



Connecting cities
Building successes



jessicaforcities@regione.toscana.it

J4C

“JESSICA FOR CITIES” WORKING GROUP

GUIDELINES

FOR

ASSESSMENT AND CRITERIA FOR “JESSICABILITY” OF PROJECTS

AND

CASE STUDIES FOR THE APPLICATION OF “JESSICA” INSTRUMENT

This document has been drawn from the Preparatory Study of Jessica In Tuscany produced with the financial assistance of the European Union.

1 ASSESSMENT OF THE “JESSICABILITY” OF PROJECTS

1.1 General eligibility criteria

Identification of the “**Jessicability**” criteria of an urban development project consists in defining the features and characteristics that make a project eligible for financing under the JESSICA system.

The foundations of a system for assessing the Jessicability of projects consist in the features and demarcation criteria of JESSICA by comparison with other methods of funding similar projects.

Their main characteristics are described below:

1. JESSICA is an instrument for promoting and financing **integrated projects** as part of a wider strategy for sustainable development. Under Community regulations, the projects that can be financed in this way must be included **in an “integrated plan for sustainable urban development”**. In general, this means a system of interconnected measures designed to produce a permanent improvement in the economic, physical, social and environmental conditions of a city or quarter, but the regulations do not lay down mechanisms and criteria for drawing up or identifying such plans. The mechanisms and criteria are left to the discretion of the Member States and/or Managing Authorities. Within such a plan, individual projects are examined, evaluated and implemented according to the interconnection between them so as to produce synergies such that the results of the plan in its entirety are greater than the sum of those of the component projects.
2. The most significant innovation under the JESSICA system is that funding is **repayable**, thus allowing for the invested capital to be reimbursed as well as remunerated. Projects must meet general criteria of economic and financial sustainability, that is to say the ability, on the basis of the project’s cash flow, to repay and remunerate the debt and venture capital in accordance with the various expectations of investors. The Community regulations do not, however, state clearly the required level of remuneration: here too, the Member States and the Managing Authorities have considerable latitude to interpret the criterion of “repayability”. Support for an urban development project therefore falls outside the scope of grants, acquiring characteristics more similar to those of long-term investment.
3. JESSICA provides for the use of Urban Development Funds, an innovative instrument for funding and governing urban renewal projects. As well as being a receptacle for financial resources of both public and private origin, a UDF also facilitates the development of synergies in the management of urban regeneration projects, in that potentially it makes it possible:
 - a. to transfer, at minimum cost, best practice between the various projects financed by the Fund;

- b. to define minimum optimum standards for carrying out measures (rules for the investment project, ...);
 - c. to establish a system for content, methods and instruments to be transferred to the local territory;
 - d. to achieve efficiency, through the use of specialised managers directly responsible for the results of their actions, and transparency, owing to the governance and supervision criteria to which managers are normally subject in the management of projects.
4. The investments financed under a JESSICA project can have a significant leverage effect, especially in regard to the resources invested directly by the public authorities in UDFs.¹ A first leverage factor stems from the funding of projects via **public-private partnerships**, in which, other conditions being equal, an effective allocation of risks between the public and private sectors may lead to a reduction in the resources invested by the public authorities. A second leverage factor, which is also typical of partnership projects, consists in the use of **debt capital** to finance the project. The ability to service the debt is related directly to the project's cash flow, which guarantees its economic and financial sustainability.
5. The criteria for determining whether investments provided under Operational Programmes are eligible for JESSICA instruments are the same as those for the use of Structural Funds. They must therefore comply with Community legislation and take account of any specific national restrictions.² For example, in Italy and the EU-15 the residential housing sector is specifically considered ineligible under Community regulations.³ By way of illustration, measures may be taken in the following sectors:
- a. urban infrastructure: transport, water resources/waste water treatment, energy, etc.;
 - b. historical or cultural heritage, for tourist purposes or other sustainable uses;
 - c. conversion of abandoned industrial sites, including reclamation and decontamination work;
 - d. office space for small and medium-sized enterprises and for firms in sectors such as information technology and R&D;
 - e. university premises, including facilities for medical, biotechnology and other specialist activities;
 - f. improvements in energy efficiency.

Expenditure items that are not eligible may, however, be included in a broader, multisectoral urban project, provided that such non-eligible spending can be financed by the

¹ The Urban Development Fund is per se the main multiplier of public sector resources invested in urban regeneration projects, especially if the authorities have opted for the fund model based on venture capital.

² Under Community regulations, any further eligibility requirements for the use of the resources of Operational Programmes are left to the Member States.

³ Social housing is eligible for funding (subject to certain conditions) only in the twelve states that joined the Union after May 2004.

other public or private sources out of additional resources that are not derived from the Operational Programme.

The maximum extent up to which such multi-sector projects can be funded by an UDF is determined by the relative quota of the cost of eligible components out of the total project.

For instance, if 40% of the assets of an UDF is made up of resources coming from Structural Funds, we can define the maximum funding of multi-sector projects with different AIE quotas (% of assets invested in eligible sectors) by applying the formula $\% \text{ AIE} = 40/100 * y$, where y is the % of the cost of the project which may be financed by an UDF:

1. a project with a 20% AIE (requiring a 20% investment in eligible sectors, while the remaining assets are invested in ineligible sectors), may be funded by an UDF up to 50%; therefore, additional funding must be attracted from other public and private sources; while
2. a project whose AIE exceeds 40% can be totally funded by an UDF.

According to EU regulations, an Urban Development Fund must invest its assets in PPPs and urban projects exclusively through **loans, guarantees or “capital instruments”**. According to a recent interpretation of the matter by the EU Commission, “capital instruments” are to be meant as the acquisition of a shareholding. This provision is quite important, not only for the definition of the Funds’ architecture, but also in terms of investment strategies; indeed, where risk capital is used (“equity” model), such strategies will have to consider only the purchase of shares of the project’s instrumental means and/or PPPs, and not direct investments or strengthening actions targeting the real estate assets needed to enforce the project.

Therefore, to make a project eligible for Jessica funding means to structure the same within a system of adequate instruments for the implementation of the general strategy of Tuscany’s POR [Regional Operational Programme], including the fifth priority axis of said strategy, i.e. the strengthening of endogenous resources for sustainable local development. Indeed, Jessica would allow the Region:

1. to strengthen the promotion of integrated actions within a wide-ranging strategic framework which would have an impact on the entire territory;
2. to complement the planning activity through the professional management of a financial instrument, reinforcing the effect of public resources invested and allowing for the minimum size of investments to be satisfied;
3. to privilege, among the interventions of priority V, the investments that allow for the refund, and thus future re-use, of capital, thus helping the Region to support delicate regeneration processes in the long term;

4. to improve projects by means of a kind of governance that makes them “more social”, “more environmental” and more capable of creating value for the territory in the medium-long term;
5. to promote effective public-private partnerships;
6. to support social projects, including small ones at times, which can have a positive return, albeit lower than the market’s.

1.2 Matrix for evaluating urban regeneration projects

An attempt to devise a system for assessing the JESSICABILITY of urban regeneration projects calls for the construction of a standard matrix to show the salient features of the project being evaluated and facilitate the screening and creation of portfolios of projects suitable for JESSICA instruments. The evaluation method proposed in this document provides for the use of two matrices, the first qualitative and the second quantitative.

