economic development is frequently emphasized, both within France and beyond.

In 1993, the European Union white paper *Growth, Competitiveness and Employment: The Challenges and Ways Forward into the 21st Century* indicated that six of the sectors with the most promising employment prospects involved cultural activities. Beginning in 1997, the numerous white papers released by the British government on the creative industries decisively situated cultural activities – including museums – among those likely to boost growth in employment as manufacturing jobs continue their steep decline. In 2005, the OECD report *Culture and Local Development* showed how cultural activities contribute to the economic development of countries, regions and communities. In 2007, in its publication *Managing Creative Industries*, the World Intellectual Property Organization (WIPO) highlighted the essential contribution made by cultural activities to growth as well as the role of intellectual property in protecting content and facilitating transactions. Finally, in 2008, *Creative Activities*, a report issued by the United Nations Conference on Trade and Development (UNCTAD), viewed cultural activities as one of the main drivers of growth, irrespective of the current level of development in the country in question.

These phenomena affect architectural and cultural heritage as much as the visual arts, the performing arts as much as the creative industries. But it is museums that are generally taken as exemplifying the potential impact of cultural activities: the waves of tourists they attract are seen as promoting the growth of the hospitality, travel and merchandising industries, and extraordinary economic windfalls are thus attributed to the superstar museums, if not always precisely measured. In recent years, we have even seen museums adopting management and communications strategies similar to those applied by major media companies: although visitors retain their status as the emblematic “product”, co-productions, franchising and partnerships are gaining ground every day.

Since the Louvre, which became an autonomous *établissement public administratif* (public administrative establishment) by government decree in 1992, is often considered as the world's leading museum (more than 8 million visitors in 2007, exceptional collections and an unrivaled location at the heart of Paris) and maintains an existence that places it squarely within this concept, there can be no doubt that its special impact on French economic life deserves (?) examination.

## 1. Measurement Methodology: Advantages of Impact Analysis

When we want to measure the economic benefit of a cultural institution, we generally choose between two main approaches: considering its significance from the perspective of demand, which implies an assessment of contingent values, or considering its significance from the perspective of supply, which implies carrying out an impact analysis.

- When we analyze from the standpoint of demand, we submit questionnaires to the parties involved with a view to determining the value they ascribe to the good or cultural service under consideration and we then obtain an overall value on the basis of the information collected. This is called the “contingent value” method. This value is generally appreciated in relation to a availability to pay or the maximum effort that the users of the good or service are prepared to make in order to access this good or service. This type of analysis also focuses on those parties who are not consumers of the good or service offered but who may be interested in its existence, either because they entertain the notion of using it at some point (called the optional value), or because they fancy their children using it some day (called the heritage value), or further still because it is important to them that these activities exist for reasons not connected to their direct

or indirect use, for example because they convey a strongly positive image of the country in which they live or reinforce its attractiveness, among other possible factors (called the existence value). The contingent value method therefore involves a huge population, encompassing both residents and non-residents, French citizens as well as foreigners.

- When we analyze from the standpoint of supply, we seek to determine the driving effect that the activities of a cultural institution will have on the economy. This type of impact analysis consists of two aspects, relating to direct and indirect effects.

Initially, we evaluate the economic dimension of the impact directly generated by an institution or organization (opera company, museum, festival, biennial) in terms of the expenditure flows that its activities trigger in a given territory. This involves not only the institution or organization's own expenses in connection with its activities, but also those incurred by its users as well as the expenses of other entities who are partners of the institution or organization whose impact we are analyzing. This first round of expenditure is followed by a second round consisting of all expenses entailed by the revenue distributed during the first round later to be spent, and so on. The measured impact is the total of these two types of effects, direct and indirect.

This approach dealing with material, and generally monetary, flows may overlook other effects, either non-monetary or difficult to express in monetary terms, occurring in time periods or areas that current market values do not allow us to grasp. These include, in no particular order, the increase in property values in the vicinity of cultural activities, the rise in positive forecasts on the part of entrepreneurs, the consolidation of knowledge among visitors who may thus enhance their skills, increasing know-how within the cultural professions, quality of life improvements in a given territory, heightened attractiveness of this territory, reinforcement of identity or community values, etc. In this respect, impact analysis provides a richer assessment but yields less precise findings, thus opening itself more readily to criticism.

