Operations Evaluation

Second Evaluation of the Risk Sharing Finance Facility (RSFF)

Final Report

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## GLOSSARY OF TERMS AND ABBREVIATIONS

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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AC</td>
<td>Any associated country other than a Member State, which is party to an international agreement with the EU, under the terms or on the basis of which it makes a financial contribution to all or part of FP7.</td>
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<tr>
<td>Amendment No.4</td>
<td>The Fourth Amendment to the RSFF’s Co-operation Agreement. The Amendment entered into force on 5 December 2011.</td>
</tr>
<tr>
<td>ARA</td>
<td>Awareness Raising Activities.</td>
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<tr>
<td>ASD</td>
<td>Advisory Services Department.</td>
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<tr>
<td>Asset Management Designated Service</td>
<td>DG ECFIN, Directorate L, for the attention of Unit L2 - Financing of innovation, competitiveness and employment policies.</td>
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<tr>
<td>CA</td>
<td>The EIB’s Conseil d’Administration (Board of Directors).</td>
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<tr>
<td>CD</td>
<td>The EIB’s Comité de Direction (Management Committee).</td>
</tr>
<tr>
<td>CIP</td>
<td>Competitiveness and Innovation Framework Programme.</td>
</tr>
<tr>
<td>COP</td>
<td>The EIB’s Corporate Operational Plan.</td>
</tr>
<tr>
<td>(Counter-)guarantee agreement</td>
<td>The guarantee and counter-guarantee agreements offered by the EIF under the RSI to RSI Financial Intermediaries.</td>
</tr>
<tr>
<td>CRPG</td>
<td>The EIB’s Credit Risk Policy Guidelines.</td>
</tr>
<tr>
<td>Delivery mode</td>
<td>All the modalities put in place by the EIB for the implementation of the RSFF.</td>
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<tr>
<td>Designated Service</td>
<td>The EC’s DG RTD.</td>
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<tr>
<td>EC DG</td>
<td>Directorate-General of the European Commission.</td>
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<tr>
<td>EC DG BUDG</td>
<td>Directorate-General Budget.</td>
</tr>
<tr>
<td>EC DG CNECT</td>
<td>Directorate-General Communications Networks, Content and Technology.</td>
</tr>
<tr>
<td>EC DG ECFIN</td>
<td>Directorate-General Economic and Financial Affairs.</td>
</tr>
<tr>
<td>EC DG ENER</td>
<td>Directorate-General Energy.</td>
</tr>
<tr>
<td>EC DG MOVE</td>
<td>Directorate-General Mobility and Transport.</td>
</tr>
<tr>
<td>EC DG RTD</td>
<td>Directorate-General Research and Innovation.</td>
</tr>
<tr>
<td>EC</td>
<td>The European Commission.</td>
</tr>
<tr>
<td>ECB</td>
<td>The European Central Bank.</td>
</tr>
<tr>
<td>EFTA</td>
<td>The European Free Trade Association, whose current members are Iceland, Liechtenstein, Norway and Switzerland.</td>
</tr>
<tr>
<td>EFTA Appropriations</td>
<td>The aggregate amount of the financial contributions transferred from 2007 until 2013 by the EFTA to the EU for the purpose of the FP7 and thereafter from the EU to the EIB and credited onto the EU Window as an increase of the EU Contribution.</td>
</tr>
<tr>
<td>EIF</td>
<td>The European Investment Bank.</td>
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<tr>
<td>EIF Group</td>
<td>The EIB and the EIF.</td>
</tr>
<tr>
<td>EIF Window</td>
<td>The RSFF Window for which the additional risk linked to Operations is covered by the EIB contribution.</td>
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<tr>
<td>EIF</td>
<td>The European Investment Fund.</td>
</tr>
<tr>
<td>EIT</td>
<td>The European Institute of Innovation and Technology.</td>
</tr>
<tr>
<td>Eligibility Committee</td>
<td>A Committee of at least three EC members, which provides the Designated Service with a recommendation on the approval, deferring or rejection of an RDI project’s eligibility for provisioning under the EU Window.</td>
</tr>
<tr>
<td>ERR</td>
<td>Economic Rate of Return.</td>
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<tr>
<td>ERTRAC</td>
<td>The European Road Transport Research Advisory Council.</td>
</tr>
<tr>
<td>ESFRI</td>
<td>The European Strategy Forum on Research Infrastructures.</td>
</tr>
<tr>
<td>ETI</td>
<td>Equity Type Investment.</td>
</tr>
<tr>
<td>ETP</td>
<td>Equity Type Project.</td>
</tr>
<tr>
<td>ETPs</td>
<td>European Technology Platforms.</td>
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</table>
EU 27  The 27 Member States of the EU.

EU contribution  The aggregated amount of contributions from the EU transferred from 2007 to 2013 by the EU to the EIB and credited to the EU Window.

EUR  Euros.

EU Window  The RSFF Window for which the additional risk linked to Operations is covered by the EU contribution.

EV  Operations Evaluation, the Evaluation Division of the EIB.

Expected Loss  The statistical expected value of financial loss in relation to an Operation, estimated in accordance with the CRPG.

FI  Financial Intermediaries

FIRR  Financial Internal Rate of Return.

FLP  First Loss Piece. The EIB and the EC share the credit default risk of a given portfolio according to different risk tranches. Under a First Loss Piece risk-sharing arrangement the first loss on the portfolio is borne by the EC, while the second loss piece is borne by the EIB.

FP7  The Seventh Framework Programme for Research and Technological Development.

GLR  General Loan Reserve.

GO  Global Objective.


ICT  Information and Communication Technology.

IEG  The Independent Expert Group.

Impairments  An accounting operation to reduce the value of an asset, as recorded in the accounts of the EIB.

IO  Intermediate Objective.

JTI  Joint Technology Initiative.

KEI  Knowledge Economy Index.

KAM  Knowledge Assessment Methodology.

LG  Loan grade or Loan grading, which is uses letters and symbols for summarising information with the purpose of offering a relative ranking of a loan’s credit risk.

Medium and Large Mid-caps  Any enterprise, other than an SME or Small Mid-cap, with up to 3,000 employees measured on a full time equivalent basis and complying with autonomy requirements as further described in the Commission Recommendation 2003/361/EC.

MS  A Member State of the EU.

NPSST  The EIB’s New Products and Special Transactions department.

OO  Operational Objective.

OPS  The EIB's Directorate for Operations. OPS A is the Directorate for Operations in the European Union and Candidate Countries, and OPS B is the Directorate for Operations outside the European Union and Candidate Countries.

PI  A performance indicator, as specified in Amendment No.5 to the RSFF Co-operation Agreement.

PJ  The EIB’s Projects Directorate.

PMA  Preliminary Market Analyses.

PPI  Project Pipeline Identification.

Project cost  The cost of implementing an eligible RDI project.

Promoter  The legal entity of any size and ownership implementing part or all of a project benefitting from an Operation.

R&D  Research and Development, including activities related to: fundamental research; definition stage / feasibility studies; industrial research; pre-competitive development activity; and pilot and demonstration projects.

RDI  Research, Development and Innovation.
<table>
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<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>REM Framework</td>
<td>REsults Measurement Framework.</td>
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<tr>
<td>RI</td>
<td>Research Infrastructures.</td>
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<tr>
<td>RTD</td>
<td>Research &amp; Technological Development.</td>
</tr>
<tr>
<td>RSFF Co-operation Agreement</td>
<td>The Agreement between the EU (represented by the EC) and the EIB, which sets outs the terms agreed by the EC and the EIB for the financial contribution of the EC to the implementation of the RSFF under and pursuant to FP7. Many of these definitions refer to Article 2 of the RSFF Co-operation Agreement as amended.</td>
</tr>
<tr>
<td>RSFF</td>
<td>The Risk Sharing Finance Facility.</td>
</tr>
<tr>
<td>RSFF Period</td>
<td>The period of time beginning on 1 January 2007 until the earlier of (a) 31 December 2013 or (b) the date established by any Council decision having the effect of terminating the EU contribution.</td>
</tr>
<tr>
<td>RSFF SC</td>
<td>The RSFF’s Steering Committee.</td>
</tr>
<tr>
<td>RSFF Operation/Project</td>
<td>Any project financed under the RSFF’s EU or EIB Windows.</td>
</tr>
<tr>
<td>RSI</td>
<td>The Risk Sharing Instrument for Innovative Research oriented SMEs and small Mid-caps (RSI).</td>
</tr>
<tr>
<td>RSI Agreement</td>
<td>The Agreement under which the EIB entrusted the EIF with the implementation of the RSI.</td>
</tr>
<tr>
<td>RSI Financial Intermediary</td>
<td>A Financial Intermediary that has entered into a (counter-) guarantee agreement with the EIF under the RSI.</td>
</tr>
<tr>
<td>RSI Operation</td>
<td>Any (counter-) guarantee transaction entered into EIF and a RSI Financial Intermediary under the RSI.</td>
</tr>
<tr>
<td>SA</td>
<td>Special Activity.</td>
</tr>
<tr>
<td>SAR</td>
<td>Special Activities Reserves.</td>
</tr>
<tr>
<td>SFF</td>
<td>Structured Finance Facility.</td>
</tr>
<tr>
<td>SG-JU</td>
<td>The EIB’s Secretariat General and Legal Affairs Directorate.</td>
</tr>
<tr>
<td>Small Mid-caps</td>
<td>Any enterprise, other than an SME, with less than 500 employees measured on a full time equivalent basis and comply with autonomy requirements as further described in the Commission Recommendation 2003/361/EC.</td>
</tr>
<tr>
<td>SME</td>
<td>A small and medium-sized enterprise as defined in the Commission Recommendation 2003/361/EC.</td>
</tr>
<tr>
<td>SPV</td>
<td>A Special Purpose Vehicle.</td>
</tr>
<tr>
<td>TFEU</td>
<td>Treaty on the Functioning of the European Union.</td>
</tr>
<tr>
<td>TMR</td>
<td>Transaction Management and Restructuring Directorate General of the EIB</td>
</tr>
<tr>
<td>Third Country</td>
<td>Any country other than a Member State.</td>
</tr>
<tr>
<td>Third Countries Appropriations</td>
<td>The aggregate amount of the financial contributions transferred from 2007 until 2013 by the Third Countries to the EU for the purpose of the FP7 and thereafter from the EU to the EIB and credited onto the EU Window as an increase of the EU Contribution.</td>
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</table>
EXECUTIVE SUMMARY

Since the Lisbon Treaty, the European Union (EU) set itself the ambitious goal of becoming “the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion”\(^1\).

If this emblematic recognition of the importance of knowledge to Europe’s inclusive and sustainable growth was immediately considered as timely and opportune, questions have rapidly emerged as to how this overarching goal could and would be achieved. To enhance Europe’s chances to take up such a key challenge for its future, the EU Institutions have drawn on a number of new tools, which came to the fore in the mid-2000s when new multi-annual financial instruments were introduced to reinforce the leverage effect of the EU budget\(^2\).

One of the financial instruments launched in the wake of the Inter-institutional Agreement signed in 2006 was the Risk Sharing Finance Facility (RSFF), set up by the European Investment Bank (EIB) and financially supported by the EU, in order to foster additional investment in RDI (Research, Development & Innovation) in the EU and the Seventh Framework Programme’s (FP7) Associated Countries (AC), as well as to address the markets’ failure in allocating sufficient resources to RDI.

Since the RSFF’s launch on 5 June 2007, the facility has sought to overcome such market deficiencies by drawing on the EU’s financial support (up to EUR 1,210 billion by the end of 2013) for covering a share of the additional risk taken by the EIB while providing loans or guarantees to RDI financing. This EU contribution is matched with the EIB’s own funds, implying the creation of two RSFF windows (the EU Window and the EIB Window) which confirms the risk-sharing nature of the joint instrument. However, the manner in which the EIB has used these contributions has significantly changed over the past six years, with six amendments to the RSFF’s initial Co-operation Agreement (the main one signed in December 2011 created three different compartments to address specifically SMEs and Research Infrastructures).

As the RSFF’s Availability Period ends on 31 December 2013\(^3\), mid-2012 was deemed to be an opportune moment to conduct a Second Evaluation of the RSFF so as to identify any possibilities to improve further the design of the instrument.

Evaluation mandate and scope

As was the case with the Evaluation of Activities under the RSFF\(^4\) carried out by the evaluation division of the EIB in 2010, this Second Evaluation will be used as a key building block for the evaluation of the RSFF by an Independent Expert Group (IEG) selected by the European Commission (EC). However, unlike the previous evaluation of the RSFF, this Second Evaluation places greater emphasis on the structure and functioning of the facility, and less on the performance of the projects financed by the EIB.