Qualitative matrix

The qualitative matrix aims to show the characteristics of the project regarding governance, the types of work and strategic role it occupies in the integrated plan for development and regeneration of the area and in optimising its competitiveness and attractiveness.

The qualitative variables are:

1. **The sector** which the project falls in (city infrastructures, historical heritage, energy efficiency, ...), highlighting eligible and non-eligible sectors included in the project.
2. **The project’s governance:** the governance system that has been chosen and, in the event of a partnership, the kind of partnership that may be adopted or that has been planned. The main schemes that can be found in the market are:
 - **privatization** through the sale of public assets to private operators;
 - the **assigned management** of a public infrastructure, where the private operator is fully liable for its maintenance and for eventual financial losses;
 - the assignment of building and managing services according to the **DBOT** (Design, Build, Operate, Transfer) or the **DFBOT** (Design, Finance, Build, Operate, Transfer) contractual models, where the private operator designs, builds, totally/partially funds and manages a public work that is assigned to the entity at the end of a contractual term (**PROJECT FINANCING**);
 - **mixed companies** (e.g. STUs – Urban Transformation Companies) where public and private operators jointly take part in the realization and management of works;
 - **(Operating or financial) leasing contracts**, where a private operator offers an infrastructure and takes care of its management and maintenance, gaining a profit

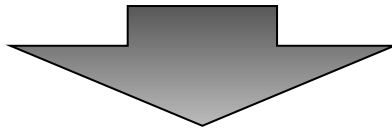
from the fees applied to its users (remunerative works) or from a rental paid by the entity itself (non-remunerative works), according to the kind of service;

- The **OMM** (Operation, Maintenance, Management) contract, where a public administrative office owns a given infrastructure and the operator simply manages it according to contractual standards.

3. **The (actual or potential) role of the project within an integrated urban development project** (including the **PIUSS** [Integrated Plans for Sustainable Urban Development] in Tuscany) covering a more extended urban area, thus stressing the inter-relationships and synergies with the global strategy for local development and with other plans included in the project.
4. The potential of the project to affect competitiveness gaps and disalignments amongst the different dimensions of the urban territory, contributing to the area's positive regeneration and increased appeal. For this kind of complex though essential evaluation, we may use the theoretical scheme illustrated in Chapter 1 "Urban Regeneration", **identifying which local dimensions – the environmental, the social and the economic one – are affected by the project in question, and whether the project, given its peculiarities and timing, will have a long-term effect on such dimensions**. According to the definition of such dimensions, introduced in the Chapter "Urban Regeneration", the institutional dimension should be included among the dimensions that define urban culture; this dimension is made up of public and private organizations that represent communities and groups of interest. Such a dimension, however, which is determined by a wide variety of factors and that may be substantially affected by 'external shocks' (immigration,), and that, conversely, is hardly affected by a single project, is usually capable of determining the characteristics of regeneration projects developed in city centres. Therefore, we will limit our analysis below to the environmental, social and economic dimension, which allow for the outcome of projects to be more easily assessed. Quite clearly, when evaluating the eligibility of a project for Jessica funds, we need to be able to rely beforehand on a detailed analysis of competitiveness and of the territorial system of the urban area where the project is to be carried out in order to fully appreciate this variable. We will then be able to evaluate, also by comparing the project with other projects affecting the same urban area, whether and up to what extent the project in question can increase the territory's appeal and affect the dimensions that most need to be developed.
5. A preliminary qualitative evaluation of the project in terms of its capacity to guarantee economic-financial sustainability and the profitability of the capital invested. Three kinds of projects may be identified:
 - **Hot Projects**: these are self-remunerative projects, i.e. they generate an income through management proceeds.

- **Lukewarm Projects:** partially remunerative works, where the fees applied cannot fully guarantee the project's economic-financial sustainability and profitability. In this case, the project's sustainability is guaranteed by a public contribution (capital and/or management grants) that is justified by the social relevance of the project, whose main goal is to incentive private operators to be part of a partnership.
- **Cold Projects:** socially relevant works which thus do not allow for the application of management fees, and are thus not remunerative. The project's sustainability and profitability is guaranteed only by public contributions and eventually by auxiliary, non-core services provided by private operators.

Yet, it should be pointed out that given payment mechanisms that can remunerate investors may be devised also for projects that do not generate an income through market transactions or the fees paid by users (e.g. through rentals paid to the private grantee by the public grantor). Moreover, compensating income flows may arise from the parallel provision of non-core services by private operators.



The qualitative analysis calls for an attentive evaluation of the widest range of characteristics and features of the project (governance, location, timeframe, impact on the social fabric, characteristics of buildings and infrastructure, effects on the main engines of competitiveness, etc.) in order to define not only the type of project but also to detail its impact on the territory and on the development strategy chosen by the governance bodies.

The qualitative variables considered are show in the following synoptic table.

Figure 1

Example of a qualitative matrix

QUALITATIVE MATRIX

Characteristics	Project 1	Project 2	Project 3	Project 4	Project 5
Type					
Sector of action					
Governance					
Positioning within the PIUSS					
Economic and financial sustainability					
Payment mechanisms					
Effects on dimensions of the territory					
Environmental					
Social					
Economic					

Once the project’s capacity to guarantee a certain level of financial sustainability has been ascertained, a preliminary, qualitative and in-depth assessment consists in positioning the project in the light of the other potential components of the Fund’s portfolio so as to stress its impact on the expected profitability of the portfolio and the potential for investment by the Fund (and thus also the kind of risk exposure). Table 1 shows a potential positioning matrix of projects in the light of two variables: the potential of a Jessica-like investment in the project, determined by the presence of eligible components, and the kind of project in the light of its expected profitability (cold, lukewarm or hot projects).

To identify the project’s position within the matrix allows us to define a preliminary strategy of investment for the UDF, evaluating, for instance, whether it is appropriate to invest in a hot project and use its profitability to make up for the lower remuneration of less profitable projects, or up to what extent adequate equity or financing instruments should be used, or estimating the necessary sunk capital grants to be attracted from public resources for cold or lukewarm projects. An integrated project strategy, with hot projects counter-balancing the profitability of more social projects, is an added value of Jessica, allowing for the activation of private skills and experiences with a greater capacity of development of the territory whilst reducing public expenses which can be channelled into colder projects.

Quantitative matrix

The quantitative matrix is a necessary complement to the qualitative criteria listed above. The criteria in the matrix consider the aspects of fundamental importance for the directly measurable and quantifiable evaluation, which focus in particular on the economic and financial sustainability of the project. The aim is to “quantify” and justify the definition of “hot”, “warm” and “cold” projects by measuring in detail the composition of sources of funding needed for the project to be financially sustainable. The quantitative matrix designed in this section may well be accompanied by an analysis of socio-economic performance, which sets a cost/benefit analysis of the project alongside an assessment of profitability.

The study focuses on the financial analysis of the project, since this is usually ignored to the benefit of indicators and of studies on the social impact of projects of public utility.