The question of which of these two approaches, the contingent value method or impact analysis, is the most satisfying has engendered considerable debate. The contingent value method provides a broader assessment by considering the value ascribed to the activity by non-users whereas impact analysis studies actually observed flows. Conversely, impact analysis is a more in-depth approach, adding to expenditure at the cultural site itself expenses occurring at other sites, hotels, restaurants, etc. It is therefore possible to prove that in some cases, the contingent value method (more actors involved but fewer types of expenses) would cause one to attach a higher total value to the activity than the impact analysis (more types of expenses involved but fewer actors), and vice versa in other cases.

Irrespective of the arguments on either side of this debate, the choice of method also depends on two other elements:

- The type of data available: impact analysis data are more readily obtainable; those needed for the contingent value method must be built by way of often costly investigations.
- The need for immediate results: impact analysis provides a relatively quick but reliable assessment of the economic effects of an entity's activities and its creation of tax revenue and jobs. Examining contingent values is more useful to identify decisions relating to strategy and day-to-day management by the organization whose activities are being analyzed.

Amid the current economic climate, characterized by limitations in the French government's scope of action as well as challenges to the subsidies granted to cultural institutions, the second approach is the one presented here.

## 2. Framework of the impact analysis of the Louvre

By conducting an impact analysis of an activity we highlight the extent of revenue and employment fluctuations resulting from its existence. The principle behind this analysis is to consider that the museum constitutes a center of activity: it attracts revenue from outside its territory, which is then re-injected into the local economy, such as tourists' expenses, or expenses by companies who may make use of certain of the museum's assets to procure products (art books) or services (museum spaces as backdrops for making films). Whatever dimension is examined, there must always be a clear chain of causality such that it would not be possible to account for the activities in the absence of the institution in question.

These elementary activities are supplemented by non-elementary activities. The latter result from the fact that the economic agents—companies or households—who will have benefited from the revenue contributed by tourists or the companies mentioned above will themselves commit expenses adding on to the previous ones.

With this principle established, we need to specify the scope of application.

- An impact analysis takes as its starting point an institution engaged in an elementary activity. Accordingly, in this case it is the public administrative establishment of the Louvre that manages not only the museum but also the Tuileries gardens, extending as far as the Place de la Concorde as well as the sites within the encompassed area (a series of spaces located between the museum and the Tuileries, including the Carrousel gardens and the Carrousel du Louvre).

- An impact analysis is valid for a specific period. Here the year 2006 was selected, as this was the last year for which definitive figures were available, which thus promoted the consistency of the analysis and the interpretation of results.

- An impact analysis is valid for a given territory. Only expenses resulting in net positive effects may be recognized, which means that they may not correspond merely to the redistribution of activities to the benefit of the museum while at the same time being deleterious to another museum or another activity. If a Parisian visits the Louvre, she/he will not be going to see a movie at the same time, which means that this expense to the benefit of the Louvre will be offset by a decrease in expenditure affecting movie theaters in Paris, such that the Louvre's impact on the Parisian economy is nil in this case. However, if a foreign tourist comes to spend her/his money in Paris, this constitutes a recognizable impact since the corresponding decrease in expenditure will be felt in the tourist's place of origin and not in Paris nor even in France. Consequently, the notion of an impact is therefore identifiable only vis-à-vis a particular territory. Of the three possible approaches (city, region, country), the third was chosen due both to the importance of the Louvre and its contribution to French tax receipts.

## 3. Determination of the direct effect

Expenses considered to have a direct effect are those appearing within the territory in question as a result of the existence of this activity and the corresponding service offering. It must be possible in these cases to establish a clear cause-and-effect relationship:

- Expenditure by visitors whose arrival within the territory is linked to a triggering factor other than the desire to visit the museum (for example a business convention) may not be recognized as an impact related to the museum (or else only to a very limited extent).