Thus, as per the Terms of Reference, this evaluation covers the following elements:

- The extent to which the RSFF has operated in accordance with the initial Co-operation Agreement and its six Amendments;
- A review of the RSFF portfolio;
- An assessment of the current RSFF product offering, risk spectrum and value proposition;
- Preliminary findings related to the design and implementation of the Debt Facility under Horizon 2020.

In doing so, this evaluation has tied its assessment of these elements to the following evaluation criteria: relevance, effectiveness, efficiency, sustainability, plus the performance of the governance and cooperation of the facility.

Approach and Methodology

In order to evaluate the RSFF’s performance, this report has drawn on four sources of data:

- A desk review of, inter alia: relevant policy documents; RSFF design documentation; contractual agreements (including the RSFF Co-operation Agreement and its six Amendments); and reporting produced in relation to the RSFF;
- A portfolio review of projects under the RSFF’s EIB Window and EU Window (but not projects financed under the RSI\(^5\)) over the period 05 June 2007 – 31 December 2012 (101 signed projects from which a sample of 16 projects was selected);
- Interviews conducted with a variety of RSFF stakeholders, including members of the RSFF Steering Committee (SC), EIB management and services, and project promoters;
- Two in-depth evaluation reports and fourteen evaluation fiches (for the assessment of the 16 projects of the sample).

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\(^2\) Interinstitutional Agreement of 17 May 2006 between the Parliament, the Council and the Commission on budgetary discipline and sound financial management.

\(^3\) The RSFF’s Availability Period ends on 31 December 2013.

\(^4\) Available at: http://www.eib.org/attachments/ev/ev_rsff_en.pdf.

\(^5\) The RSI (Risk Sharing Instrument for Innovative Research oriented SMEs and small Mid-caps) has been entrusted by the EIB to the EIF in December 2011.
Overall conclusion

On the basis of these various sources of information, the evaluation reached the conclusion that the RSFF has fulfilled its role in an adequate manner, contributing to reduce market failures in allocating additional resources to RDI. Noticeably, the partnership between the EC and the EIB forged around the facility has succeeded in transforming an incomplete initial design (lack of ex-ante assessment, very broad objectives) into an instrument able to follow market needs and to address, when necessary, under-represented segments or emerging market failures. Indeed, the flexibility embedded from the start in the agreement allowed the different parties to regularly adjust the instrument to address initial weaknesses. Thus, and to a large extent, the RSFF partnership has been mutually beneficial for both partners, allowing each institution to learn from the other and to adjust the instrument and its governance to improve the achievement of re-defined objectives. The flexibility of the instrument and the robustness of the partnership should be preserved. The RSFF has so far remained a “large-scale laboratory for RDI financing” with still limited macroeconomic effects. With the probable scaling-up of the debt-facility under Horizon 2020, the promoters of the successor of the current RSFF can seize the opportunity to convert it into a fully-mainstreamed instrument able to cover RDI investment gaps on a wider scale, while better ensuring (and demonstrating) its additionality. The following paragraphs summarise findings relating to the RSFF’s performance over the 2007-2013 period and provide indications on the lessons drawn for the new debt-facility to be designed under Horizon 2020.

Ratings against evaluation criteria

In applying the aforementioned approach and methodology, this evaluation has rated the RSFF against the five evaluation criteria for which the EIB’s Operations Evaluation (EV) has applied its usual four-level rating scale (excellent, satisfactory, partly unsatisfactory, and unsatisfactory).

Relevance – Satisfactory

The relevance of the RSFF can be viewed as strong from a top-down perspective, as the facility is aligned with the Lisbon Strategy, FP7 and EIB Knowledge Economy objectives. This positive performance has been reflected in the analysis of the sample of 16 RSFF projects, as most operations were assessed either excellent1 or satisfactory in terms of relevance to EU, EIB, national and RSFF objectives. In contrast, the internal coherence of the different objectives pursued by each project evaluated was deemed unclear.

The likelihood of the RSFF maximising its complementarity with other instruments and maximising its potential impact has been hindered by the absence of clearer ex-ante objectives and targets. However, the flexible character of the instrument and the ability of the RSFF Steering Committee to amend the initial Co-operation Agreement have largely offset this key initial weakness in terms of design, allowing regular on-going adaptation to meet the needs of beneficiaries during the global financial crisis, as well as the needs of target groups under-represented by the RSFF’s core portfolio. One pivotal amendment has been the implementation of a FLP (First Loss Piece) portfolio approach which allows the RSFF to enlarge the number of operations financed since the portfolio benefits from a credit enhancement effect that increases the leverage of the EIB/EU contributions.

Effectiveness – Satisfactory

One year before the end of the RSFF’s Availability Period (i.e. 31 December 2013), the facility has already achieved or is on track to achieve most of its Performance Indicators (PIs): (i) EUR 10,074 billion in loans has been signed; (ii) EUR 6,467 billion in loans has been disbursed; (iii) 21 Member States and 5 FP7 Associated Countries have been reached out to; and(iv) less than 60% of the operations have been signed in the three Member States with the largest share of RSFF projects by volume.

The catalytic effect on other financiers is higher than expected (x 3.39 vs. x3), and the instrument is on track to enable Financial Intermediaries to provide loans to innovative SMEs and Midcaps (7 guarantee agreements signed in 6 countries for a total signed amount of EUR 345m as of 31 December 2012). A wide geographical distribution has been achieved with a relative concentration on Western and South-western Europe (46% on Germany, Spain & France). The performance in reaching out to large caps is excellent but less so to mid-caps, SMEs, Research Infrastructures (RI) and Financial Intermediaries (FI): 3/4 of signed operations concerned large caps; SME, mid-caps and RI are only addressed at the end of the period.

The RSFF contribution to global objectives is likely to play a role in filling the long-term debt financing gap, but this contribution has not been quantified so far and is very limited with regard to total R&D investment in Europe. This impact is, however, commensurate with the limited size of the facility.

Efficiency – Satisfactory

The credit appraisal/bankability check made by the EIB services (including the analysis of the technical and economic viability of the operations financed), as well as the eligibility check carried out by both EIB and EC services, are carried out in an efficient manner while preserving the independence of the Bank. Similarly, the EIF, in charge of the second RSFF compartment (for SMEs & small Mid-Caps), has acted in a professional and well-timed manner in selecting Financial
Intermediaries. At project-level, most of the 16 projects selected in the sample were deemed to have performed adequately in terms of efficiency.

On the whole, the large majority of the RSFF projects have been checked, appraised and conducted in a smooth way, although the EU Window’s eligibility check entails more time and resources than the EIB Window. Furthermore, most of the RSFF operations were unable to pass from Operation Creation to first signature date within the 3-6 month indicative timeline specified on the EIB website. Additionally, the information requirements of the Call for the RSI-SME compartment, albeit necessary from an EIF perspective to comply with prudential supervision rules and guidelines, were demanding for Financial Intermediaries and may dissuade them from submitting an application in the future.

Many of the 16 evaluated projects have been appraised with a high Economic Rate of Return, which has been confirmed by the Project Completion Reports. These positive externalities consist often in: the creation or retention of highly skilled jobs, the development of key innovative sectors (such as pharmaceutical) and the building of new plants following the success of the RSFF financed project. However, many of these positive externalities were not detailed or estimated ex-ante.

Sustainability – Satisfactory
The first element that will help to ensure that the present RSFF continues producing its effects on a longer term is the fact that, under Horizon 2020, a new Debt Facility will be set-up on the basis of the experience acquired under the current instrument. In that perspective, certain aspects to consider as regards sustainability have been highlighted. Amongst these, the main features to ensure the robustness of the future instrument to be designed, are the necessity (i) to continue supporting RDI programmes rather than RDI projects, (ii) to allow a smooth transition of RSFF into the new Horizon 2020 instrument, (iii) to try to address market needs beyond the access to finance issue for promoters conducting RDI programmes, and (iv) to bear in mind the additional resource requirements that a larger scale instrument will imply.

At the level of the 16 projects of the sample, the evaluation has revealed that most of the operations supported via the RSFF are sustainable. This is particularly due to a good mitigation of the risks identified, a good financial and economic robustness of the promoters and the balanced character of the portfolio of RDI sub-projects financed. The RSFF operations have also contributed to reinforce the competitiveness of these promoters and therefore their sustainability.

Governance and cooperation – Satisfactory
Seven years after its outset, the partnership initiated between the EC and the EIB for setting-up and implementing the RSFF has performed well thanks to the cooperative and constructive approach nurtured between both partners. This positive performance is illustrated by the RSFF Steering Committee’s ability to fulfil its responsibilities, with EC and EIB services providing all the necessary information to ease its decision making process. Similarly, the utilisation of the two RSFF Windows is balanced and both windows are now being used in a similar risk taking manner (and that statement significantly differs from the first interim evaluation). This cooperative attitude is also exemplified by the adoption of common and quite innovative eligibility criteria between the EIF and the EC for the RSI compartment, which may inspire the design of the future instrument.

However, some imbalances and potential areas of improvement in the cooperation have been identified regarding (i) reporting procedures that satisfy neither the EIB nor the EC services, (ii) the methodology used to measure and report administrative costs reflecting only part of the real costs and not providing sufficient incentives for the EIB, and (iii) the need to define more precisely some key concepts such as “innovation”, “midcaps” and “demand-driven principle”. Fortunately, along with the design and implementation of the future debt facility under Horizon 2020, several opportunities will arise to reinforce and rebalance the cooperation, such as the review of reporting procedures and the adoption of a fee-based system to remunerate the EIB for services rendered.

The five recommendations
On the basis of key findings and conclusions aforementioned, this evaluation has put together a set of recommendations grouped in five different axes:

(i) regarding the mechanism itself, it is recommended to keep the instrument as simple, flexible and open as possible while defining clear objectives and standardised eligibility criteria for each target group;

(ii) as regards the demand-driven principle\(^5\), market gap analyses should be undertaken on a regular basis for both each target group and the facility as a whole;

(iii) vis-à-vis the impacts of the operations financed, a method to flag transactions having the highest impacts in terms of RDI and economic spillovers

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\(^5\) Explicitly stated in the initial RSFF Co-Operation Agreement as a “First in, first served” principle.
should be elaborated in combination with a more systematic documentation and monitoring of externalities generated by the operations financed (notably on the basis of a Cost Benefit Analysis (CBA) methodology adapted to RDI);

(iv) concerning the marketing of the instrument, it is proposed to develop and allocate sufficient resources to a more coherent, proactive and joint marketing strategy to better target potential clients;

(v) in relation to internal procedures, the idea is to simplify current procedures while consolidating the fruitful partnership developed between the EC and the EIB.

The rationale of these recommendations is presented in the table of recommendations below.
MANAGEMENT RESPONSE

The Bank’s Management welcomes the very positive results of the second evaluation of RSFF. These confirm the conclusions drawn in the first evaluation made in 2010, which in turn laid the early foundations for far-reaching reforms of the RSFF in 2011.

Taken together, these evaluations demonstrate that the RSFF programme has been a “flagship” – both in terms of being a model of co-operation good practice between the EIB Group and the Commission in the development and management of a financial instrument, and in terms of the impact the Group is making on RDI investment in Europe.

As for the first mid-term evaluation, the work done by the Bank’s evaluation unit has made a key contribution to the on-going assessment of the RSFF performed by the Independent Expert Group. The Group is now finalising its own recommendations for the design of the successor of the RSFF which should be operational from the beginning of 2014.

Since starting to finance research, development and innovation projects back in the last decade, the Bank has delivered impressive results in the support of knowledge economy policy objectives. The introduction of RSFF in 2007 allowed for an extension of the Bank’s actions in this respect, notably into the sub-investment grade area, for which a clear market gap could be demonstrated.

The Bank’s Management will endeavour to implement EV’s recommendations to the extent possible in the design of the successor to RSFF. As the report makes clear, the rich operational and institutional experience gained to date in the implementation of RSFF will guide both the Bank and the European Commission in the joint objective to develop efficient products and instruments addressing continuing financing gap for European innovation.

Notably, whilst maintaining the fundamental principle of a “demand-driven” (or “market-led”) instrument, opportunities will continue to be taken to develop the future RSFF to target unmet needs and market gaps. These developments need to be “evidence-based” and grounded in solid analysis of changing market conditions. The RSFF instrument has a good track record in this regard on which to build. The Risk Sharing Initiative, managed by the EIF, was a response to an evident need to extend RSFF to the SME sector. The Growth Financing Initiative (recently approved by EIB’s Board) is a further example of a development to meet unmet need – in this case, that of innovative Mid-Caps.

The culture of partnership working between the EIB Group and the EC, which is clearly identified in this Report, has been critical in the effective delivery of these changes. Every effort will be made to maintain it in the successor to RSFF.
TABLE OF RECOMMENDATIONS AND REPLIES

The following table of recommendations constitutes the main orientations the evaluation team proposes to the European Commission and the European Investment Bank for the design, pilot testing and implementation of the successor of the RSFF under Horizon 2020.