The quantitative variables are:

- **Timing**, with a chrono-programme of the implementation of the project and of its management period. Such timing, associated with qualitative evaluations on the impact of the project on the dimensions and competitiveness of the territory, allows us to evaluate the potential of the project to maintain its regeneration effect **both in the short and in the medium-long term**. An indicator that can be used to identify the kind of project is the calculation, whenever the dynamics of the cash flows allow therefor, of the “payback period”, i.e. the number of years within which the net cash flows of the project can “repay” the initial investment: the shorter the “payback period”, the earlier the investors will obtain a remuneration of their invested capital and the lower will be the economic risks they are exposed to.
- **Profitability**, this standing for the capacity to remunerate the capital invested, and thus to make investments within a **revolving** context. The profitability is calculated by means of appropriate indexes that are estimated in the light of the expected cash flows of the project, whose calculation method is illustrated in Section 1 “Quantitative Indexes”.
- The **financial sustainability**, associated with a positive profitability of the project, shows the possibility of covering eventual bank debts with the project’s cash flows, and thus of guaranteeing the solvency and success of the project, though also the possibility of attracting private capital and using the capital invested by the UDFs to the best. The sustainability indexes used in the evaluation matrix are illustrated in Section 1 “Quantitative Indexes”
- **Soundness**, standing for the capacity of the project to guarantee economic-financial sustainability and profitability also in the event of variations to market conditions and to the macro scenario, thus assessing sustainability in a dynamic context. The soundness of a project is ascertained by estimating the variations to its profitability and sustainability indexes in the event of changes to its main inputs and strategic variables. This estimate as to the variations to profitability and sustainability indexes allows us also to check the impact of the project on the diversification of the Fund’s project portfolio, identifying the presence

and impact of risk factors that are such as to affect the profitability of several projects, and thus pointing out the eventual need for greater diversification.

- **Financial Structure**, which identifies the relevance of each source covering the financial needs of a project. The main coverage sources are own funds, debt and mezzanine debt (mainly shareholders' debt). The financial structure has a substantial impact on the sustainability and profitability of a project, and is thus a fundamental lever that is used during planning to optimize the investment. However, Jessica paves the way for facilitated finance through capital or debt which, albeit confirming revolving logics, allows for the expected profitability rates of projects to be balanced, thus favouring the attraction of private resources.
- **Sunk capital grants**. The self-remuneration of invested capital in cold or lukewarm projects is guaranteed by sunk capital grants, usually made by the public entity during the building stage (as capital grants) or the management stage (as management grants). It is thus important to identify the expected amount of sunk capital which the implementing subject/entity of the project will benefit from.

Quantitative Index

The indexes used in this analysis refer to the method of evaluation of economic-financial sustainability that is typical of project financing, whereby a single investment project is sustainable when it can guarantee the remuneration of its financing sources by means exclusively of the cash flows generated by the project. Therefore, the mere or prevalent guarantee of project sustainability is its profitability. This method is ideal for the purpose of evaluating the sustainability and investment appeal of urban regeneration projects for an urban development fund, in that the “revolving” capacity of the eventual investment may be ascertained *ex ante*, and estimates can be made as to the risk factors that may change cash flows. There are two main kinds of indexes: profitability indexes and financial sustainability indexes (cover ratio).

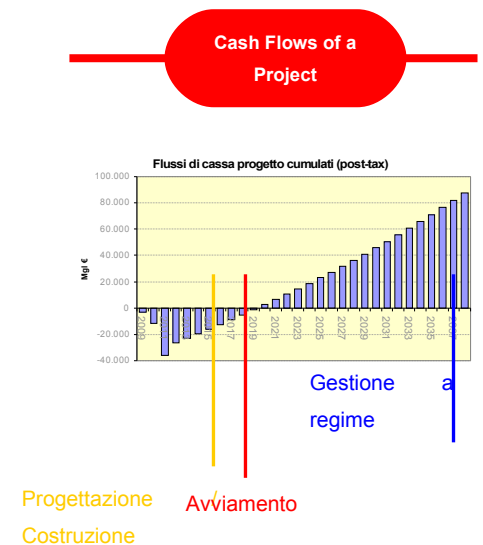
Profitability indexes. These indexes calculate the net cash flows created by the project and the inflows that are received directly by shareholders; the latter represent a first index of sustainability in that they show whether there are any residual resources, net of the flows for the debt service, that can remunerate the capital invested by shareholders. Therefore, a positive profitability for shareholders implies also the capacity of the project to fully repay the debt capital.

NPV. The Net Present Value of cash flows calculates the incremental value generated by the project or, conversely, the value destroyed thereby. To calculate the project’s NPV, you need to sum up the expected operating cash flows (including the outflows for the initial investment), as discounted to the weighted average cost of capital⁴. The NPV for shareholders (NPVe), is calculated by summing up the cash flows that are given and received by shareholders, as discounted to the average cost of own capital⁵. A positive NPV shows that the project has generated wealth that will be distributed among the suppliers of financing capital; a positive NPVe shows a positive profitability of the project with respect to the opportunity cost of capital in the market.

Figure 2

⁴ The weighted average cost of capital (WACC) is calculated by means of the weighted addition between the cost of debt capital K_d and of risk capital (or own capital) K_e used to finance the project.

⁵ K_e is estimated by using the method *Capital Asset Pricing Model* (CAPM).



The typical cash flows of an investment project include initial outflows due to financing and to the operating start-up, and returns collected during the management of the project.

Formula 1

NPV

$$VAN = \sum_{t=1}^n \frac{FCFO_t}{(1+K_o)^t} - T_0$$

[VAN=NPV]

T_0 – initial investment in $t=0$

$FCFO$ – Operating cash flows

K_o – Weighted average cost of capital

$$VAN_e = \sum_{t=1}^n \frac{D_t}{(1+K_e)^t} - I_0$$

[VANe= NPVe]

I_0 – initial investment

D – dividends collected

K_e – Cost of own capital

The NPV thus shows whether the project is interesting for the market's private investors: much attention should be paid thereto when evaluating projects that are eligible for Jessica funds, since the profit expectations of UDF investors may be diversified: they might be lower than market ones for specific kinds of investors, or in line with market levels for others. In this case, we should also consider the effect that equity and facilitated financing means may have on profitability, these being potentially used to guarantee a return to each investor that is in line with his expectations and with his risk propensity.

IRR [Internal Rate of Return]. The IRR is the discount rate that, in present value terms, equals the expected future cash flows of a project with the initial cash outflows needed to start up the project; it is thus the discount rate that makes the present net value of cash flows null, and that expresses the intrinsic fruitfulness of a given financial distribution.

The shareholders' IRR is the rate that equals the value of their expected benefits arising from the investment (dividends) with the negative flows (the value of their investment). The IRR allows for a direct evaluation of a project's profitability, so that investors can check whether this matches their own expectations in terms of dividends; conversely, the Fund can appreciate the sustainability of the means and the incentive of the promoters to finance the project.

Cover Ratio. Cover ratios allow us to evaluate the sustainability of the financial structure that has been chosen, expressing the level of coherence between the project's industrial flows and the flows of the financial structure.

DSCR. The Debt Service Cover Ratio, for each year of operating management of the project, is the cover ratio of the debt service, amounting to the ratio between the project's operating cash flows and the instalment for loan payment (capital+interests). In particular, the DSCR is used by Banks as an index of solvency in project financing. The condition whereby said index must be higher than 1 guarantees that the project will generate net cash flows that will be sufficient to repay lenders.

LLCR. The Loan Life Cover Ratio is the cover ratio referred to the expiry of the debt, and is equal to the ratio between the total expected operating cash flows, discounted for the period running between the time of calculation and the last year of loan payment, and the residual debt in the same period. A LLCR higher than 1 shows a surplus for shareholders should they decide to liquidate the project at the time of such calculation.