- Expenditure by companies producing books or documentary films by making use of the museum's assets must only be recognized if these assets played a determining role in bringing about the particular production.

- Expenditure by companies conducted as a result of the rental of museum spaces can only be included if the strategic nature of the decision to rent this specific space is clearly defined

or if the fact that the activity would not have taken place in the absence of this space rental can be undeniably demonstrated.

The cause-and-effect relationship between the activities taken into account and the elementary activity must therefore be verifiable. If direct effects can be situated in areas quite distant from that of the museum, the relationship must be indisputable.

### **3.1 Expenditure by the Louvre itself**

The first category of expenses to be considered are those incurred by the Louvre itself. This refers to the total amount of purchases of goods and services as well as salaries and benefits paid to employees or fees paid to any other service providers. At the same time, we include within the analysis the Louvre's key resources that make these expenses possible (subsidies, ticket sales, corporate or individual sponsorship) and these should not be recognized anew later on. The main issues here are the need to know what part of these expenses is carried out within the territory in question as well as the portion of expenses that actually corresponds to the year under review.

Operating expenses and investments net of depreciation, amortization and provisions amounted to €181.400 million in 2006. Expenses realized directly abroad or reflected immediately in flows to foreign countries, in the amount of €6.4 million (taking into account the euro/US dollar exchange rate), are to be subtracted from this total. The amount to be attributed to the primary impact is therefore €175.000 million.

Two other key elements of information for the remainder of the analysis are worthy of note here: the total amount of subsidies received from the French government is €110 million and the Louvre's total workforce, in terms of full time equivalents, corresponds to 1,959 jobs.

### **3.2 Expenditure by visitors to the Louvre**

In light of the constraints expressed above, our analysis will only include the expenses of foreign visitors, who numbered more than 5.2 million in 2006 (out of a total of nearly 7.5 million).

Expenses taken into account for the purposes of the analysis do not include admission fees (already accounted for through the expenditure by the Louvre itself mentioned above), but only the portion of the travel expenses of these visitors to Paris in connection with their visit to the Louvre. This entails the collection of data on the average visitor budget, an amount which varies depending on the period of the year and the visitor's home country (surveys conducted by the Comité Régional de Tourisme de l'Île de France, the official regional tourism bureau for the Paris region, provide the source for these data).

But the main problem here is establishing the chain of causality between the visitor's trip to Paris and the existence of the Louvre, or in determining the influence of the visit to the Louvre as a motivation for the visitor's trip to Paris. Consider this example: if an American visits the Louvre during a business trip, we would only be able to attribute a small portion of this individual's travel expenses to the impact of the Louvre, or perhaps none at all. However, if this same American comes to Paris solely to visit the Louvre, we would be able to attribute 100% of her or his travel expenses to the impact of the Louvre. Accordingly, there are three possible approaches:

- The first is called the "time spent" approach. This means that we determine the impact of the Louvre on travel expenses by attributing only the time spent visiting the museum as a proportion of the total time spent for the visitor's trip to Paris. Since the average length of a visitor's stay is 2½ days and since the Louvre visit corresponds approximately to one half-day, we can attribute the impact of the Louvre as follows: (Number of foreign visitors) × (half-day travel budget) = €391.25 million.

- The second is called the “relative motivation” approach. This means that we determine the impact of the Louvre on travel expenses as a function of the more or less cultural motivation for the visitor’s trip to Paris. If a trip is organized for non-cultural reasons, the impact of the museum cannot be attributed to any of the corresponding travel expenses. If on the contrary the motivation is purely cultural, we might consider attributing the entirety of the travel expenses to the impact of the museum. Statistics concerning the motivations of visitors to Paris are collected at airports. These enable us to distinguish tourists visiting Paris primarily for cultural reasons and, within this group, the relative weight of the Louvre among other cultural motivations. We thus find that 38–52% of foreign tourists visiting the Louvre, depending on the period of the year, recognize the museum as a genuine motivation, which means that we are able to attribute the equivalent of half of their travel expenses to the impact of the Louvre (1.25 units or days; this proportion may vary). As these tourists divide their time in Paris among several cultural institutions or sites, it is difficult to state that the entirety of their trip is devoted to the Louvre, even if the latter is considered a mandatory stop. The impact would therefore amount to €534.96 million.