R1 To preserve the instrument as open, simple and flexible as possible while defining clear objectives and standardised eligibility criteria for each target group

Rationale: The flexible character of the RSFF has been acknowledged as one of its main strengths. Even though this should remain so as to better track markets trends, the market-driven orientation of the instrument combined with the RSFF delivery mode (which tends to foster large operations to the detriment of smaller ones) can lead to under-serve some segments or specific target groups of the European market as demonstrated by the continued under-representation of SMEs, Midcaps, Research Infrastructures and Financial Intermediaries in the current RSFF portfolio. Moreover, with two windows and four different compartments, the instrument has become over the period 2007-2013 more and more complex to manage and monitor whereas the design of its successor under Horizon 2020 represents a clear opportunity to simplify its functioning and to prepare for its opening to other funding sources.

To implement this recommendation, the following elements can be considered

- to remove the existing RSFF compartments while defining for each target group (large corporates, midcaps, SMEs, financial intermediaries, research infrastructures) specific objectives, specific performance indicators and when relevant specific eligibility criteria (for financial intermediaries in particular). This would preserve the flexibility of the instrument and the fungibility of the funds allocated while addressing the specific needs of each target group and prevents the risk of under-representation of some segments (which can also be corrected after amending the Co-operation Agreement but with some important delays). This would also allow for a better representation of new segments identified during ex ante assessment or market gaps analyses;

- for the future debt-instrument to be created for Horizon 2020, to split the RSFF operations into two categories based on a threshold (to be determined according to the conclusions of the market gap analysis undertaken and in accordance with the second recommendation below, – indicatively EUR 25 million loan amount or EUR 50 million project cost). The idea would be to adapt eligibility rules so as to reduce transaction costs for small transactions (by applying a similar methodology as for the current appraisal of EIB framework loans);

- to align as much as possible the criteria for the two RSFF Windows (for instance by broadening of the criteria of the EU Window to the financing of innovation). This will simplify the appraisal process and correspond to the current evolution of the EC rules of eligibility while ensuring a more balanced risk sharing (the two Windows being treated in a similar way);

- to design the future instrument as an open architecture/platform able to integrate new financing partners and sources. This would also ensure better coordination between financiers at EU level and foster a cooperative approach. The connection with the Structural and Cohesion Funds Operational Programmes for 2014-2020 is particularly recommended;

- to systematise market and pilot testing for each new target group or sub-target group (with a view to capitalise on successful pilot testing experiences carried out in the framework of the implementation of the second RSFF compartment (RSI) and to ensure consistency with market needs and promoters’ demands).

MANAGEMENT RESPONSE

This recommendation and the elements proposed for implementation will all be duly considered for the design of the new financial instrument, successor of RSFF under Horizon 2020. Notably measures to simplify, streamline and improve the effectiveness of the current RSFF program will provide mutual benefits for all parties involved. However, the following elements would need to be taken into account for the implementation of the recommendations:
1. The reduction of compartments/portfolios can only be done to the extent technically and legally feasible. Different entrusted entities (e.g. EIB vs EIF), different budget resources, different risk profiles and other technical features may require a certain amount of compartmentalisation also in the future.

2. Simplified eligibility criteria and the introduction of an “eligible counterpart concept” will be key to fulfil the EU objectives to broaden the reach of RSFF and its successor to Mid-Cap type transactions with transaction sizes below EUR 25m.

3. The option to combine Structural Funds (ESIF) with centralised financial instruments under Horizon2020 should certainly be investigated. It should be however noted that the availability of ESIF budget in certain regions does often not correlate with RDI investments and the respective demand for financings. Furthermore, current and future ESIF regulations may result in operational and legal obstacles to the implementation of combined funding. Further investigation of these points is warranted.

R2 To undertake and regularly update market gap analyses

**Rationale:** During the initial design of the RSFF, no ex ante assessment or market gap analysis was performed. This lack of upstream documentation has entailed the risk for the instrument not to maximise its potential coverage of market failures and to be misaligned with economic needs. Therefore, it is recommended to complement the “first-in first served” principle stated in the RSFF Co-operation Agreement with the undertaking of market gap analyses, on both an ex ante and on-going basis to keep up with market trends and evolutions. In addition, beside operational services, the involvement of the EIB’s sector expertise and advisory services can be increased and systematised for this purpose.

To implement this recommendation, the following elements can be considered:

- to conduct an ex ante assessment of the future facility in order to ensure the alignment with market needs, the additionality of the instrument, and to estimate the potential size of the segments targeted;

- to conduct and regularly update market gap analysis for each target group for the same reasons;

- to increase and systematise the involvement of EIB’s sector and EIB’s RDI advisory services expertise in market analyses and project pipeline preparation so as to take full advantage of available sector and country experts.

**MANAGEMENT RESPONSE**

A comprehensive ex-ante assessment for the RSFF successor, including also possible new product developments for the period 2014-2020 is already under-way. Even though the EIB is closely involved in this exercise, the responsibility for the ex-ante assessment lies with the EC.

Regular market update for key target groups and in case of major market shifts will indeed be foreseen during the budget period to facilitate better alignment with market needs. A current example is the recent study on the financing needs of innovative mid-caps, which ultimately lead to the recently approved GFI pilot proposal.

Sytematic sector related analysis, market awareness raising and product development will be reinforced in specific areas of political importance or market needs (e.g. in the field of Key Enabling Technologies). The RDI related Advisory Services, currently established as a pilot initiative under RSFF, could provide additional value added in that respect.
R3 To elaborate a method to flag transactions having high positive economic benefits in combination with a more-systematic documentation and monitoring of externalities generated by the operations financed

**Rationale:** If most of the operations financed under the RSFF have had positive impacts, in most cases, the externalities observed ex post were not systematically detailed or estimated ex ante, and were not systematically used at appraisal to identify operations likely to have the most important impacts so that these impacts can be ensured and monitored throughout the project cycle. On the basis of the 16 individual projects evaluated, some features have been identified by the evaluation team to detect operations likely to produce such impacts. It is therefore recommended to set up a simplified but robust methodology to flag and then monitor RSFF operations with high economic benefits. The recently adopted guidance document relating to “The Appraisal of Investment Projects at the EIB” can be especially useful in that respect.

To implement this recommendation, the following elements can be considered:

- to encourage the use of a limited set of key indicators to flag and monitor RDI operations. With a view to facilitate their operational use, these indicators may be used as a complement to the list of eligibility criteria (as defined in the framework of the first recommendation) and elaborated on the basis of an EIB’s inter-directorate work. According to the sample of projects evaluated, some of the criteria to be used could include: focus on Key Enabling Technologies (KET); participation of the promoter into an EU or sector platform; partnership with higher education institutions, research centres, and competitiveness poles; successful application to a European project; multinational dimension. The inter-directorate elaboration of this list of criteria would allow an optimal utilisation of EIB’s sector and technical expertise and to capitalise on their involvement in the project pipeline preparation. In addition, the use of a set of indicators would reinforce RSFF’s accountability and enrich RSFF’s reporting;

- to systematise at appraisal the use of a CBA (Cost Benefit Analysis) methodology adapted to RDI so as to quantify externalities, to better measure and monitor the impacts of operations financed, and on the basis of the current consolidation of the CBA methodology applied to RDI. For the future, the results of the Research Programme on the Cost-Benefit Analysis in the Research, Development and Innovation Sector recently launched by the EIB Institute under the supervision of the project directorate (PJ) of the EIB (expected in 2016) will also represent a key input for this methodological consolidation.

**MANAGEMENT RESPONSE**

Project’s spillovers and wider socio-economic effects represent uncompensated benefits of the project provided to society. However often these can only be taken into account in qualitative terms, as clearly indicated in the methodology described in “The economic appraisal of investment projects”, which follows international best practice and has been consistently applied in recent projects. Bank Management continue to follow the development of economic appraisal methodologies and their application by other IFIs, government agencies and academia and propose changes to existing practices as warranted.

The revised Value Added methodology includes relevant monitoring indicators, allowing comparison of expected and actual outcomes of projects at PCR, which are along the lines of the proposal made by this recommendation. Further reporting on indirect effects could be encouraged, but will make the appraisal and monitoring process more cumbersome and might not be always possible or relevant.
R4 To elaborate and implement a more coherent, proactive and joint marketing strategy

**Rationale:** The promotion activities of the RSFF have performed satisfactorily in raising potential beneficiaries’ awareness. However, these activities have been carried out without mid-term or programme perspective and sufficient connection with identified market gaps. The interaction with companies’ and EU platforms has also been assessed as insufficient despite their high potential to foster awareness among promoters. Furthermore, the RSFF brand name is confusing (since the risk-sharing nature of the instrument can be interpreted as to be shared between the EIB and the RSFF promoters themselves) and the use of web-based tools and devices has been so far limited and one-sided (only from the EIB/EC to promoters).

To implement this recommendation, the following elements can be considered:

- to elaborate jointly (EC+ EIB) a coherent, proactive marketing strategy with specific and adequate resources (with a view to ensure the consistency, effectiveness and efficiency of marketing actions). This strategy should rely on the market gap analyses (recommended above in R2) to maximise its reach of the desired target groups;

- to adopt a specific market oriented brand name for RSFF and possibly also its sub-products for specific target groups so as to avoid confusion around the concept of risk-sharing, foster awareness and enhance RSFF’s reputation;

- to ensure better connection with existing EU and sector/companies’ platforms in order to take advantage of the potentially high leverage effect of such platforms in terms of recognition and reaching out to clients having the most urgent needs;

- to set up an interactive web-based access gate connected with existing tools and portals in order to ease the access to the instrument for all prospective clients and increase the number of possible contacts.

**MANAGEMENT RESPONSE**

The Management welcomes this recommendation the implementation of which could make a significant contribution to the success of the H2020 financial instruments. A joint working group of the EC, the EIF and the EIB has been set up already in order to develop concrete actions in line with the EV proposals.

At the request of the RSFF Steering Committee, the new RDI Advisory Services Unit of EIB has initiated a project to introduce a new interactive web-access gateway targeting potential H2020 beneficiaries.
R5 To simplify and enhance internal procedures while reinforcing the current partnership

**Rationale**: Currently, the efficiency of internal RSFF procedures and organisation can be improved. Some imbalances and potential areas of improvement in the cooperation between the two partners have been identified regarding (i) reporting procedures which satisfy neither the EIB nor the EC services, (ii) the methodology used to measure and report administrative costs which reflects only part of the real costs and does not provide sufficient incentives for the EIB, and (iii) the definition of some key concepts (listed below). Along with the design of the future debt facility under Horizon 2020, several opportunities will arise to reinforce and rebalance the cooperation between both the EC and the EIB.

To implement this recommendation, the following elements can be considered:

- to adopt a common definition of key terms such as “SMEs”, “midcaps”, “innovation” and “demand–driven principle” so as to reduce the risk of confusion, to speed-up the eligibility check process and to ensure better consistency among operations financed;
- to adopt a fee-based system to cover administrative costs with a view to simplify measurement, incentivise the entrusted entity and rebalance the EC/EIB partnership. This new system should also be designed in a way to better reflect real RSFF administrative costs;
- to standardise and simplify reporting requirements and procedures in order to alleviate the burden on the EIB while better responding to needs of the EC;
- to safeguard the evaluation culture and continue to perform regular evaluations so as to capitalise on a distinctive feature which has proven to be part of the enhancement of the instrument;
- in complement of the RSFF Steering Committee, to put in place ad hoc working groups to deal with specific issues and prepare the SC decisions. The rationale would be to ensure a swifter and more robust decision-making process and to formalise and institutionalise current practices to overcome forthcoming changes of key persons;
- to track more closely unsuccessful transactions (possibility to better report on such transactions and to identify potential new market gaps or economic needs).

**MANAGEMENT RESPONSE**

The Management welcomes the specific recommendations to streamline and simplify administrative procedures, as well as those related to still more systematic learning from doing (eg regular evaluation, both globally and on specific transactions).

As the Report has clearly brought out, the concept of partnership between the Bank and EC has been a key success factor for RSFF to date. Every effort will be made to maintain this under the Horizon2020 initiative.
1. INTRODUCTION

1.1 EVALUATION MANDATE AND SCOPE

In April 2010, EIB’s Operations Evaluation (EV) published its Evaluation of Activities under the Risk Sharing Finance Facility (RSFF), which served as a key building block for the Mid-Term Evaluation of the RSFF published by the Independent Expert Group (IEG) in July 2010. As foreseen in the original Co-operation agreement, this group of experts was set up by the European Commission to evaluate at mid-term the facility and to advice regarding its replenishment. In its response to this Mid-Term Evaluation, the RSFF’s Steering Committee (RSFF SC) endorsed four evaluation recommendations for the present period, and welcomed those for the post-2013 period.