Formula 2

IRR

$$\sum_{t=1}^n \frac{FCFO_t}{(1+TIR_o)^t} = 0$$

[TIR= IRR]

IRRo = IRR of the project

$$\sum_{t=1}^M C_t (1+TIR_e)^{-t} = \sum_{t=0}^n D_t (1+TIR_e)^{-t}$$

[TIRe= IRRe]

IRRe = IRR shareholders

M = last year of equity conferment

Ct = quantity of own capital conferred in t

D = dividend

n = duration of the project

Formula 3

DSCR

$$DSCR_t = \frac{FCFO_t}{(I_t + C_t)}$$

It = quota of interests to be repaid at time t

Ct = quota of capital to be repaid at time t

Formula 5.4

LLCR

$$LLCR_t = \frac{\sum_{t=1}^m \frac{FCFO_t}{(1+WACC)^t}}{D}$$

m = number of periods which financing is split into

INTERPRETING NOTES – SECTION 1

Section 1 reports the main quantitative indexes used in project financing to evaluate the profitability and financial sustainability of projects. When applying this evaluation system to the cash flows of an urban regeneration project launched by a Municipality or by a public entity, these indexes show both the revolving nature of any kind of capital invested in the project and the appeal of the project for eventual private investors or third party investors interested in the remuneration of the capital invested.

To apply this evaluation system to the projects launched by public entities, to be developed in partnership, allows us to:

- structure and present an interesting project for private investors (in terms of IRR and expected NPV) that is capable of financing itself, relying exclusively on its own proceeds, also by means of debt capital, and thus generating an overall lever action that increases its overall profitability and reduces the total investment required from the promoting public entities.
- Where the project's profitability is not such as to meet the expectations of private investors, this evaluation system allows us to identify the need for *ad hoc* financial instruments - debt or equity at facilitated rates, to be found also in the Jessica system – to make the project financially sustainable.
- In any event, the system allows us to highlight the expected, marginal contribution of the project to the budget of the promoting public entity.

The quantitative variables considered are shown in Figure 3.

Figure 3

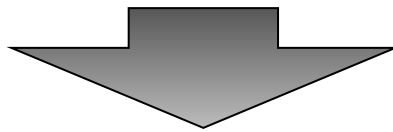
Example of a
quantitative
matrix

QUANTITATIVE MATRIX

Characteristics	Project 1	Project 2	Project 3	Project 4	Project 5
Timeframe					
Planning					
Construction					
Management					
Payback period					
Financial structure					
Own funds					
%					
amount					
Debt					
%					
amount					
Mezzanine					
%					
amount					
Profitability					
NPV for project					
IRR for project					
NPV for shareholders					
IRR for shareholders					
Sustainability					
Average DSCR					
LLCR					
Grants					
Capital grants					
Management grants					

It is clear that in order to carry out an in-depth quantitative analysis it is first necessary to perform specific planning tasks, especially from the perspective of the economic and financial dimensions of the project. Specifically, the definition of indicators of sustainability and profitability necessitates estimating the project's expected cash flow. This is calculated after drawing up a forecast budget for the project at current cost, consisting of the balance sheet, profit and loss account and financial statement, and differs from flows of funds on an accruals accounting basis.

Once such preliminary planning has been carried out, it is possible to identify the indicators and quantitative data needed to assess the Jessicability of the investment project. If the project is still at the planning stage, the assessment of Jessicability makes it possible to determine not only whether the project is Jessicable but also the conditions for it to become so or which characteristics can be optimised; in this way the assessment of Jessicability may constitute a further stage of planning or a deepening of such planning, which also makes it possible to show which variables and which leverage can be adjusted in order to make the project eligible for funding by an urban development fund.



The quantitative analysis calls for the carrying out of specific and sophisticated analyses of economic and financial planning, which make it possible to estimate the sustainability and profitability of the project. Such analyses are particularly effective if carried out at the planning stage, as they also make it possible to show which variables can be adjusted to improve the Jessicability of the project. The analysis typically uses profitability indices (NPV - IRR) and sustainability indices (DSCR - LLCR).

1.3 “Jessicability” criteria

The next step in the construction of a matrix of qualitative and quantitative characteristics for assessing the Jessicability of a project is to identify the Jessicability criteria for checking whether an urban development project can or cannot be financed by an urban development fund and the conditions on which it could become eligible.

Three types of criterion emerge:

1. Criteria concerning the **structure** of the project: they relate to the procedures and governance conditions that enable the project to be financed by a UDF and derive directly from the architecture and objectives of the JESSICA system.
2. Criteria concerning the **objectives** of the project: aimed at checking that the objectives and characteristics of the project are consistent with the requirements of regeneration and development of the urban area in which the project will be carried out. This assessment is therefore aimed at ensuring that the UDFs' funds are targeted exclusively at projects that foster sustainable growth in urban areas, to the direct benefit of all of its inhabitants.
3. Criteria concerning the **economic and financial** complexion of the project: projects must be financed on a revolving basis and also make it possible to remunerate the resources invested in the UDFs. Hence an assessment of the revolving nature and expected profitability of the investments is required.

Structural criteria:

- a) A project is considered Jessicable only **if it is included in an integrated plan for urban development** – for example in Tuscany, in PIUSS.
- b) A project is considered Jessicable **if it can be financed by means of a form of public-private partnership or, if other methods are used, if the projects financed can guarantee repayment of the capital**. Partnership operations are considered optimum if the funding of their implementation (planning and construction) is entrusted to a vehicle financed in turn by the UDF if it is decided to finance the projects with venture capital – the equity model – mainly through the purchase of capital shares. Remuneration of the investment derives from the right to proceeds from management of the asset for a set period of time. It follows that, of the various forms of partnership:
 - **project financing, mixed companies** (urban renewal companies) are optimal for the JESSICA system in that they make it possible to entrust financing of the works and the governance of projects to vehicles whose capital shares can be freely bought and sold by the UDFs;
 - **the award of a management or OMM contract** calls for the involvement of specialised managers rather than financiers, so that they are not considered appropriate for the JESSICA system;
 - **finance leasing** is an alternative partnership method to direct borrowing, under which the bank, instead of granting a loan to the public authorities, finances the construction of the public works in exchange for rent from the public body. This is not an optimum form of partnership for the JESSICA system, but it is feasible that UDFs could also pursue strategies of acquiring such debt instruments directly from banks if such transactions generated value for the public and private partners and for the stakeholders of the projects being financed.

- c) Alternatively, the non-equity model provides that projects may be financed using debt capital (probably at concessional interest rates). In this model the UDF takes the form of a revolving fund.
- d) According to the current eligibility criteria under the regulations for the Structural Funds, projects that focus exclusively on the residential construction sector are not eligible in Italy. However, multisectoral projects including some eligible sectors as well as residential construction are JESSICABLE.
- e) Under Commission regulations on Urban Development Funds, such funds may not invest directly in real estate and then reclassify them and manage urban regeneration projects.