- The third is called the “essential motivation” approach. This approach considers that tourists single out one among the many sites or monuments when planning a visit to Paris, either because this destination is the main reason for their trip or because the desire to visit this destination places it above all others in their plans or makes it a priority during their trip. This is to some extent a special case of the previous approach, from which it differs only in relation to the priority assigned to visiting the Louvre. The percentages of visitors gleaned from the survey results are understandably lower, by about half, than those obtained when using the previous approach. The question to be asked in this case is whether we can attribute all of their travel expenses to the existence of the Louvre alone. This seems somewhat excessive since it is clear that tourists do not spend the entirety of their average two-and-a-half-day trip to Paris at the Louvre and will use the rest of their time to visit other sites or entertain themselves in other ways. We will therefore only take into account half of their travel expenses. However, we can apply a higher attribution coefficient than when using the relative motivation approach, since the level of motivation is higher here. We have therefore considered that the coefficient might in this case be 1.75 units or days. The total impact is therefore €250.20 million.

We thus now have three possible measurements for the impact on the French economy of foreign visitors to the Louvre:

- €391.25 million using the time spent approach;
- €534.96 million using the relative motivation approach;
- €250.20 using the essential motivation approach.

### **3.3 Expenditure by corporate partners**

A significant portion of the Louvre’s activity involves the co-publication of written works or the co-production of audiovisual materials relating to its cultural assets, in collaboration with publishing houses or production companies. The Louvre’s partners in such ventures therefore agree to inject funds into the economy, an expenditure which it is completely logical to attribute to the impact of the Louvre. Here we are only taking into account expenses borne directly, excluding those incurred as consideration paid to Louvre in exchange for the availability and utilization of the museum’s cultural assets (these expenditures are already accounted for through the Louvre’s budget.) The amount of expenditure is therefore recognized in relation to the partner’s portion of the budget, excluding the Louvre’s contribution and the payment of compensation due, or the total budget for the book or film minus the contributions of the Louvre in cash and in terms of work, services and technical expertise. This analysis may be rendered more complex due to the fact that as sponsorship is involved, the corresponding mandatory expenses for the beneficiary companies must be allocated. In general, all of these figures are derived from the examination of

partnership agreements between the Louvre and these companies, which specify the financial budget for each of the partners with respect to their joint development of the products in question.

This impact may be valued at €1.022 million for the publication of written works and at €0.734 million for the production of films. The total impact with respect to co-publications and co-productions is therefore equal to €1.756 million.

### **3.4 Expenditure by client companies**

By virtue of its movable and immovable property, the Louvre is able to sell a certain number of services. This involves three types of operations:

- the rental of spaces for special events;
- museum space concessions for commercial purposes;
- the production of films, videos or any other audiovisual materials.

These activities may take place either within the museum itself, in the Tuileries gardens, or in any intermediate spaces.

- One major and rapidly growing activity is the *rental of space within the Louvre for receptions or communications events of various kinds* by companies, organizations or institutions. The rental of space within the Louvre is extremely costly for these clients given the many usage constraints: the need to reconfigure the space, decoration, dismounting of installations in short order, limitations on the use of certain passageways, etc. As a general rule, it is understood that the cost for such an operation at the Louvre is at least 20% higher than that charged for any other location offering comparable functional characteristics. Here again, we are able to derive the amounts spent by these clients from the rental agreements, and as before, we may only take into account the expenses of clients net of any amounts remitted to the Louvre since these are already recognized in the Louvre's budget. We thus obtain an amount of expenses with respect to the impact of the Louvre of €7.952 million.