Three years on since the publication of the IEG’s recommendations, the RSFF has:
- Undergone a number of Amendments to its original Co-operation Agreement;
- Become a key topic of discussion in the design of the Debt facility under Horizon 2020.

As the RSFF’s Availability Period ends on 31 December 2013, the RSFF’s Steering Committee deemed the period September 2012 to June 2013 as an opportune moment to conduct a Second Evaluation of the RSFF so as to better design its successor.

The RSFF SC specified that this Second Evaluation should largely be forward-looking and draw on the previous evaluation to assess any developments in the functioning of the RSFF. Consequently, and in comparison to the previous evaluation of the RSFF’s activities, less emphasis has been placed on the review of individual RSFF operations, while greater emphasis has been put on the analysis of the RSFF mechanism itself. In reviewing the RSFF mechanism, this evaluation has also sought to contribute to the design of the Debt facility under Horizon 2020.

On this basis, the evaluation report covers, inter alia, the following elements:
- The extent to which the RSFF has operated in accordance with the Co-operation Agreement;
- A review of the RSFF portfolio;
- An assessment of the current RSFF performance;
- Ways and means to optimise the design of the Debt facility under Horizon 2020.

The report is structured around three main sections: an overall presentation of the instrument (section 2), an analysis of the performance of the mechanism and of the projects financed (section 3), an assessment of the governance and cooperation (section 4).

1.2 APPROACH AND METHODOLOGY

In order to evaluate the RSFF’s performance, this report has drawn on four main sources of data:
- A desk review of, inter alia: relevant policy documents; RSFF design documentation; contractual agreements (including the RSFF Co-operation Agreement and its six amendments); and reporting produced in relation to the RSFF;
- A portfolio review of projects under the RSFF’s EIB Window and EU Window (excluding projects financed under the RSI (Risk Sharing Instrument, i.e. the second RSFF compartment dedicated to SMEs and small Mid-Caps) over the period 05 June 2007 – 31 December 2012;
- An evaluation of 16 individual projects appraised and signed under the RSFF;
- Interviews conducted with a variety of RSFF stakeholders, including members of the RSFF SC, EIB services, and project promoters.
2. THE RSFF: OVERALL PRESENTATION

The purpose of increasing investment in RDI is often attributed to the common perception that RDI can significantly contribute to long-term economic growth, which in turn leads to improvements in living standards and quality of life. Such a perception was exemplified when the European Union (EU), through its Lisbon Strategy, set itself the aim of transforming Europe into the world’s leading knowledge-based economy, while targeting total R&D investment reaching 3% of Europe’s GDP by 2010. In the Presidency Conclusions of 23 March 2005, the European Council noted that the results of the Lisbon Strategy had been mixed, and so invited: “The [European] Commission in cooperation with the European Investment Bank to examine the possibility of strengthening their support for Research and Development by up to a maximum of EUR 10 billion through a financing facility with risk-sharing components to foster additional investment in European research and development, particularly by the private sector.” Following this invitation, a collaborative effort between the EC and the EIB into the development of such a facility led to the launch of the RSFF on 5 June 2007.

2.1 OPERATIONAL, INTERMEDIATE AND GLOBAL OBJECTIVES OF THE RSFF

**Operational objectives** relate to what is expected to be directly delivered by the implementation of the RSFF (“outputs”). Outputs are under the control of those who implement the facility and the projects financed under it. **Intermediate objectives** correspond to the expected effects of the facility on its direct beneficiaries (“results” or “outcomes”). **Global objectives** correspond to the direct and indirect effects emanating from the outcomes, and often correspond to wider-scale “impacts”. The more distant the effects are from the RSFF’s outputs, the more difficult it is to solely attribute the effects to the facility. This typology allows evaluators to reconstruct the intervention logic of the instrument (i.e. the rationale pursued by its designers) and to assess it against this rationale.

In the present case, since the initial Co-operation Agreement identified only very broad objectives, the evaluation team used various sources of internal documentation to reconstruct the different objectives:

- Beside the RSFF Co-operation Agreement itself, six Amendments have been adopted by the RSFF Steering Committee (on 16 February 2009, 4 September 2009, 22 December 2010, 5 December 2011, 8 October 2012, and 22 January 2013 respectively);
- An note approved by the SC on 19 December 2011 concerning the adoption of a list of performance indicators (PI), subsequently integrated into Amendment No.5 to the RSFF Co-operation Agreement;
- The main EIB and EU strategic and policy documents concerning the RSFF and the financing of RDI projects, for instance the European Council’s Note of 19 December 2005;
- The specific Risk Sharing Instrument (RSI) Agreement between the European Investment Fund (EIF) and the EIB (signed on 5 December 2011);
- Interviews with key stakeholders.

An overview of the operational, intermediate and global objectives of the RSFF is provided in Figure 1 below.

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9 Date of signature of the original RSFF Co-operation Agreement.
10 (i) “the EIB is setting up the RSFF, an instrument aimed at fostering investment for Europe in research, technological development and demonstration, as well as innovation, in particular in the private sector”; (ii) “pursuant to the FP7, the EC, in addition to providing direct financial support to participants in RTD Projects, has resolved to improve their access to debt finance through the RSFF. In accordance with the FP7 Rules, the EC financial contribution will allow for a larger volume of EIB lending and guarantees for a certain level of risk, and the financing of riskier European RTD Projects than would be possible without such Community support.”
It is important to note that IO3 is drawn from the RSFF’s recent division into three Compartments (two of which are target group-specific), while IO4 is deeply embedded in the Performance Indicators (PIs) approved by the RSFF SC on 19 December 2011. Similarly, two objectives (OO2 and IO2) were formalised in Amendment No.6 to the RSFF Co-operation Agreement (22 January 2013) which implemented the RSI (Risk Sharing Instrument) compartment dedicated to SMEs and opened it to counter-guarantees.

This ex post definition of objectives emphasises an issue in terms of initial design of the instrument which is addressed in the section 3.1.3 of the report (relevance of the design) and raises issues in terms of “evaluability” (i.e. capacity to properly assess). The belated definition of PIs had also an impact on the expectation of some stakeholders (more particularly some EC-Directorates General). Additionally, these PIs were not especially innovative in assessing the outcomes or impacts of the instrument. Nonetheless, the PIs implicitly address the expected leverage and coverage outcomes which are linked to the medium term objectives of the RSFF objective tree as reconstructed from an analysis of various RSFF design documents.

It should also be noted that the conditions under which IO3 and IO4 contribute to the RSFF’s global objectives are difficult to evaluate as a balanced portfolio in terms of target groups and geographical distribution does not necessarily correspond to the efficient allocation of resources for filling market gaps in the financing of RDI projects. Figure 1 above indicates this conditionality in the form of a dotted arrow. In contrast, IO1 and IO2 have a more direct contribution to GO1 and GO2 objectives. Notwithstanding both of these intermediate objectives (IO3 and IO4) can have an effect on the acceleration of the pace of investment in RDI which is part of GO1.

The first two global objectives (GO1: to accelerate the pace of investment and to fill market gaps in the financing of RDI in the EU27 and FP7 ACs / GO2: to contribute to total R&D investment reaching 3% of Europe’s GDP, by focusing on riskier beneficiaries having less access to finance) then feed into the ultimate overall objective of contributing to the transformation of Europe into the world’s leading knowledge based economy and of contributing to sustainable growth and jobs.
2.2 BRIEF DESCRIPTION OF THE RSFF INSTRUMENT

Since the Lisbon Treaty, the European Union (EU) set itself the ambitious goal of becoming “the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion”. If this emblematic recognition of the importance of knowledge to Europe’s inclusive and sustainable growth was immediately considered as timely and opportune, questions have rapidly emerged as to how this overarching goal could and would be achieved. To enhance Europe’s chances to take up such a key challenge for its future, the EU Institutions have drawn on a number of new tools, which came to the fore in the mid-2000s when new multi-annual financial instruments were introduced to reinforce the leverage effect of the EU budget.

One of the financial instruments launched in the wake of this Inter-institutional Agreement was the Risk Sharing Finance Facility (RSFF), set up by the European Investment Bank (EIB) and financially supported by the EU, in order to foster additional investment in RDI (Research, Development & Innovation) in the EU and the Seventh Framework Programme’s (FP7) Associated Countries, (AC), and to address the markets’ failure in allocating sufficient resources to RDI.

Since its launch on 5 June 2007, the RSFF has been divided into two Windows, the EU Window and the EIB Window. This division is due to differences in eligibility criteria:

- the EU Window can only finance research and development activities as its eligibility criteria are drawn from FP7’s Cooperation and Capacities themes;
- the EIB Window can finance research, development and innovation activities as its eligibility criteria draw on the Bank’s Knowledge Economy lending priority.

The total capital cushion (or contribution) has increased from EUR 2 billion (as per the original RSFF Cooperation Agreement) to EUR 2.420 billion11 (as per the RSFF Cooperation Agreement post-Amendment No.6). The EIB has drawn on this contribution to cover the additional risk taken by the EIB while accepting to lend to promoters to finance below investment grade operations. However, sharing the risk of such loans only occurs under the EU Window, as the EIB Window draws exclusively on the Bank’s own capital resources.

Until December 2011, the risk of each RSFF loan was assessed on an operation-by-operation basis following the EIB’s standard Credit Risk Policy Guidelines (CRPGs). By mid-2010, notably on the basis of the Mid-Term Evaluation’s conclusions, the RSFF Steering Committee recognised that this approach had led to an imbalance in the allocation of RSFF Operations since the EIB Window was near fully exhausted whereas the EU Window was largely under-utilised. Therefore the Mid-term evaluation recommended using the remaining EU contribution as a First Loss Piece (FLP) to cover up a pre-defined percentage of potential losses for a portfolio of loans provided to a specific target group. This led to the adoption of Amendment No.4 to the RSFF Co-operation Agreement on 5 December 2011 according to which projects financed under the EU Window are from then on subject to a FLP approach involving the bundling of loans into a portfolio.

According to the FLP portfolio approach, two tranches are now differentiated within the EU Window:

- The junior debt tranche which absorbs the first losses incurred by the portfolio up to a pre-defined percentage of potential losses;
- The senior debt tranche (or Residual Risk Tranche), which, once the first tranche is exhausted, absorbs any further losses.

In other words, the second tranche benefits from a credit enhancement effect (also known as “leverage effect” which corresponds to the x5 leverage effect depicted in the first operational objective, i.e. OO1 see Figure 1). Initially, this leverage effect (RSFF loan amount / EU and EIB contributions) was targeted on average at x5 which corresponds to a first junior tranche at 20% and a second senior tranche at 80% but, according to Amendment No.4, the percentage of losses is dependent on the compartment to which the RSFF operation belongs (from 20% to 25%).

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11 This increase in the total contribution owes to the additional EUR 209 million in EFTA and Third Countries Appropriations for the RSFF’s EU Window
This leverage effect should not be confused with the “catalytic effect” (IO1 in Figure 1) which corresponds to the expected impact of RSFF loans on other financiers. However, as illustrated in Figure 2, it is theoretically possible to combine both effects and to achieve an overall x15 effect expressed by the ratio between the total cost of all RDI operations financed (estimated ex ante at EUR 30bn) and the total of both EU and EIB contributions (initial at EUR 2bn). Next section 3.2.2 on Effectiveness (page 21 below) will analyse more in-depth this catalytic effect while nuancing the relevance of such a calculation due to the specific nature of the RSFF “projects” financed.

Amendment No.4 created three Compartments for different target groups under the EU Window, namely:
- Compartment 1 for normal RSFF operations (mainly large corporates);
- Compartment 2 (also named RSI, Risk Sharing Instrument) for innovative and research-oriented SMEs and Small Mid-caps;
- Compartment 3 for Research Infrastructures.

As it currently stands, the RSFF has thus two Windows and four compartments:
- the EIB Window has remained intact;
- the EU Window now consists of four Compartments (the three aforementioned compartments and the Legacy Compartment of RSFF Operations signed prior to Amendment No.4).

2.3 KEY FINDINGS OF THE PORTFOLIO REVIEW

In line with the objectives of this Second Evaluation of the RSFF, a portfolio review was performed to gain an overview of the state of play of the RSFF. The period covered by the portfolio review is 05.06.2007 (signature of the RSFF agreement) - 31.12.2012. The portfolio review was based on a database covering all RSFF operations except those pertaining to Compartment 2 due to a lack of data. As a consequence, the RSFF’s outreach to SMEs and Small Mid-caps is only partially reflected. This section presents the breakdown, the key elements of the evolution, as well as the sector and RDI distribution of the RSFF portfolio.