Criteria relating to objectives:

- a) A project is considered JESSICABLE only if its configuration allows it to take action to correct misalignments between the dimensions of the urban area in which it operates, and hence if **its objective is to increase the competitiveness and attractiveness of the urban area** by acting on the more critical variables affecting the area's development and sustainable growth. In order to establish whether the configuration of an urban development project meets this criterion, a detailed qualitative analysis of the project must be carried out to assess its impact on the variables determining the sustainable development of the urban area. Such an analysis is not sufficient in itself, since it is essential to make a specific analysis of the competitiveness of the territory as well, indicating the dimensions on which attention should be focused and the needs and drivers of the territory's development.
- b) A project is considered JESSICABLE **if it contributes to raising the competitiveness and attractiveness of the urban area over the long term**. In that sense the consistency of the project with the principles of sustainable development depends on the durability of its impact, which must be maintained over time. It is therefore necessary to assess whether the effects of the project are sufficiently lasting for the planned objectives to be achieved, and also to assess the impact of any exit strategy the UDF may have in case it considers it appropriate to withdraw from some projects before their effects on urban transformation have fully unfolded. In order to maintain equilibrium between the dimensions of urban regeneration it is also necessary to assess the efficiency and governance of the vehicle adopted to manage the project: if governance is efficient, the vehicle will be able to tackle misalignments in the equilibrium between the various urban dimensions even if exogenous shocks occur, keeping the development of the project consistent with its initial objectives.

Economic and financial criteria:

- a) A project is considered JESSICABLE **if it can achieve a certain level of self-sufficiency, ensuring the revolving nature of the invested capital**. It follows that the project must display the following characteristics:

- the Internal Rate of Return from its cash flow must normally be positive or at least in line with the expectations of the investors, including the Managing Authority, and in accordance with the Funding Agreement between the Fund and the MA;
- its average DSCR must be above unity (in the case of projects under project financing arrangements, the minimum DSCR required is normally 1.3⁶ in each management period);
- its IRR and NPV for shareholders must meet the minimum target demanded by investors in the Fund;
- assuming that the conditions set out above remain unchanged and that the project meets its objectives of socio-economic effectiveness, its financial structure must be such as to minimise the payment of public grants;
- assuming that the conditions set out above remain unchanged, the project's risk must be within the maximum limits foreseen by investors in the Fund. This criterion can be checked by assessing the risks revealed by an analysis of its robustness, in terms of expected variations in the remuneration of the project, to changes in variables (prices, inflation, demand, interest rates, etc.).

As has already been shown, the assessment of the JESSICability of an investment must be made before detailed preliminary planning begins and may provide further opportunity to configure and optimise the project. However, project design itself is a necessary condition for including a project in an PIUSS under the configuration laid down by the Regional Government of Tuscany, which requires all the characteristics of the project to be integrated consistently with the strategy for regional planning and development of the territory in question and the project's economic and financial viability to be assessed in advance. The inclusion of a project in the PIUSS therefore gives sound reason for considering the projects as candidates for investment by JESSICA-type instruments.

⁶ A figure of at least 1.3 is usually demanded by banks as a requirement for projects carried out under project financing arrangements.

2 ANALYSIS OF PILOT PROJECTS

As a necessary complement to the system established in this study for assessing urban regeneration projects, this chapter describes a number of pilot projects from the past, the features of which serve to show how the project in question “would have been” if it had been funded using the JESSICA model.

The two projects examined are from projects that were actually financed and developed in the Region of Tuscany under the Documento Unico di Programmazione (DOCUP, Unified Planning Document) 2000-2006.

The reworking of the projects faithfully follows the two possible JESSICA development models: the equity model, which provides for the projects to be funded by acquiring shares in the management companies even at low rates of return (in any case below those expected by the market), and the non-equity model, which provides for them to be funded by means of debt, possibly at concessional below-market rates.

2.1 Hydro-electric power plant in the Province of Massa

The project, which was financed and implemented in 2003, consists in the restoration of the hydro-electric power plant attached to the spinning mill in Forno, close to the city of Massa, in order to create an eco-energy centre attached to the Parco delle Apuane (Regional Park of the Apuan Alps). Although the primary objective of the project is to enhance the park’s tourist services by creating an equipped visitor centre, it also intersects with environmental issues to do with the conservation and sustainable use of the natural heritage of the area and economic issues associated with the search for renewable energy sources.

The technical aspects of the project, in its original configuration, are as follows:

- the project is managed and governed by the Municipality of Massa, which owns the premises and benefits directly from the scheme;
- the overall investment amounts to about EUR 1 million, of which around 25% is covered by a grant and the remained financed by the Municipality of Massa as manager;
- the project provides for construction to take one year and management to last for 25 years;
- the project’s receipts stem from the sale of electricity and its expenditure consists of all fixed and variable management costs associated with electricity generation. Given the healthy flow of revenues in relation to costs, the project’s IRR works out at 12%, with a grant of 25% of the investment amount;
- in summary, given the project’s ability to cover its costs and pay a return on the initial investment, the total grant resources invested by the public authorities equal EUR 0.25 million.

2.1.1 Reworking of the project for JESSICA: equity model

Configuration of the project under the JESSICA system requires three fundamental steps:

1. the formation of a mixed (public-private) company to act as an operational vehicle by the scheme's promoters and beneficiaries (in this case the Municipality of Massa), which will be responsible for management and implementation of the project;
2. the purchase of shares in the vehicle company by institutional investors and the Urban Development Fund in order to finance implementation of the project, thereby distributing portions of risk and reward among the public and private actors;
3. the possible involvement, as shareholders in the vehicle, of specialised bodies with proven experience in the management of hydro-electric power plants or at least from the energy generation sector.

The new configuration for governance of the project has significant consequences, both on the management level and from the economic and financial point of view.

Managerial consequences:

- clear separation between the main beneficiary/promoter of the project, the Municipality of Massa, and the manager, the vehicle company;
- delegation of management of the project to a body concentrating exclusively on that task and possessing the highest level of specialisation and specific expertise in the sector in question;
- maintenance of control of the impact of the project on the various dimensions of the territory by the Municipality (promoter), which holds shares in the vehicle and may prescribe particular governance powers when the vehicle is formed (see regulations on mixed companies);
- consequently, allocation of management risk entirely to the vehicle company, which must be structured in such a way that it can adequately support that risk;
- where appropriate, the possibility of introducing greater transparency in the management of the project by identifying all income and expenditure flows relating to the activities of the vehicle company.

Economic and financial consequences:

- purchase of shares in the company by the UDF by means of equity investment, on which the required return is below market rates. In this way it is possible, for the same income flows, to increase the expected return for the remaining investors and to reduce the risk they bear on their investment in the vehicle company.

- The vehicle company is able to borrow without burdening the budget of the Municipality of Massa, thus making it possible to further optimise the profitability of the project for investors.
- Increase in the desirability of the project to private investors attracted by the forecast profitability of the investment.
- At the same time, the possibility of reducing the Municipality's financial exposure towards the project by reducing its share of the necessary investment and thus its risks and by leveraging the resources invested directly by the authorities.