The assessment of the impact of rentals in the Tuileries gardens is similar, but these events can generally extend over much longer periods as these rentals mainly involve shows or exhibitions rather than receptions or parties. The total impact here is valued at €5.171 million. With all rentals taken together, we therefore have a total impact of €13.123 million.

- Another activity involves *concessions*. The Louvre grants concessions to companies interested in pursuing either in the museum itself, a portion of the Carrousel du Louvre, the Carrousel gardens or the Tuileries gardens, a variety of activities (food and dining, tie-in merchandise sales, donkey rides, etc.). In these cases, the Louvre is paid royalties, which are recognized in its budget. Consequently, we are interested here in changes in expenditure in connection with the advent of such activities, to the extent that expenses by concession holders may be included as part of the economic impact of the Louvre.

These activities might also be pursued in places outside the area of the city occupied by the Louvre, starting with the other side of the rue de Rivoli. But it is certainly possible to include the expenses of companies leasing such spaces for commercial purposes in the impact of the Louvre since we note in examining the lease agreements that these companies agree to pay much higher rents for locations close to the Louvre, which would lead us to conclude that they are able to generate added value by selecting such premises. This being the case, we must also realize that cause-and-effect relationships must be respected and that these are more or less pronounced depending on the nature of the activities in question. Although we may refer to the lease agreements to identify the expenses of companies, we must weight all such expenses on a case-by-case basis. The corresponding impact is therefore €30.593 million.

- The third activity involves the *production of films, videos and audiovisual materials*, both in the museum and in the other spaces. Regardless of the site used for filming, we must determine the expenditure incurred by the production company when it decides to begin filming or the average cost of a day of filming, excluding space rental expenses already recognized as offsetting the Louvre's own expenses. The valuation principles remain the same although these agreements are much less precise than those for operations giving rise to partnerships. We generally have access to information on the time spent for filming, and the corresponding expenses must then be estimated on the basis of guidelines followed by the profession. On the basis of these professional practices and information provided by the museum, the examination of documents on file allows us to value the economic impact of these days of filming within the museum alone at €0.356 million. For the Tuileries gardens and the other spaces taken together, the impact is €0.387 million. The total impact of filming is therefore equal to €0.743 million.

### 3.5 Summarized direct economic impact

Table 1 recaps the components of the direct effect's three variants: €611.46 million, €756.16 million and €471.40 million, respectively.

**Table 1: Direct effect of the Louvre on the French economy (in millions of euros)**

	OPTION 1	OPTION 2	OPTION 3
Expenditure by the Louvre	175.00	175.00	175.00
Expenditure by visitors to the Louvre	391.25	534.96	250.20
Expenditure by co-publication and co-production partners	1.75	1.75	1.75
Expenditure related to concessions	30.593	30.593	30.593
Expenditure related to space rentals	13.123	13.123	13.123
Expenditure related to filming	0.743	0.743	0.743
<b>Total direct effect</b>	<b>611.46</b>	<b>756.16</b>	<b>471.40</b>

*Option 1: Time spent approach*

*Option 2: Relative motivation approach*

*Option 3: Essential motivation approach*

## 4. Indirect effects and the total impact

Indirect effects are the result of fluctuations in economic activity encountered by all companies benefiting from the existence of direct effects. If the Louvre enters into an agreement for cleaning or security services, it provides business for companies providing such services, increasing the revenue they will then distribute and the expenses resulting from the use of such revenue. When hotels welcome tourists or procure services provided by other companies, the same revenue distribution and utilization processes are set in motion. As a rule, we should therefore recognize a second round of expenditure, then a third round, and so on, with the understanding that the effects will gradually decrease for two reasons: a portion of the sums received is not spent and a portion of this expenditure relates to goods and services outside the territory in question.

Expenditure by companies thus entails the creation of revenue which, once spent, results in new expenditure by companies, and so forth.

Δ Expenditure → Revenue Δ Expenditure → Revenue

In order to apprehend the total indirect effect, we may track step by step the successive waves emanating from the direct effects, or, as is generally the case, use a multiplier defining the value of the indirect effect expected to arise from a direct effect. This may be a revenue multiplier (the so-called Keynesian multiplier) or an activity multiplier (the so-called Leontief multiplier).