2.3.1 BREAKDOWN OF THE PORTFOLIO AND THE CORE PORTFOLIO

The RSFF portfolio has a population of 237 initiated projects (see Figure 3). Of these 237 projects initiated, 48 projects have yet to be approved and could potentially complete the signature stage of the RSFF project cycle. In addition, 13 projects have been approved but have yet to complete the signature stage of the project cycle. Thus, these 61 projects could potentially become a part of the RSFF core portfolio, and may impact the performance of the facility in the future.
Figure 3: Breakdown of the RSFF portfolio by project cycle stage

- **Population:** Initiated 237 projects
- **Global portfolio:** Approved 129 projects
- **Core portfolio:** Signed 101 projects
- **Disbursed:** 71 projects
- **Reimbursed:** 2 projects
- **48 projects yet to be approved**
- **55 projects cancelled**
- **5 projects deemed “not RSFF”**
- **23 projects yet to be disbursed**
- **7 projects cancelled**
- **69 projects yet to be reimbursed**
- **13 projects yet to be signed**
- **7 projects cancelled**
- **8 projects deemed “not RSFF”**

Source: EV, PwC

Figure 3 also provides an overview of the fallout of projects from the RSFF project cycle. For instance a total of 13 projects have been deemed “not RSFF”. Similarly, a total of 69 projects have been cancelled at some stage along the RSFF’s project cycle. Of the reasons for which initiated projects were subsequently cancelled, the most frequent involved:

- The project promoters seeking alternative sources of funding (17% of the total number of cancelled projects), in particular when other financing instruments other than loans are preferred by RDI project promoters;
- The financial situation of the firm improving, either resulting in an improved loan grading (LG) beyond the RSFF’s eligible loan grading range or a reduction in the need for financing;
- The financial situation of the firm worsening, likely resulting in the decline in the firm’s LG beyond the RSFF’s eligible loan grading range.

The cumulated total RSFF signed loan amount for the period 05.06.2007 to 31.12.2012 is EUR 10.074 billion, i.e. just between the cumulated total loan amount of approved operations (EUR 12.740 billion) and the total loan amount of disbursed operations (EUR 6.457 Bn). This figure for the total RSFF signed loan amount (which corresponds to 101 operations) is treated as the key figure upon which this evaluation is based.

While it is acknowledged that due to the administrative procedures not every prospective project can automatically be initiated, it would nonetheless be beneficial (from an evaluation perspective) to retain some data on such prospective RSFF projects. Such data could help: (i) understanding the market need; (ii) as a basis for an ex-ante analysis identifying potential market gaps; (iii) demonstrating the actual interest in instruments such as the RSFF; and (iv) learning the reasons why many candidates did not pursue their application as well as (v) knowing whether the projects secured funds from other sources. In consequence, there is currently little information on prospective RSFF operations that were never initiated and the evaluation would recommend for the future to track more closely unsuccessful transactions with a view to better report on these transactions and to identify potential new market gaps or economic needs.
2.3.2  **Key Elements of the Evolution of the RSFF Portfolio**

An overview of the evolution of the approved, signed and disbursed loan amounts for the RSFF’s global portfolio of 129 projects\(^\text{12}\) is provided in Figure 4.

**Figure 4: RSFF approved, signed and disbursed loan amounts (EUR m) by year\(^\text{13}\)**

Source: EV, PwC

No clear trend emerges from the fluctuations in loan amounts approved/signed/disbursed by year. However, a number of factors have been proposed as potential explanatory variables for fluctuations in approved/signed/disbursed loan amounts, when considering each year separately:

- 2007 was a ramp-up year for the RSFF, and involved the promotion of the facility and the establishment of processes and procedures;
- 2008 was the first year in which the RSFF was fully operational, and marked the beginning of the financial crisis;
- 2009 was a peak year for the RSFF that may be attributed to a combination of high demand for big ticket lending, the EIB offering competitive financing rates during the financial crisis, and an increase in negative rating migrations\(^\text{14}\);
- 2010 saw the transfer of responsibility of the wide geographical distribution of RSFF operations to the EIB’s geographical lending departments;
- 2011 unusually had a higher total disbursed loan amount than the total approved amount. This can be attributed to the near exhaustion of the EIB Window, and greater attention being placed on the setting up of the FLP portfolio approach that would help to unlock the EU Window’s potential. Concerns pertaining to the potential impact of a too large number of RSFF operations on the capital adequacy ratio of the EIB also emerged;
- 2012 experienced an increased uptake of RSFF financing due to the FLP portfolio approach, increased market demand, and improved EIB competitiveness.

In addition to this overall evolution, the average project cost has increased by 74% over the period (from EUR 197m in 2007 to EUR 343m in 2012), while the average signed loan amount has increased by 95% (from EUR 51m to EUR 100m). These two trends suggest that the RSFF is placing greater emphasis on larger projects and larger loans that cover a greater proportion of total project cost (29.1% in 2012 compared to 25.9% in 2007), thereby reducing the potential catalytic effect of the RSFF. Furthermore, the RSFF has significantly deviated from the expected average RSFF signed loan amount of EUR 40 million, as specified in RSFF documentation (size 150% higher than foreseen initially).

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\(^{12}\) The global RSFF portfolio is divided into 2 parts - active and inactive. The active portfolio includes on-going operations that are currently approved, signed or disbursed. The inactive portfolio includes operations where an RSFF portion was approved by the EIB’s Board of Directors but the operation was subsequently cancelled before or after signature or where the operation went ahead with a non-RSFF structure (e.g. a bank guarantee, etc.).

\(^{13}\) The approval year is used for approved amounts, the signature year for signed amounts and the disbursement year for disbursed amounts. If projects are signed/disbursed in more than one tranche/loan, only the date of the first tranche/loan that was signed/disbursed is considered.

\(^{14}\) Negative rating migrations have brought previously ineligible companies into the LG range covered by the RSFF.
2.3.3 **KEY ELEMENTS RELATED TO SECTOR DISTRIBUTION**

As illustrated in Figure 5, in spite of becoming increasingly diverse and balanced, the RSFF’s core portfolio remains unevenly distributed across the facility’s reporting sectors with a majority of RSFF operations in the engineering/industry sector (40% in 2012) and a significant share in life science (21%) and ICT (17%). The energy sector which used to represent the lion share of the portfolio at the beginning of the availability period has now declined to less than 15%.

**Figure 5: Core portfolio breakdown by RSFF reporting sector** and by signature year (as % of cumulative signed loan amount)

![Core portfolio breakdown by RSFF reporting sector](image)

Source: EV, PwC

One of the sectors significantly under-represented by the RSFF’s core portfolio is Research Infrastructures. As also illustrated in the effectiveness section, Research Infrastructures are probably the most challenging target group to reach out to as they almost always use grants to meet their financing needs and, due to their inability to generate a financial surplus, are considered as high risk operations. Consequently, Research Infrastructures (RI) have little to no experience in financing debt, and so do not instinctively approach the EIB (or other debt financiers). However, during interviews conducted for the evaluation, it was noted that the outlook of Research Infrastructure project promoters towards debt financing provided under the RSFF is possibly changing and the constraint to have a loan to reimburse may influence the efficiency of the management structures put in place. The possibility to finance RI under the RSFF is largely attributed to the RSFF SC expanding the scope of eligible projects under Compartment 3 (which is dedicated to Research Infrastructures), and enabling, for that Compartment, the financing of operations graded above investment grade. The success in the design of the Research Infrastructure compartment is also reflected in the fact that the number of signed operations under the Compartment nearly doubled in 2012, and resulted in Research Infrastructures’ contribution to the RSFF’s total signed loan amount increasing from 3% in 2011 to 6% in 2012 (see Figure 4 above).

Imbalance between sectors has unfulfilled some EC Directorates General’s expectations that believe a sector’s contribution to the facility’s capital cushion should be aligned with its representation in the core portfolio. However, seeking a balanced sector distribution has never been an explicit objective of the RSFF and the promotion of a sector proportionality principle is more illustrative of a grievance towards the design of the RSFF, emanating from the pro-rata “taxing” of each EC DG’s budget for the EU’s contribution to the RSFF capital cushion. The proposal for establishing Horizon 2020 is likely to answer any questions concerning the even or commensurate distribution by sectors, as the future Debt facility will not involve a pro-rata “taxing” of each EC DG’s budget.

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15 Allocating transactions to the EIB’s RSFF reporting sectors is a complex procedure as transactions can often be allocated to more than one sector; therefore the figures may be slightly misleading.
2.3.4 KEY ELEMENTS OF THE RDI DISTRIBUTION

In order to review the extent to which the RSFF has reached out to RDI activities, RSFF operations were categorised according to the RDI scale and based on the Frascati’s classification\(^{16}\). The categorising of RSFF operations was based on a desk review of RSFF project documentation prepared for the approval of the EIB’s Management Committee and the EIB’s Board of Directors. Figure 6 illustrates the findings of this RDI classification.

**Figure 6: RDI classification by RSFF signed loan amount and Window**

![Graph showing RDI classification by RSFF signed loan amount and Window](source: EV, PwC)

As illustrated, the RDI classification for the EIB Window peaks at level 8, the high-end of the RDI scale, whereas the EU Window peaks at level 6. This suggests that the EIB Window has predominantly been used for provisioning the financing of innovation activities, whereas the EU Window has largely been used for development activities on the margin of innovation. This is also compliant with the rules of eligibility respectively applied for the EU and the EIB windows.

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\(^{16}\)On the basis of the Frascati’s classification as developed by the OECD: [http://www.oecd.org/innovation/inno/frascatimanualproposedstandardpracticeforsurveysonresearchandexperimentaldevelopment6thedition.htm](http://www.oecd.org/innovation/inno/frascatimanualproposedstandardpracticeforsurveysonresearchandexperimentaldevelopment6thedition.htm)
3. THE PERFORMANCE OF THE RSFF MECHANISM, PORTFOLIO & PROJECTS

The performance of the RSFF will be assessed against the four standard evaluation criteria, i.e. relevance, effectiveness, efficiency and sustainability.

3.1 RELEVANCE

Relevance is the extent to which the objectives of the RSFF are consistent with EU policies, EIB priorities, as well as beneficiaries’ needs. This evaluation criterion also takes into account the internal coherence of objectives and the relevance of the facility’s design.

3.1.1 THE RSFF IN THE CONTEXT OF EU POLICY AND EIB LENDING PRIORITIES

The Presidency Conclusions of the Lisbon European Council of 23 and 24 March 2000\(^2\) stated that the Union had “set itself a new strategic goal for the next decade: to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion”. The triangle of knowledge - education, research and innovation - is deemed to be essential in the European Union fulfilling this strategic goal, to which effect the Community aimed to mobilise and strengthen its research and innovation capacities where necessary. In this respect, the EU launched FP7 with the aim of contributing to the Union becoming the world’s leading research area.

In support of FP7 and the Lisbon Strategy, the EIB launched the Innovation 2000 Initiative (i2i), succeeded by the Innovation 2010 Initiative, and more recently, the Knowledge Economy lending priority.

In order to achieve the aims of FP7 and the i2i/Knowledge Economy, the EU has sought to combine EU budget support with loans provided by the EIB. This EU budget support has facilitated the development and launch of the RSFF, a financial instrument that is similar to standalone grants for RDI activities in that it shares the goal of overcoming risk barriers and market failures/imperfections by supporting projects that pursue FP7 policy objectives\(^1\).

To further examine the relevance of the RSFF in terms of EU policy and EIB lending priorities, a mapping exercise was performed to align the operational objectives of the RSFF with the objectives of FP7 and the EIB’s Knowledge Economy lending priority.

By providing up to EUR 10 billion in EIB loans to RDI projects and promoting the RSFF to a wide range of beneficiaries, operational objectives (OO1\(^1\) and OO3\(^2\)) are well aligned to all applicable FP7 and Knowledge Economy objectives\(^2\). In the case of objective OO2\(^2\), its focus on selecting Financial Intermediaries that draw on RSI (counter-) guarantees to reach out to RDI-driven SMEs and Small Mid-caps means that it is of relevance to all FP7 and Knowledge Economy objectives, except those specific to Infrastructure projects. Thus, each applicable FP7 and Knowledge Economy objective is being supported by at least one of the RSFF’s operational objectives. These operational objectives, by way of the RSFF’s intermediate objectives, also support the Lisbon / Europe 2020 Strategy’s objective of contributing to the transformation of Europe into the world’s leading knowledge based economy.

Therefore, it can be deduced that the RSFF is relevant in both the context of EU policy and the EIB’s i2i/Knowledge Economy lending priority.