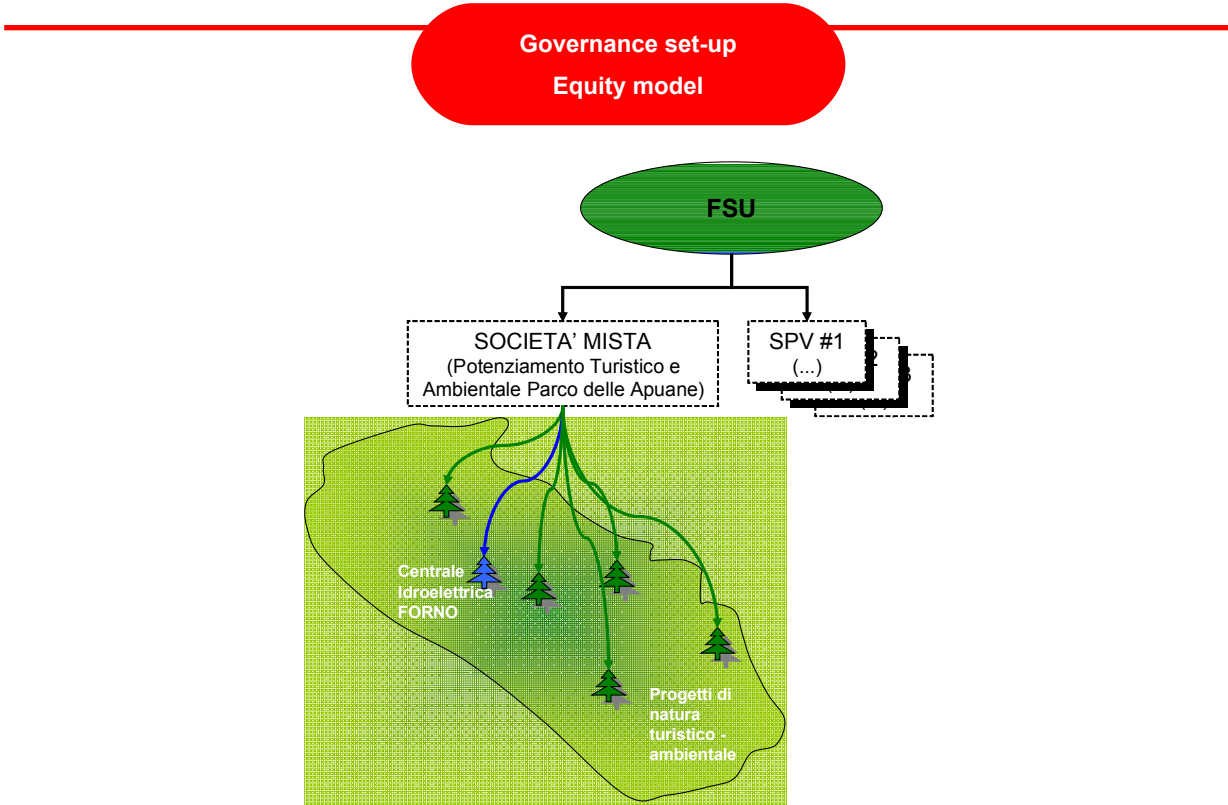
On that premise, the institutional and financial structure of the project can be determined by making a theoretical analysis based on the forecast pattern of cash flow and the form of governance considered optimum.

The analysis is subdivided into qualitative and quantitative analyses along the lines described in the preceding chapters.

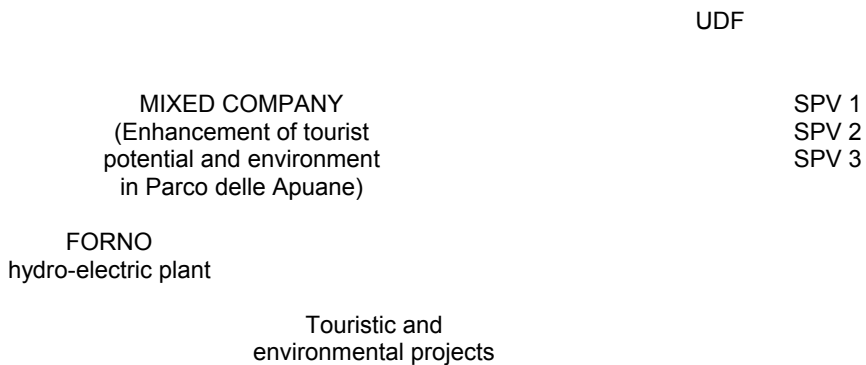
Qualitative analysis

At the **governance** level the project is managed by a mixed company with a remit to govern and manage the initiative, thus ensuring its sustainability. The company may be appointed to finance and manage several projects to boost the supply of tourist services in the Province of Massa or within the Parco delle Apuane. In that case, the mandate and social purpose of the vehicle extend beyond the efficient and effective management of a hydro-electric power plant or energy generation in general and **focus on improving the provision of tourist services in the Park with a view to environmental and economic sustainability**. In this way, thanks to the fact that several projects are being managed by the same body, it is possible to "amortise" the vehicle's fixed management costs by apportioning them "pro rata among the various projects"; in addition, benefits may derive from cross-subsidising between projects offering higher returns and "colder" projects with more strongly social objectives. Figure 1 shows a simple summarised portrayal of the governance of the project and the initiatives that may potentially be included in the management of the mixed company.

Figure 1



INSERT TRANSLATION INTO ABOVE DIAGRAM:



Quantitative analysis

The quantitative analysis of the project is shaped by the analysis of forecast cash flows, which determine the profitability of the project and make it possible to define the optimum financial structure for shareholders in the vehicle company with responsibility for governing the project.

The pattern of cash flows for the project in question is shown in Diagram 1; note that after the launch year, when income is sufficient to cover only management costs, there are seven years of substantial and increasing income which settle at a constant level from the eighth year of management onwards.

Diagram 1

Expected cash flow and
electricity prices

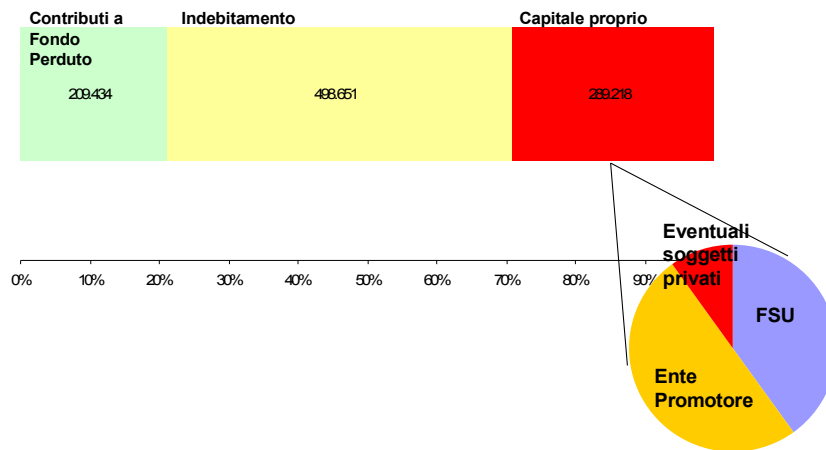
INSERT TRANSLATION:

Net cash flow of the project

Diagram 2 portrays the envisaged financial structure for the project.

Diagram 2

Possible financial structure
under the JESSICA system



INSERT TRANSLATION INTO ABOVE DIAGRAM:

Grants	Borrowing	Own funds	
209,434	498,651	289,218	
			Possible private entities
			UDF
			Promoter

The new financial structure of the project has a significant effect on profitability, leading to the following results:

- IRR of the project 10.00%, associated with an NPV of EUR 116,681 (on an investment of EUR 807,869)
- IRR for shareholders, determined from distributed dividends, of 17.00%, associated with an NPV of EUR 97,405 (on an investment of EUR 185,530)
- IRR for the UDF is 7%, set as the maximum yield attainable.⁷

The quantitative analysis of the project shows that in the JESSICA configuration, with different governance arrangements that call for particular attention when planning and designing the institutions of the project, investors in the project may receive higher net remuneration than that provided in the previous configuration.