The latter ought to be preferred since it better corresponds to a description of the economy in terms of industry sectors and types of expenditure, while the Keynesian multiplier is formulated in terms of total, undifferentiated consumption expenditure. However, as we most

often lack access to the statistical tools and series offering the desired accuracy, we thus need to resort to the first type of multiplier.

In order to determine the indirect effect we opted for the multiplier value used in the United States to analyze the economic impact of its museums, particularly in connection with studies conducted at the request of the National Endowment for the Arts, which is 1.53. This seems very reasonable, since it is based on data averaging the findings for metropolitan areas most of which are smaller than the Paris region, which means that if there were any statistical bias it would tend to lead here to an underestimate of the final result. In fact, the larger the metropolitan area, the more it may be likely to offer the services desired by tourists or suppliers, which thus limits the need to exclude expenses outside the territory in question.

We therefore have three indirect effects, corresponding to the three direct effects, and three total impacts (Table 2). The impact thus varies in the range of €721 million to €1.156 billion.

**Table 2: Summary of direct effects, indirect effects and total impact (in millions of euros)**

	OPTION 1	OPTION 2	OPTION 3
Total direct effect	611.46	756.16	471.40
Total indirect effect	324.07	400.76	249.84
<b>Impact</b>	<b>935.53</b>	<b>1,156.92</b>	<b>721.24</b>

*Option 1: Time spent approach*

*Option 2: Relative motivation approach*

*Option 3: Essential motivation*

## 5. Consequences for public finances and employment

The grand totals shown in the previous section make clear that the Louvre's overall impact on the French economy in 2006 ranges from €721 million to €1.156 billion for initial expenditure of €175 million, the expense budget actually committed for that year within France. This is a calculation in terms of added value or gross domestic product. In general, an impact analysis seeks to determine more precise consequences, and two of these will therefore be examined here, the final balance of public expenditure by the French state and the number of jobs created.

With respect to the *impact on public expenditure*, we need to consider whether, in relation to expenses by the French state, the museum's activity gives rise to increased revenue, or even to positive net final receipts. In addition to the outflow corresponding to subsidies granted to the museum (€110 million), we must take into account the fiscal expenditures due to corporate sponsorship or sponsorship by private individual donors who are French residents. In 2006, these two items totaled €11 million.

The French state receives increased revenue of three types:

- Value-added tax receipts: this category includes the VAT paid by the Louvre in 2006 (€11.8 million) and that paid as a result of direct effects. This VAT may only be recognized for the direct effects as it cannot be taken into account for the indirect effects due to VAT recovery principles. The basis of calculation is therefore given by the direct effects excluding expenditure by the Louvre: €86 million (Option 1), €114 million (Option 2), and €58 million (Option 3);

- Individual income tax receipts, which involve two issues: the selection of an average tax rate, 10% in the present case due to the type of revenue distributed, and the determination of the proportion of revenue distributed in total expenditure, both direct and indirect. With the exception of cases where this revenue is directly identifiable, we estimate that this percentage of revenue is about 60% of sales. We thus obtain the following three values: €51 million (Option 1), €65 million (Option 2) and €42 million (Option 3);

- Corporate income tax receipts. Here again the calculation is relatively difficult, since we must determine the percentage of profit and an average tax rate. Taking into account data available on industry sectors, profit is valued at 7% of revenue, excluding expenditure by the Louvre, this figure corresponding to the profitability rate for the hospitality industry which is dominant in our study. The average tax rate is taken to be 20%. Receipts for this category are therefore €9.04 million (Option 1), €12.2 million (Option 2) and €7 million (Option 3).

The net balance of inflows and outflows (Table 3) thus varies from a deficit of €2 million (Option 3) to a gain of €32 million (Option 1) or €82 million (Option 2). If we ascribe an equal weighting to each option, net expected receipts would be €39 million.