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\(^1\) Available at: http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/00100-r1_en0.htm
\(^1\) (OO1) For the EIB to provide up to EUR 10 billion in loans to riskier RDI projects by drawing on a risk sharing component (EUR 2 billion capital x5 leverage effect )
\(^2\) (OO3) To promote the RSFF to a wide range of potential beneficiaries.
\(^2\) (OO2) For the EIF to provide up to EUR 1.125 billion in (counter-) guarantees to RSI Financial Intermediaries by drawing on a risk sharing component of EUR 253.8 million.
3.1.2 RELEVANCE IN TERMS OF MARKET AND BENEFICIARY NEEDS

Beyond this assessment of the RSFF’s policy and design relevance against EU and EIB priorities, the facility ought to be evaluated on the basis of its economic relevance, i.e. the extent to which it has addressed the needs of the target market and target beneficiaries.

According to the economic theory (notably Sullivan\(^\text{23}\), Hall & Lerner\(^\text{24}\), or Arrow\(^\text{25}\)), public intervention is required when markets fail to allocate adequate resources to RDI (in particular due to its indivisible, inappropriable and uncertain character) since banks prefer to secure loans with physical assets. This leads to a situation where “debt is a disfavoured source of finance”\(^\text{26}\) for RDI investment.

The view that smaller enterprises often face a higher cost or greater obstacles (in the form of credit limits or pure loan denial) in accessing debt financing is notably underlined by Mouqué\(^\text{27}\). However, Mouqué\(^\text{27}\) does not concur with the idea that debt is always a disfavoured source of finance for RDI investment since recent counterfactual evaluations tend to indicate that loans can be a more effective source of RDI financing than grants.

Consequently, it is clear that in launching the RSFF, the EC and the EIB sought to overcome these market failure situations, and as a consequence the RSFF is a public intervention tool implicitly supported by economic theory.

In practice, it is difficult to measure the potential of the RSFF to fill such market gaps. EU policy often expresses the EU27’s RDI performance in terms of a deficit in its intramural R&D expenditure. This deficit is calculated as the extent to which the EU27’s R&D expenditure as a percentage of its total Gross Domestic Expenditure (GDP) is below its 3% target\(^\text{28}\). In addition, this headline indicator for Europe 2020 is commonly compared to equivalent figures for international competitors, in particular, the US. A rough calculation can estimate that the RSFF portfolio as initially expected (EUR 2bn of contribution, EUR 10bn of RSFF loans signed, and EUR 30bn of total costs of RDI operations financed) accounts for around 3% of the gap that would allow EU 27 R&D expenditure to reach the 3% of GDP target.

In order to make an adequate contribution to filling this specific debt financing gap, EC services and the EIB design of the RSFF so as to generate a leverage effect for increasing EIB lending to riskier yet creditworthy RDI projects. The justification for such a risk-sharing instrument was the need to increase the EIB’s lending volume to European RDI projects, and the identification of a market deficiency in the supply of debt financing to these risky projects.

However, in serving market and beneficiary needs principally on the basis of EIB’s lending experience and network, the RSFF lacked an ex-ante assessment which could have identified market failures or sub-optimal investment situations and allowed to better scope the RDI investments that would be targeted with the instrument. Hence the probability for these needs to be complementary with the policy objectives served by FP7 and other existing instruments is uncertain and assumes a regular re-alignment of the RSFF’s design throughout the life of the instrument so as to better address underserved beneficiaries. However, the “below investment grade eligibility” component ensures in practice a better complementarity with traditional EIB loans targeting i2i/Knowledge Economy in as far as this type of EIB operations do not normally address the funding needs of beneficiaries with below investment grade ratings (in application of the EIB Credit Risk Policy Guidelines).

In conclusion, despite the unpredictable character of market needs for RDI financing, the lack of an ex-ante evaluation and market gap analyses resulted in the RSFF not ensuring a priori its alignment with market and beneficiary needs. Nevertheless, as presented in the effectiveness section, the RSFF has taken a market-based and flexible approach to filling the debt financing gap of RDI even though this was often done with delays, which is predictable by taking this approach.


\(^\text{28}\) First set in Barcelona in 2002 and then renewed as a headline indicator for Europe 2020.
3.1.3 \textbf{RELEVANCE OF THE DESIGN OF THE RSFF}

Having evaluated the RSFF’s relevance from the policy and market needs perspectives, this section evaluates whether the facility’s objectives are internally coherent and whether the initial design of the facility was conducive to the achievement of its desired results.

\textbf{Internal coherence of objectives and targeted results}

When setting up the RSFF, no clear and explicit intervention logic (with operational, intermediate and global objectives) was defined. Such intervention logic is useful for monitoring the performance of the instrument. The evaluation has noticed that this applies not only to the instrument as a whole but also to the individual projects financed via RSFF as illustrated in the sample evaluated. However, as regards these individual projects, this appears to be not-RSFF specific in the sense that it is a recurrent finding underlined in several previous EV evaluation reports and the need to reinforce this aspect across all EIB operations has been repeatedly highlighted.

The breadth of the initial objectives of RSFF required the evaluation team to analyse various official RSFF documents to reconstruct the RSFF objectives tree and intervention logic. Moreover, the initial imprecision of the objectives provided stakeholders with scope for interpreting the purpose of the RSFF as exemplified by some DGs’ grievance towards the lack of a proportionality principle in the sector distribution of RSFF operations, when the latter was never defined specifically as an objective.

Therefore, the internal coherence of objectives and targeted results is partly unsatisfactory, as the too broad objectives included in the RSFF Co-operation Agreement allowed too much scope for interpretation and stifled the RSFF SC’s ability to identify PIs for the facility. Moreover, as RSFF PIs were not specified in advance but only in December 2011, it is questionable whether the RSFF’s design has enabled the facility to meet the targeted results, or whether the degree of difficulty to achieve the PIs was reduced in order to compensate for frailties that may exist in the RSFF’s initial design.

\textbf{Conduciveness of the design to achieving the targeted results}

This section analyses the degree to which the design of the RSFF was conducive to achieving its targeted results.

\textit{The changing character of the RSFF design}

As described in section 2.2 above, since its launch on 5 June 2007, the RSFF’s financial structure has gone through a series of changes illustrated in particular by the evolution from a risk sharing provisioning applied on an operation by operation basis until December 2011 to a First Loss Piece portfolio approach. This change in design is more conducive to generate a balance between allocations from the EIB and the EU window as well as to allow the RSFF to increase the number of operations financed. The latter potential increase in available funds is a result of benefits from a credit enhancement effect to the portfolio with the FLP that increases the potential leverage of the EIB/EU contributions.

The existence of compartments would normally ensure a better distribution of funds across targeted operations. However, the lack of a market gap analysis and ex-ante assessment to determine their adequate size to cover their corresponding needs under each RSFF compartment can lead to an over- or under-allocation of funds. The lack of flexibility to move funds across compartments exacerbates this issue.

\textit{The demand driven principle}

Implementing a demand-driven approach is a valid option for tackling market and beneficiary needs and the RSFF Co-operation agreement was very explicit on the necessity for the EC Contribution to “be allocated to RSFF operations on a “first come, first served” basis”. However, the very concept of “demand driven” is too broad and would require clarification of how demand will (or should) be generated i.e. by raising awareness in segments identified as market gaps or by serving or creating demand from any borrower/promoter that is eligible.

RSFF was designed as a demand-driven mechanism so that it would better serve the needs of the market and potential beneficiaries. However, it is useful to distinguish between two uses of this approach that target different needs:

\textsuperscript{29} Demand can be created and then served by targeting underserved beneficiaries if the latter are eligible or if amendments are made to include them in the eligibility guidelines.
• on the one hand, there is a possibility to profit from EIB’s relations and network to address eligible borrowers/promoters needs via this instrument;
• on the other, there is the possibility to use the approach with an intent to cover market gaps (i.e. in which case an ex-ante assessment of market gaps is required in order to ensure that these gaps are aware of the instrument and how it can support them).

The objectives of RSFF were broad enough to allow for both approaches i.e. the first part of GO1 “to accelerate the pace of investment” covers the 1st one and the second part “to fill market gaps” the 2nd. It is interesting to note though that during the crisis the problem of access to finance created a market gap and therefore many of the projects financed during this period can be considered as “accidentally” using the 2nd approach.

This lack of clarity in the demand-driven principle exposes the facility to reinforcing target group and geographical inequalities, as the project promoters well-equipped to articulate their demand for financing under the RSFF or to be part of the EIB network may not be those that need it most. For instance, while Research Infrastructures are often not eligible under the RSFF and/or bankable, it remains that Research Infrastructures (RI) have a clear preference for securing grants over debt financing. Consequently, promoters of RI do not instinctively seek debt financing from the EIB.

We can conclude that if broader objectives and the lack of a proper ex-ante assessment of the size of the “potential beneficiaries” provides more flexibility to support general objectives, this imprecision adds less value in terms of complementarity of the instrument with other sources of funding. Furthermore, not defining ex-ante clearer objectives and targets facilitates the justification of compliance with the objectives but can lead to suboptimal outcomes and impacts of the instrument. In other words, while the demand-driven approach is most probably the best option for tackling market needs, the best effect is attained under some specific conditions (e.g. a total awareness of the product among potential clients) which were not utterly gathered ex ante.

To conclude on this section 3.1.3, the likelihood of the RSFF achieving its targeted results has for 4 years being hindered by the absence of initial targets. However, the flexibility character of the instrument and the ability of the RSFF SC to amend the Co-operation Agreement have partly offset this key initial weakness in terms of design, allowing regular on-going adaptation, which becomes one of the facility’s greatest strengths. The subtle combination of these two elements provided the RSFF SC with the time: (i) to learn the true objectives of the RSFF; (ii) to manoeuvre in defining appropriate PIs; and (iii) to identify the most suitable approach for achieving the PIs.

3.1.4 RELEVANCE OF THE 16 SAMPLED PROJECTS

Figure 7: Evaluation ratings for the relevance of the sample of 16 projects

Drawing on desk reviews of project documentation and conducting interviews with project stakeholders, the evaluation team rated the relevance of the sample of 16 RSFF projects. The adjacent graph provides an overview of the ratings, of which 15 of 16 are graded “satisfactory” or above.

The largely positive performance of the sample of projects in terms of relevance is mainly due to their objectives being well-aligned with EU, EIB, and national/regional/local objectives in RDI.

Of particular interest is how Project A (see Table in Annex 1) performed excellently in terms of relevance. This relevance was embedded in project’s objectives being fully aligned with the objectives at the EU-level (FP7), the EIB-level (i2i/Knowledge Economy), national-level, and local-level. These objectives were also consistent with market and beneficiaries needs.

The sole project deemed to have performed “partly unsatisfactory” in terms of relevance was Project B. The basis for this judgement was the RDI activity of the project, which involved the start-up of a new network in an eastern Member State. In rolling out this technology on a large scale, the project was introducing a new technology in the country but a technology that already existed in other European Member States. Consequently, it was deduced that the high risk nature of the project did not emanate from the project’s innovative RDI activities but rather from the acquisition debt the promoter had loaded itself with through a leveraged buyout.
In spite of the positive performance of the sample of RSFF projects, the desk review of project documentation noted a weakness in the internal coherence of the objectives for some projects, in the sense that not all project’s objectives are always compatible among each other. This also leads to a recurrent difficulty to correctly evaluate these operations due to complexities in reconstructing the objectives tree of these projects.

In resolving this issue, it is recommended that the EIB includes intervention logic (detailing expected EIB input, project output, outcome, and impact, as well as contribution to the RSFF’s objectives) in appropriate project appraisal documentation. Such an approach is being implemented by the EIB for its REsults Measurement (REM) Framework, and may be used as a source of inspiration.

3.1.5 CONCLUSION ON THE RELEVANCE OF THE RSFF

The RSFF’s performance in terms of relevance can be viewed as strong from a top-down perspective, as the facility is aligned with Lisbon Strategy, FP7 and i2i/Knowledge Economy objectives. This positive performance has also been reflected in the analysis of the sample of 16 RSFF projects, as most operations were deemed to have performed either excellently or satisfactorily in terms of their relevance to EU, EIB, national and RSFF objectives.

In contrast, the internal coherence of objectives for a number of the RSFF projects was deemed unclear. This lack of internal coherence also bore a strong resemblance to the facility’s broad objectives. The likelihood of the RSFF maximizing its complementarity with other instruments and maximizing its economic impacts has been hindered by the absence of clearer ex-ante objectives and targets.

However, the flexibility of the instrument and the ability of the RSFF SC to amend the Co-operation Agreement have partly offset this key initial weakness in terms of design, allowing regular on-going adaptation to meet the needs of beneficiaries during the global financial crisis, or the needs of target groups under-represented by the RSFF’s core portfolio. One such amendment has been the implementation of a FLP (First Loss Piece) portfolio approach which allows the RSFF to increase the number of operations financed under the EU Window (with the FLP, the portfolio benefits from a credit enhancement effect that increases the potential leverage of the EIB/EU contributions).