Moreover, in the configuration proposed in Diagram 2, in which it is assumed that the public promoter acquires half of the shares in the special-purpose vehicle, the public body is able to generate a **leverage effect, such that each euro invested by the promoter “generates” the investment of 5.9 euros in the project by other financial entities (the UDF, banks, private shareholders, etc.).**

Use of the resources of the UDF, with an expected yield below market rates and a medium-to-long-term investment period, ensures the financial sustainability of the project for a lower amount of grants: **the original project provided for grants of around EUR 250,000, compared with EUR 209,000 if the JESSICA system were applied, a reduction of 16%.** The saved resources, for the same financial sustainability, can also be invested in the project by the public entity in order to make it “more social” or to integrate it with other parallel “cold” projects able to increase the scheme’s overall impact on the territory. In other words, JESSICA may facilitate not so much a reduction in the public resources invested but rather a more efficient use of them, by maximising the value created to enhance the competitiveness of the urban area.

As well as these financial benefits, the JESSICA system brings other advantages in the governance of the projects by generating the following effects on the project under examination as a result of interaction between the various projects:

1. the objectives of shareholders and the balance of power within the mixed corporate structure create an incentive for management of the project to be efficient (sustainability and profitability) and effective (attainment of social and environmental objectives) **throughout its duration;**
2. the use of revolving resources facilitates the financial support of development projects and at the same time remuneration of the capital over the medium-to-long term, albeit at capped yields;

⁷ As a counterpart to the lower return than that received by other shareholders, the UDF could be given the right to be paid ahead of other shareholders by issuing preference shares subject to a maximum yield.

3. the optimisation of the public resources makes it possible to channel the public contribution towards “colder” initiatives, thus for the same level of sustainability augmenting the economic and social impact of the scheme as a whole. The resources released can therefore be used to **“improve” the environmental and social characteristics** of the operation.

JESSICA may therefore produce an overall improvement, both in terms of the economic and financial characteristics and in the social and environmental dimensions and in the duration of the urban regeneration projects.

2.2 Expansion of the industrial estate at Montopoli in Valdarno

The second project analysed consists in the expansion of the industrial estate at Montopoli in Valdarno to meet new demand that exceeds the capacity of the existing estate and to permit industrial activities located in mixed zones to move to a “specialised” area. A further objective of expanding the area for industrial usage is to meet demand from firms wishing to transfer from premises outside the territory of the municipality.

The technical features of the project are as follows:

- the project is managed by the Municipality of Monopoli in Valdarno, which owns the area and is the direct beneficiary of the scheme;
- the overall investment amounts to about EUR 2.67 million, of which 72% is financed by a grant (split between DOCUP contributions and financing under the Territorial Pact of the Province of Pisa) and the remainder is provided by the Municipality of Montopoli as manager;
- the project is expected to take three years to complete and to be managed for 24 years;
- the receipts derive from the sale of lots with utilities connected (in the third year of construction and the first under management), while expenditure comprises all fixed and variable management costs, primarily costs to be borne by the manager even after the sale of lots (ordinary maintenance, etc.). Given the high level of grants, the IRR of the project is 27%.
- In summary, given the project’s capacity to cover its costs and pay a return on the initial investment, the total grant resources invested by public bodies at all levels (regional, national, European) amounts to EUR 1.9 million.
- The investment is eligible for ERDF funds for 56% of the invested capital (about EUR 1.4 million).

2.2.1 *Reworking of the project for JESSICA: non-equity model*

The JESSICA system can assist with raising the finance not covered by grants, which in the baseline configuration is borne entirely by the municipal promoter and manager. Using a non-equity structure under the JESSICA system, it is possible to fund the project by means of concessional debt.

The configuration of the project in a Jessicable style provides for the following procedural steps:

1. the promoters and beneficiaries (in this case the Municipality of Montopoli) form an urban renewal company (Società di Trasformazione Urbana, STU) to act as vehicle for the operation and to be responsible for managing and implementing the project;

2. The municipality cedes ownership of the areas to the STU in exchange for shares;
3. The STU is funded by concessional debt capital provided by the UDF, established as a revolving fund in accordance with the non-equity model described above;
4. shares in the STU may possibly be sold to institutional investors or qualified bodies, thereby spreading risk and profits among public and private entities.

The new configuration for governance of the project has significant consequences, both on the management level and from the economic and financial point of view.

Managerial consequences:

- clear separation between the main promoter of the project, the Municipality of Montopoli, and the manager, the STU;
- delegation of management of the project to a body concentrating exclusively on that task;
- maintenance of control of the impact of the project on the various dimensions of the territory by the Municipality (promoter), which may in any case maintain a majority shareholding in the vehicle for the operation;
- consequently, allocation of the real estate risk entirely to the STU, which must be structured in such a way that it can adequately support that risk.

Economic and financial consequences:

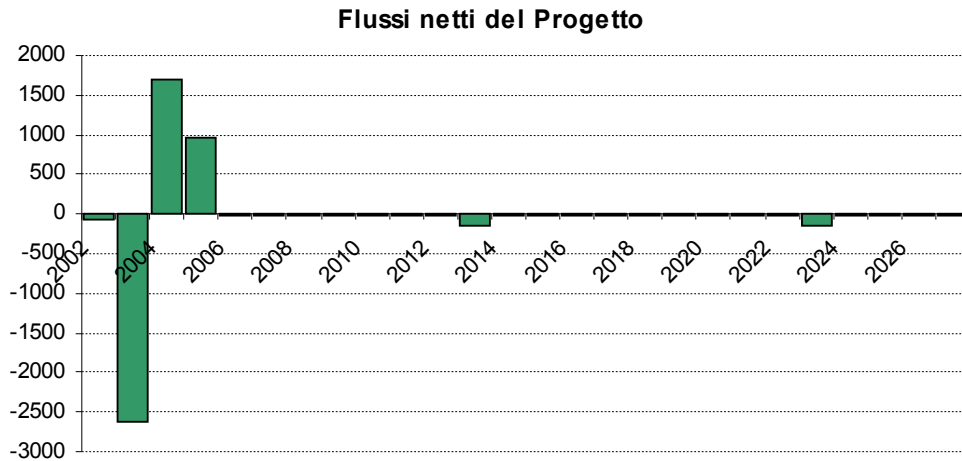
- The STU is able to borrow without burdening the budget of the Municipality of Montopoli, thus making it possible to finance the project with debt capital and minimise the resources allocated to fund the project.
- The STU can have access to concessional finance granted by the UDF in the JESSICA non-equity model.
- The project promoter benefits from a significant leverage effect even if conditions in the capital market are particularly unfavourable.
- It is possible to involve private investors attracted by the forecast profitability of the investment in order to reduce and further optimise the municipality's exposure to the risks that the project entails.

From the financial point of view, the cash flow for the project is shown in Diagram 3.