**Table 3: Change in the financial position of the French state (in millions of euros)**

	OPTION 1	OPTION 2	OPTION 3
VAT on Louvre expenditure	12	12	12
VAT on other expenditure (direct effects)	86	114	58
Individual income tax	51	65	42
Corporate income tax	9	12	7
Tax impact for the French state	158	203	119
Subsidies granted to the Louvre	110	110	110
Tax loss on corporate or individual sponsorship	11	11	11
Total net gain/(loss) for the French state	37	82	(2)

With respect to the *impact on job creation*, we need to consider how many jobs, other than those comprising the Louvre's workforce, are created as a result of its activity. Here again we are faced with a complex calculation, since we need to determine the total payroll distributed as a result of direct and indirect effects, then we must specify an annual average salary in order to obtain the number of jobs created. The first step is similar to the one already mentioned above involving the definition of the income tax basis. The second step requires us to make an assumption as to the average annual salary in 2006. We used two different assumptions: €30,000 (average gross compensation of €2,500 per month) and €42,000 (average gross compensation of €3,500 per month). We thus obtain the following results:

- Assuming an average annual salary cost of €30,000, the number of jobs created varies from 13,625 (Option 3) to 21,225 (Option 2), with an intermediate determination of 17,325 (Option 1).
- Assuming an average annual salary cost of €42,000, the number of jobs created varies from 10,292 (Option 3) to 15,720 (Option 2), with an intermediate determination of 12,203 (Option 1).

If we set the number of jobs created against the cost of the least profitable variant for the French state, we note that the average cost of a job will be €1,191 assuming an average annual salary of €30,000 or €1,577 assuming an average annual salary of €42,000. It is quite apparent that these figures are considerably lower than the minimum average cost, in terms of state subsidies, required to create a single job (about €6,000 in 2006).

**Table 4: Economic impact of the Louvre in terms of employment**

TYPE OF EFFECT AND IMPACT	01 TIME SPENT	02 RELATIVE MOTIVATION	03 ESSENTIAL MOTIVATION
(1) Net direct effects of Louvre payroll expenditure	531	676	391
(2) VAT paid	86	114	58
(3) = (1) - (2) Base figure for the direct effect on employment	445	562	333
(4) Base figure for the indirect effect on employment	324	401	250
(5) = (3) + (4) Base figure for the total impact on employment	769	963	583
(6) 60% of the total base figure	461	578	350
(7) Number of jobs created if average annual salary (AAS) = 30,000 (= (6) ÷ 30,000)	15,366	19,266	11,666
(8) Number of jobs created if AAS = 42,000 (= (6) ÷ 42,000)	10,244	13,761	8,333
(9) Louvre workforce	1,959	1,959	1,959
(10) = (7) + (9) Employment impact if AAS = 30,000	17,325	21,225	13,625
(11) = (8) + (9) Employment impact if AAS = 42,000	12,203	15,720	10,292

## 6. Lessons drawn from this study

The Louvre's impact on the French economy varies from €936 million to €1.157 billion, depending on the option selected. Tax receipts for the French state range from €119 million to €203 million, which may result in a change in its financial position of between €37 million to €82 million, with a very restrictive assumption leading to a deficit of €2 million. The net number of jobs created varies from 10,292 under the most adverse scenario to 21,225 under the most favorable scenario. Lastly, if we look at the data in terms of averages, weighting the three options equally, we can conceive of the different types of impact as very favorable: *an impact of €938 million, a net tax gain of €39 million, between 12,738 and 18,090 jobs created*. The impact is therefore highly substantial in terms of public finances and employment, both of which play an essential role in current debates and sustainable development:

- The Louvre generates proceeds for the French state, in spite of the budgetary expenses (subsidies) and tax deductions (in consideration for sponsorship) it entails;
- The Louvre guarantees the existence of a significant number of jobs, at a very low cost for public finances at a time when employment is a major concern for political and economic agents.

These results are also highly significant when compared internationally. If we take the example of the New York museums, the comparison shows that the impact of the Louvre is at least twice that of each of these institutions. Furthermore, it is worth noting here that these analyses were carried out on an annual basis, omitting any expenses that might arise outside this context.