At the stage where we stand now, the ability of the RSFF to identify weaknesses in its initial design and amend accordingly is one of the facility’s greatest strengths since it allowed the instrument to support RDI investments that were not originally flagged as market gaps.

3.2 EFFECTIVENESS

Effectiveness relates to the extent to which the operational, intermediate and global objectives of the RSFF have been achieved, or are expected to be achieved, and recognises the impacts of any changes/amendments introduced to the RSFF since the signature of the Co-operation Agreement.

3.2.1 DEGREE OF ACHIEVEMENT OF THE RSFF’S OPERATIONAL OBJECTIVES

(OO1) For the EIB to provide up to EUR 10 billion in loans to riskier RDI projects by drawing on a risk sharing component (EUR 2 billion capital x5 leverage effect)

In order to incentivise the extent to which the RSFF fulfils this operational objective, the RSFF SC, in December 2011, identified three performance indicators (PIs) that specified targeted volumes for RSFF operations by the end of 2013 (in terms of signed and disbursed cumulated amount of loans).

The RSFF, in signing EUR 10.07 billion in RSFF operations, has already achieved its Signatures 1 and Signatures 2 PIs (see Table 1, given that the difference between the two PIs is that the second one is more ambitious than the first one). In addition, the RSFF is on track to achieve its Disbursement PI of EUR 7.50 billion (with a total of 6.47 as of 31 December 2012).
Table 1: The RSFF’s state of play in fulfilling its Signatures and Disbursement PIs

<table>
<thead>
<tr>
<th>RSFF PI #</th>
<th>RSFF PI name</th>
<th>RSFF PI definition (including targets)</th>
<th>Current Amount (in EUR billion)</th>
<th>% Coverage</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Signatures 1</td>
<td>Volume of signed RSFF operations by the end of 2013 equal to at least EUR 8.5 billion</td>
<td>10.07</td>
<td>118.5%</td>
<td>Achieved</td>
</tr>
<tr>
<td>2</td>
<td>Signatures 2</td>
<td>Volume of signed RSFF operations by the end of 2013 equal to at least EUR 9.5 billion</td>
<td>10.07</td>
<td>106%</td>
<td>Achieved</td>
</tr>
<tr>
<td>3</td>
<td>Disbursement</td>
<td>Volume of disbursed RSFF operations by the end of 2013 equal to at least EUR 7.5 billion</td>
<td>6.47</td>
<td>86.2%</td>
<td>On track</td>
</tr>
</tbody>
</table>

The leverage effect

The leverage effect created by the RSFF’s contribution is x4.6, and is approaching the x5 leverage effect targeted in RSFF design documentation. In other words, on average, the provisioning and capital allocation is 22% of EIB lending for RSFF operations. This evaluation deems it highly likely that the RSFF will achieve the targeted x5 leverage effect as: (i) the RSFF has still seven months to spare in its Availability Period; (ii) figures do not include signed loan amounts under the RSI portfolio and signed since 1st January 2013; and (iii) the EUR 150 million of Third Countries Appropriations for the implementation of the Compartment 2 has only been received in 2013.

One of the key factors explaining this positive outcome is the evolution of the approach endorsed by the RSFF Steering Committee. Amendment No.4 altered the design of the RSFF’s approach to risk sharing by using the EU contribution as a FLP (First Loss Piece). This new risk sharing arrangement has been a key element enabling the EIB to increase its utilisation of the EU Window. Thus, without Amendment No.4, it would have been unlikely that the RSFF would have achieved its targeted results. An external factor also has significantly impacted the likelihood of the facility achieving its targeted results: the global financial crisis of 2008 and 2009 since this crisis deeply affected the availability of public and private finance and investment in Europe, and resulted in recessionary pressures that encouraged companies into retrenchment, as firms reduced RDI expenditure and placed their competitive future at risk. The RSFF’s ability to alleviate some of these recessionary pressures increased the demand for financing under the facility, and led to the instrument enjoying, in 2009, a record year of approved RSFF operations. A project that exemplified the financial stress-relief drawn from the RSFF is Project F, which provided an RDI-driven company with financing support during a difficult period for the sector.

Thus, the RSFF has been able to achieve its objectives in terms of lending to risky projects and is likely to achieve its leverage effect objective by the end of 2013. The RSFF has also been successful in providing financing to companies investing in RDI that had been downgraded during the financial crisis and then it can be considered as having a countercyclical role to play in the economy although such a role was not anticipated ex ante.

The risk distribution

In the Bank’s Credit Risk Policy Guidelines (CRPGs), it is stated that the EIB typically feels comfortable operating in asset class B of its internal loan grading system (see Table 2). Therefore, under normal circumstances, any loan operation with a Loan Grade (LG) of D- and below is set on the EIB’s “Watch List”, and any operation with a LG of E- would be subject to restructuring. In contrast, all RSFF transactions are by definition below investment grade (below D- according to EIB internal classification). However, Research

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30 Signed RSFF operations mean the cumulative signed loan and guarantee RSFF operations. They include RSFF operations cancelled after signature. They concern (i) EU RSFF operations regulated according to the Agreement in the form prior to Amendment No.4, (ii) the EIB RSFF operations, (iii) Compartment 1 RSFF operations and (iv) Compartment 3 RSFF operations.

31 Disbursed RSFF Operations mean the cumulative disbursed amounts and effectively guaranteed amounts. They concern (i) the RSFF operations regulated according to the Agreement in the form prior to Amendment No.4 and (ii) the EIB RSFF operations and (iii) Compartment 1 RSFF operations and (iv) Compartment 3 RSFF operations.

Infrastructures, are exceptionally allowed for financing under RSFF even though above investment grade rating.

**Table 2: Eligible RSFF loan grading**

<table>
<thead>
<tr>
<th>Loan Grade</th>
<th>Description</th>
<th>RSFF Eligible</th>
</tr>
</thead>
</table>
| A°         | Prime quality | **Loan Grading range allowed for standard EIB operations**  
(Research Infrastructures, including universities and public research organisations, exceptionally allowed for financing under RSFF even though above investment grade rating) |
| A+         |              |               |
| A-         | High quality |               |
| B+         | Good quality |               |
| B-         | Borderline quality |               |
| C          |              |               |
| D+         | Loans that have experienced severe problems | **Loan Grading range for all RSFF operations** |
| D-         |              |               |
| E1+        |              |               |
| E2+        |              |               |
| E3+        |              |               |
| E1-        |              |               |
| E2-        |              |               |
| E3-        |              |               |
| ETI/ETP    |              |               |
| F          | Loans representing unacceptable risk |               |

However, the RSFF, along with other “Special Activities” of the EIB, are excluded from the Watch List and restructuring rules, providing that RSFF operations maintain their LG at signature. This exception to the Watch List rule demonstrates how the EIB has complemented the risk sharing component of the RSFF by adapting the Bank’s procedures in order to increase its lending capacity to riskier RDI projects.

Nevertheless, Figure 8 supports the idea that the level of risk accepted by the EIB for the RSFF operations has not significantly changed over the period 2007 to 2012, as the majority of operations are loan graded either D- or E1+. This bias towards RDI projects at the higher end of the RSFF’s LG range can be at first glance explained by the EIB’s CRPGs, which places limits on the signed loan amounts for LGs of D- and below. These limits mean the EIB can finance operations rated D- up to an amount of EUR 300 million. In contrast, for operations rated ETI (equity type investment), the EIB can only provide a maximum signed loan amount of EUR 15 million. Nonetheless, it is important to underline that D- and E1+ are risky operations below investment grade that the EIB would not otherwise finance. It can be concluded that RSFF transactions enlarge the scope of products offered by the EIB.
Nonetheless, a more balanced image is given if, instead of the cumulated loan amount, we consider the distribution according to the number of projects by LG (Figure 9). This suggests that beyond the Bank’s CRPGs, the LG distribution of the RSFF’s portfolio is predominantly shaped by the EIB’s “delivery mode” (i.e. all the modalities put in place by the EIB for the implementation of the RSFF). This “delivery mode” is in effect an important factor as the project cycle –time-wise and cost-wise- is very similar for small and large transactions (and some small pioneering operations even require more time than standard large ones). In other words, higher ranked, eligible LGs (with greater size limits) are more likely to end up into the RSFF portfolio, especially if we consider the volume-orientation of its objectives.

In addition, the extent to which the EIB is financing riskier RDI should not be assessed on the RSFF’s eligible LG range but rather on the entire internal LG system of the EIB. In doing so, it becomes clear that, under the RSFF, the EIB has increased its lending capacity to projects that are far riskier than those in asset class B of its internal LG system (the asset class in which the EIB typically feels comfortable operating in).

To conclude, overall RSFF has been able to achieve its objectives in terms of lending to risky projects and is likely to achieve its leverage effect objective by the end of 2013.

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**Figure 8: Core portfolio breakdown by LG, signed loan amount and by signature year**

![Core portfolio breakdown by LG, signed loan amount and by signature year](image)

Source: EV, PwC

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**Figure 9: Core portfolio breakdown by LG, number of projects and by signature year**

![Core portfolio breakdown by LG, number of projects and by signature year](image)

Source: EV, PwC

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33 Those operations for which a LG is not applicable (N.A.) are intermediated RSFF operations, whereby the LG will depend on the loans concluded by the selected Financial Intermediary.
(OO2) For the EIF to provide up to EUR 1.125 billion in (counter-) guarantees to RSI Financial Intermediaries by drawing on a risk sharing component of EUR 253.8 million

On 6 February 2012 the EIF launched a Call for Expression of Interest to Select Financial Intermediaries under RSI\(^{34}\). Financial Intermediaries were defined in the Call as public or private financial institutions, in each case, duly authorised to carry out lending or leasing activities according to the applicable legislation, established in one of the EU Member States or FP7 ACs.

As of 31 December 2013, 10 Financial Intermediaries had applied for the RSI, of which 7 had signed guarantee agreements totalling EUR 345 million (see Table 3). Therefore, one year away from the deadline of the Call, the EIF had sufficient time to reach its first two PIs and remains on track in achieving the RSI Financial Intermediaries PI. In addition, the EIF was inhibited in pursuing this PI until the counter-guarantee term sheet was agreed with the EC, the Call was updated accordingly on 7 March 2013 and the EUR 150 million EU Contribution was transferred to EIF.

Table 3: The RSI’s state of play in fulfilling its PIs

<table>
<thead>
<tr>
<th>RSI PI #</th>
<th>RSI PI name</th>
<th>RSI PI definition (including targets)</th>
<th>Current Amount</th>
<th>Coverage</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RSI Financial Intermediaries</td>
<td>PI 1.1: The number of Financial Intermediaries which have entered into a (counter-) guarantee agreement with the EIF under the RSI is equal to 10 different RSI Financial Intermediaries</td>
<td>7 different RSI Financial Intermediaries</td>
<td>70%</td>
<td>On track (as of 31-12-2012)</td>
</tr>
<tr>
<td>2</td>
<td>Type of RSI Operations</td>
<td>PI 2.1: The number of RSI Operations taking the form of a counter-guarantee is equal or superior to 2</td>
<td>0 RSI Operations taking the form of a counter-guarantee</td>
<td>0%</td>
<td>No preliminary indications as the updated Call, offering counter-guarantees to promotional banks and guarantee societies, was just launched</td>
</tr>
</tbody>
</table>

Source: EIF, EV, PwC

To complement this analysis, interviews were conducted with two RSI Financial Intermediaries. Both interviewees were largely positive about the effectiveness of the RSI in attracting Financial Intermediaries to conclude (counter-) guarantee agreements with the EIF and in mobilising them to actively promote the RSI. Some strengths as well as areas for improvement are highlighted below.

The main factors explaining these positive outcomes are the following:

- **The attractiveness of the RSI product** which was deemed by financial intermediaries complementary with their own products and consistent with national calls for increased access to finance for SMEs in some Member States\(^{35}\). The size of the guarantee agreement also was considered appropriate. As regards the financial benefit passed on to SMEs and Mid-Caps, the product was however considered as more attractive for SMEs than for Small Mid-caps;

- **The promotion of the RSI by the Financial Intermediaries** to the SMEs and small Midcaps was deemed effective and proactive\(^{36}\);

- **A pragmatic approach and practical eligibility criteria:**

\(^{34}\) Available at: [http://www.eif.org/what_we_do/guarantees/RSI/index.htm](http://www.eif.org/what_we_do/guarantees/RSI/index.htm)

\(^{35}\) In addition, one Financial Intermediary believed that the RSI provides a blueprint (e.g. for the definition of risk appetite) to follow in the financing of innovative SMEs, an opportunity to build a centre of expertise for SME financing (a new team has been recruited), and a competitive edge.