Diagram 3

Expected cash flow

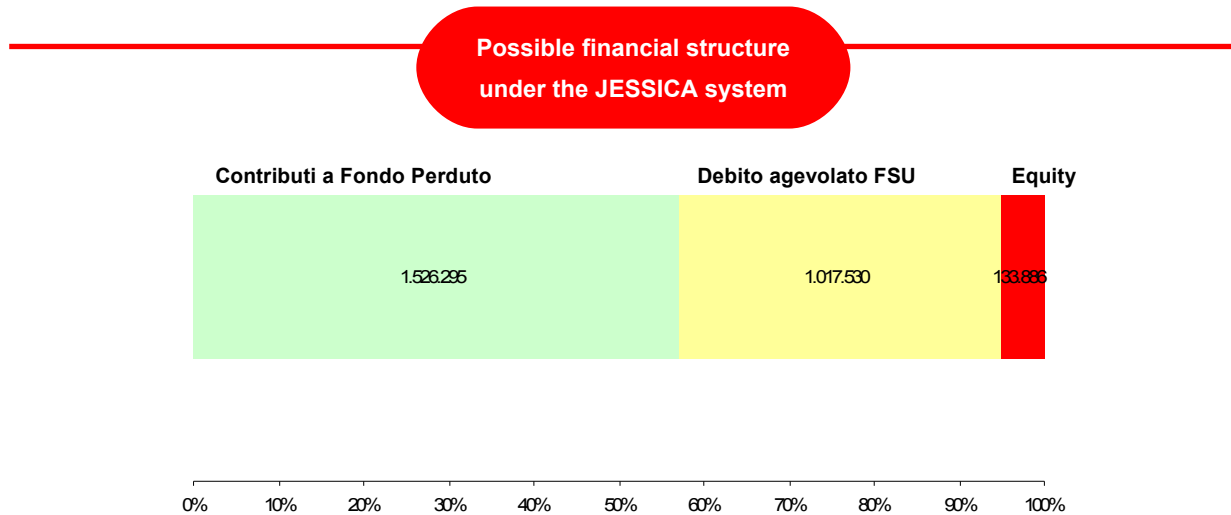
Net cash flow of the project



Note that the positive cash flow is concentrated in the first two years of management, during which the sale of the lots is expected to take place, and that subsequently there are only costs for maintenance and activities for which the municipality is responsible in the areas involved. In the configuration presented in this study, these costs fall on the STU, however, as the vehicle for managing the project.

Refashioning the project in the JESSICA mould entails far-reaching changes in the financial structure, which is modified by introducing concessional-rate debt constituting the UDF's investment in the project. The new financial structure is shown in Diagram 4:

Diagram 4



INSERT TRANSLATION INTO ABOVE DIAGRAM:

Grants	Concessional UDF debt	Equity
1,526,295	1,017,530	133,886

In contrast to the preceding case, although the project for the industrial area in Montopoli remodelled as a Jessicable scheme generates substantial profits for shareholders, it does not manage to exceed the high cash flow of the project in its original configuration, for two reasons:

1. the significant reduction in the grant which the project received;
2. the burden of fiscal charges and management costs on the vehicle charged with overseeing the operation.

Nevertheless, the profitability of the JESSICA version of the project is positive and attractive to the market, despite a 21% reduction in grants.

The conclusions appertaining to the preceding case study therefore also apply to this project; the JESSICA effects operate in parallel on the two “legs” of economic and financial sustainability and governance that support the development of the project:

1. optimisation of the local public resources makes it possible to increase the proportion channelled over time to urban regeneration projects affecting the environmental, social and economic dimensions of the territory;
2. the system of governance creates an incentive for management that is efficient, in order to meet the financiers’ objectives in terms of remuneration, and effective, in order to attain the project’s objectives as regards the dimensions of the territory.

2.3 Conclusions on the analysis of pilot projects

The following findings of the analysis of the projects for the hydro-electric power plant in Massa and the industrial estate in Montopoli can be highlighted:

1. Assuming prices and costs to be the same as forecast in the DOCUP 2000/2006 (and hence reflecting the social objectives that justified the payment of public grants), adapting the projects for the JESSICA system makes it possible to obtain higher returns for the project managers and to improve the attractiveness for private and institutional investors. The main factors responsible for this outcome are:
 - a. the possibility of drawing on concessional finance from the UDFs under the JESSICA equity and non-equity models;
 - b. the leverage created by the good profitability from the cash flow of the projects in their original configuration.
2. Configuring the projects to suit the JESSICA system means that profitability is positive and at the same time it is possible greatly to reduce the grants needed to ensure financial sustainability.
3. Optimising the use of public resources makes a greater volume of funds available, which can be invested either as revolving finance or as grants. In other words, the more efficient use and control of resources possible under the JESSICA system makes it possible to increase the value of grants available to the public authority, without affecting sustainability.
4. The surplus resources released by the projects in the Jessicable configuration can be reinvested in other projects, thereby multiplying the development projects in the territory, or held as an investment reserve in the project in question in order to improve its environmental and social attributes.
5. With revolving investment, the resources are returned at the end of the project or at the time of repayment. This makes it possible to finance other projects in future, perhaps similar ones, thus extending the effective duration of the original project. Furthermore, since the UDF is a long-term investor receiving a capped return, the economic and social effects of the invested capital can unfold over a far longer period than the short-term horizon typical of market investors.
6. The availability of resources at competitive cost for long periods should stimulate competition in the market between the development projects in the area, such as those examined here. In this context, the UDF would act as a catalyst, investing its resources in the “best” projects that can strike the most efficient and effective balance between financial sustainability and the ability to affect urban competitiveness.
7. The projects examined have a high gross self-financing margin, in other words a capacity to repay at least part of the cost of finance out of cash flow: projects of this sort are perfect candidates to become Jessicable and hence to enjoy the benefits of the ad hoc financial

instruments envisaged in the JESSICA system, unlike projects that do not provide for any form of remuneration of the invested capital.

8. The projects reconfigured for the JESSICA system provide for separation between the public promoter and the project manager, which is nevertheless controlled by the promoter. This solution has merits in terms of transparency, specialisation and financial optimisation, as described in previous chapters, but it requires careful and detailed planning and ex ante evaluation during the preparatory stage of the project.
9. The new system of project governance, typified by the entry of managers and the UDF as new shareholders and by the use of debt at market or concessional rates to support the funding of the project, generates a strong incentive for efficient and effective management of the projects:
 - a. efficient in attaining the shareholders' remuneration objectives;
 - b. effective in attaining the social, environmental and economic objectives on which the award of funding from the UDF and grants from the public bodies involved depends;
 - c. the UDF's ability to monitor and steer operations towards the creation of value for the area.
10. The system of governance of the projects configured for the JESSICA system facilitates the integrated management of the projects because it requires projects with similar content and/or objectives to be managed by the same body. In this way it is possible to manage urban regeneration processes that are integrated functionally and in economic and financial terms.

The effect of JESSICA in the projects analysed is to introduce a new system for the comprehensive and integrated management of projects, which aims, through the use of funding and governance techniques configured to suit the project, to ensure the sustainability of urban regeneration projects, extending their duration and social, environmental and economic effectiveness.

In short, JESSICA is an innovative system for funding urban regeneration projects, in that its primary objective remains the funding of socially-oriented projects by means of resources yielding a capped return but it introduces an incentive to select and support the "best" projects in terms of the degree of sustainability, efficiency, effectiveness and integration.