However, it is important to underscore that this impact is not in any way evidence of good management or good financial results. Of course these are not excluded, but neither the data under review nor the methodology allow for a conclusion of this type.

We can certainly say here that the Louvre's sizable impact is the result of the number of foreign visitors, which continues to increase steadily, as well as a number of specific historical or cultural factors that attenuate to some degree the applicability of the findings.

But it seems to us that important lessons may be drawn from the analysis presented here. The Louvre has access to material and immaterial assets that it may use to its advantage, among which may be noted its collections inspiring the development of databases and the publication of written works or the production of audiovisual materials; the know-how and expertise of its curators and specialists; and its galleries and other spaces whose strategic value hardly requires mentioning. For many years the full value of these assets was not appreciated, certainly for historical reasons, but also because the museum's management procedures, highly centralized with decision-making authority granted to structures outside the museum itself, did not really allow for such an appreciation.

Conversely, today we note that mobilizing the Louvre's assets is more easily accomplished and that it has very beneficial effects for the museum.

- It is more easily accomplished because the museum now enjoys a certain autonomy and is thus able not only to organize the mobilization of such assets but also to promote these activities through various means, including the promise of financial windfalls, image enhancement, heightened awareness of the value of its staff, etc. Through this study we have been able to demonstrate that this is to be seen as a rising trend. By way of example, the renegotiation of agreements for space rentals or concessions today allows for the generation of revenue that was not previously available and in all likelihood paves the way for the linkage of such revenue to activity growth and price increases.

- It is beneficial because the museum derives non-negligible financial returns from these activities and acquires the status of a provider of services on behalf of other museums, research organizations or any other type of public or private institution. Consequently, one of the lessons of this study is that the museum's resources are no longer as wedded to the problems raised by government subsidies as they were in the past—rising admission fees, a thorny path to tread when we know that these subsidies are declining and that there is definitely a threshold beyond which the price elasticity of visitor demand becomes negative. Hence there is now a third category of resources through which the museum, thanks to its greater autonomy, can leverage its scope of action.

Understandably, these new strategies also involve risks. The museum's traditional role is expanding and curators are taking on new responsibilities. This has caused apprehension in some quarters that the mobilization of these new sources of economic and social productivity may be to the detriment of long-standing experience and know-how. But it would be surprising if, in a society constantly arguing in favor of a greater role for the arts and artistic creativity, especially as a driver of social and economic development, museums were to be left out of this ongoing process, since they really ought to be at its very center. Learning new ways to welcome visitors, seeking out new audiences, participating in the development of new technologies and new products, improving the dissemination of artistic creativity, none of these phenomena may be considered as back-tracking but must instead be perceived as part of a desirable realignment of an institution whose aim has always been to enhance communication both within and between communities.

Be that as it may, the tools used for analysis must be suited to understanding and evaluating these new channels of communication. It is important to acknowledge here that if impact analysis can yield significant lessons, it does not allow us to fully grasp the qualitative and quantitative aspects of these transformations.

*Table 5: Summary of findings (in millions of euros or millions of jobs)*

	OPTION 1	OPTION 2	OPTION 3
Expenditure by the Louvre	175.00	175.00	175.00
Expenditure by visitors to the Louvre	391.25	534.96	250.20
Expenditure by co-publication and co-production partners: written works and audiovisual materials	1.75	1.75	1.75
Expenditure related to concessions	30.593	30.593	30.593
Expenditure related to space rentals	13.123	13.123	13.123
Expenditure related to filming	0.743	0.743	0.743
Total direct effect	611.46	756.16	471.40
Total indirect effect	324.07	400.76	249.84
Impact	936	1,157	721
Number of jobs created	12,203- 17,325	15,720- 21,225	10,292- 15,720
Total tax receipts for the French state	158	203	119
Net tax gain/(loss) for the French state	37	82	(2)

*Option 1: Time spent approach*

*Option 2: Relative motivation approach*

*Option 3: Essential motivation approach*