\(^{36}\) As illustration, one Financial Intermediary is working in close collaboration with its 14 Business Centres, as well as trade organisations, to build the pipeline of prospective clients, while the other RSI Financial Intermediary has launched a dedicated marketing campaign with the support of local promoter agencies (e.g. the local chamber of commerce and research promotion agencies) and other institutions (e.g. the patent office). More specifically, one of the RSI Financial Intermediaries explained how a research promotion agency has included the RSI product sheet in the newsletter it sends to over 4000 companies, while the patent office has presented the product on its website. Lastly, a representative of the RSI Financial Intermediary is increasingly being invited to attend events in order to present the RSI.
The RSI eligibility criteria indicated the EIF’s good understanding of market needs, as the criteria used seemingly cover the bulk of innovative SMEs;

The SME eligibility criteria, which in some cases differ from FI’s own definition of SME, have not been a problem for the RSI Financial Intermediaries to implement;

The SME transaction eligibility criteria were analysed on the basis of the maturity and transaction size. In the case of maturity, both RSI Financial Intermediaries indicated that the 7 years tenor was longer than other loans provided by the market.

These eligibility criteria seek to both clarify and simplify the EC’s definition of innovative and research-driven SMEs and Small Mid-caps, while providing the RSI Financial Intermediaries with an eligibility checklist from which they can originate loans with practical understanding. This has led to the RSI being on track to meet its RSI Financial Intermediaries PI.

However, some areas for improvement have been identified:

- With regard to the portfolio eligibility criteria, both RSI Financial Intermediaries interviewed anticipated that the pre-defined rating class limits for their portfolios under the RSI would likely become a constraint. Therefore, once the entire RSI portfolio has matured and ramp-up risk has been fully mitigated, the EIF may wish to consider adjusting these pre-defined rating class limits;
- A need for the formation of a “RSI Financial Intermediary Group” in which Financial Intermediaries (from different Member States) can exchange experiences and success stories was expressed;
- With regard to the possibility to enlarge the definition of a “borrower”, as many SMEs are organised in a Group structure, whereby the innovation entity is separate from the asset holding entity. Consequently the innovation entity would be eligible under the RSI eligibility criteria but would not be considered bankable, whereas the asset holding entity would be considered bankable but not eligible under the RSI eligibility criteria.

With regard to the RSI’s second PI (see Table 3 above), it remains to be seen how the compartment will perform in terms of attracting Financial Intermediaries to engage in counter-agreements, and this is especially due to the tight timing constraint (application to be received within only a 9 months period after the call has been launched). However, the market testing undertaken by the EIF suggests that guarantee institutions and promotional banks have contributed to the shaping of an attractive counter-guarantee product. This will most likely lead to the submission of applications in response to the updated Call even from the main promotional banks in Europe. As an illustration of this attractiveness, the EIF received on 20 March 2013 the first counter-guarantee application.

As of 30 April 2013, 20 Financial Intermediaries had applied for the RSI, of which 10 had signed guarantee agreements totalling EUR 485 million. Therefore, approximately seven months away from the deadline of the Call, the EIF has reached its first two PIs and remains on track in achieving the RSI Financial Intermediaries PI.

To promote the RSFF to a wide range of potential beneficiaries

Article 16 of the Co-operation Agreement stipulates that the facility ought to use reasonable efforts to develop market awareness of financing possibilities under the RSFF. Promotion activities are meant to complement and optimise the coverage of market gaps and the demand-driven principle upon which the RSFF is based.

Therefore, the EIB, in collaboration with DG RTD, developed a promotion strategy that aimed to:

- Undertake awareness raising activities for all target groups, including SMEs, acting in all RSFF sectors, and operating in either EU27 Member States or Associated FP7 Countries;
- Use non-technical language when presenting to audiences outside the finance community;

Box 1: Latest available data about the RSFF second compartment (RSI)

As of 30 April 2013, 20 Financial Intermediaries had applied for the RSI, of which 10 had signed guarantee agreements totalling EUR 485 million. Therefore, approximately seven months away from the deadline of the Call, the EIF has reached its first two PIs and remains on track in achieving the RSI Financial Intermediaries PI.

Of the three RSI Eligibility Criteria provided, the interviewees anticipate that criterion (iii) “the SME shall have a significant innovation potential and/or be an R&D and/or innovation-driven enterprise” will be the most commonly used. In contrast, point (i), which refers to the SME intending “to use the SME Transaction to invest in producing or developing products, processes and/or services that are innovative and where there is a risk of technological or industrial failure as evidenced by the business plan” is deemed a complex criterion to fulfil as there is a degree of subjectivity involved. Therefore, the RSI Financial Intermediaries expressed concern for ex post reviews or audits of transactions falling under this criterion.

Nonetheless, a tenor longer than 7 years would be appreciated by the market, especially for the development of RDI facilities that involve construction activities. With regard to volume, one of the RSI Financial Intermediaries stated that the range of transaction sizes was appropriate.
• Use an array of communication tools, including conferences, workshops, seminars, print media and the EIB website;
• Adapt communication to individual target groups;
• Use success stories to promote the RSFF.

The different activities involved in pursuing this strategy have been threefold:

• **Preliminary market analyses (PMA)** conducted by PJ (the EIB’s Project Directorate with sector’s expertise). These analyses have been used to identify market gaps in the financing of RDI on a sectoral or geographical basis. In some cases, PJ conducted preliminary market analyses upon request of OPS, as was the case for the identification of potential RSFF beneficiaries in Turkey.

• **Awareness raising activities (ARA)**, which involved: the EIB and EC cooperating in conducting a road show across Europe, essentially during the first two years of RSFF operations; conferences; workshops; and creating dedicated RSFF webpages on the EIB 39 and EC 40 websites, as well as a film to promote the RSFF.

• **Project pipeline identification (PPI)**, which is drawing on OPS’ client base to identify firms that were RDI-driven and were likely to be eligible under the RSFF.

The push for awareness raising events came from the RSFF SC that deemed it necessary for the facility to shift its attention to target groups, Member States and FP7 Associated Countries that were under-represented by the RSFF’s portfolio. This resulted in the EIB participating in a total of 186 RSFF awareness raising events over the period 5 June 2007 – 31 December 2012 (approximately three events per month). These events took place in 27 different Member States and FP7 Associated Countries, and promoted the RSFF to a wide range of potential beneficiaries.

RSFF awareness raising events over the period 2007-2012 can be differentiated between general events at which an EIB representative was present on behalf of the RSFF and specific RSFF events. The frequency of RSFF awareness raising events peaked in 2008 and has since been in decline. This decline is predominantly attributed to the RSFF achieving a sufficient level of demand after its two-year long campaign (mid-2007 to mid-2009), which sought to test the RSFF concept with the market and demonstrate that the EIB was open to new ideas. Once the campaign was complete, the EIB deemed it unnecessary to continue the RSFF-dedicated campaign as the product had been tested, a forum for the expression of market and beneficiary needs had been created, and sufficient demand had been generated. Nevertheless, “one-off” awareness raising events continued after the completion of the facility's initial campaign.

A recent survey conducted by the European Court of Auditors on the RSFF received 19 responses from project promoters (out of a possible 26) and deduced that the RSFF’s awareness raising events had been effective as (i) 53% of the promoters became aware of the RSFF instrument via an awareness raising or promotion event and (ii) 74% of the respondents underlined that they were not an EIB customer before applying for RSFF. EIB services concurred with both findings but expressed some reservations as to whether the promotion of the RSFF was effectively complementing the RSFF’s demand-driven nature, thereby enhancing the facility’s ability to meet market and beneficiary needs. More widely, these promotion activities did not follow a proactive, consistent, and well-planned communication strategy as illustrated by the minor proportion of RSFF-specific events and the vast majority of events where the RSFF mechanism was presented among other issues or instruments.

In addition, as noticed with the sample of projects analysed, all the existing formal and informal networks coordinated by industrial stakeholders are probably under-utilised. Yet, the evaluation of the 16 selected operations have revealed that one of the most successful ways to foster awareness is when the promoter is heavily involved in a company network and can promote RSFF within this network (as in the case of Projects F and A). Improving the visibility of RSFF among these networks would highlight its usefulness and foster the mutual interests of stakeholders when investing in RDI.

A recurrent comment made by almost all the promoters interviewed in the framework of the evaluation of the sample of 16 projects is also that the RSFF brand name often creates some confusion. Their initial interpretation of the “risk-sharing” nature of the instrument was actually that they will have to share part of the risk with the EIB or would have to provide more guarantee or collateral on their side. Therefore, the EIB loan officers negotiating the transaction with the promoters tend not to use the label “RSFF” and this leads

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39 Available at: [http://www.eib.org/products/rsff/index.htm](http://www.eib.org/products/rsff/index.htm)
40 Available at: [http://ec.europa.eu/invest-in-research/funding/funding02_en.htm](http://ec.europa.eu/invest-in-research/funding/funding02_en.htm)
to an almost total ignorance amongst promoters. The need for a clearer and more market-orientated brand name for the successor of the RSFF is thus highly recommended.

It can be concluded that the promotion activities of the RSFF have performed satisfactorily in raising potential beneficiaries’ awareness of the RSFF. However, it is recommended to clarify the degree to which the demand-driven approach should target specific market gaps (i.e. for which an ex-ante analysis is more relevant to identify what type of awareness raising activities should be carried out) and to what degree it should focus on contributing to accelerate the pace of investment in RDI in some specific sectors. In addition, beside usual awareness raising campaigns, preliminary market analyses and project pipeline pre-identification are currently under-utilised to identify relevant projects. A more optimal utilisation would imply an increased involvement of the Advisory Services Department or Project Directorate of the EIB in this field. In any case, the need for a more coherent, proactive and marketing strategy, notably based on increased interactions with companies’ platforms is required.

3.2.2 DEGREE OF ACHIEVEMENT OF THE RSFF’S INTERMEDIATE OBJECTIVES

(I01) To trigger a x3 catalytic effect on other financiers lending to riskier RDI projects

The catalytic effect was considered by the EC as a vital objective of the RSFF as it was meant to measure the degree to which the facility was able to attract private investment institutions to participate in the RDI funding provided.

The calculation of this catalytic effect is made by dividing the total costs of all the projects financed under the RSFF by the amount of RSFF loans signed. Based on this calculation, to date, the catalytic effect on the total RSFF signed loan amount, at x3.39, exceeds the pre-defined target of x3. By achieving this catalytic effect, the RSFF has met IO1.

If the analysis is refined for each compartment, the compartment 1, whose average signed project cost is x3.75 greater than its average signed loan amount, has the highest catalytic effect. In contrast, compartment 3 (for Research Infrastructures), at x2.9, has the lowest catalytic effect of all the Compartments and Windows. The relatively low catalytic effect of Compartment 3 may be attributed to the greater difficulty that Research Infrastructures face in attracting other financiers, as RI implicitly involve basic research that is far from generating bankers’ cash flows; implying little (or no) involvement of commercial banks in co-financing such projects (as this was the case for Project A).

In order to identify the financing sources through which the RSFF’s catalytic effect is achieved a desk review was performed on each operation’s investment cost and financing plan. This desk review highlights how the EIB, covering 40% of project cost, has made a significant contribution to the overall project cost of signed RSFF operations. The EIB has allowed the promoters to draw on their own funds and to a lesser extent co-financing provided by banks, to finance the lion’s share of the cost of signed RSFF operations. Nevertheless, with this 40% coverage, the catalytic effect is only x2.5, i.e. below the expected target.

In addition, a number of issues must be highlighted:

- The manner in which the catalytic effect is calculated may appear misleading in that it ignores the complementary financing provided by other EIB loans and products. Such complementary financing provided by other EIB products effectively dilute the degree to which the RSFF catalyses additional private sector investment in RDI (and the overall EIB leverage effect comes down to x2.49 if we take into account all EIB loans provided to RSFF projects);
- The RSFF’s complementarity with EU or Member State grants and subsidies has been minimal (only few operations have been cofinanced by the FP7 budget or Structural or Cohesion Funds);
- The catalytic effect is mainly driven by ‘promoter’s own funds’ rather than ‘co-financing by banks’. As such it can be argued that the RSFF has somewhat fallen short in attracting private investment institutions to participate to the RDI funding provided by the RSFF. This perspective is substantiated by the percentage of project cost covered by the RSFF signed loan amount (29%) exceeding that of co-financing by banks (19%).

Furthermore, the methodology for calculating the catalytic effect is somewhat unrealistic in that promoters do not actually fund their RDI projects on an individual basis. Instead, promoters require a global funding for their annual RDI budget. As such the idea of an “RDI project” financed via the RSFF is in practice a quite artificial notion, set-up in order for the EIB to assess the eligibility as well as the project’s feasibility within this delimited scope. Besides the EIB funding, the promoter will finance the remaining RDI activities through own funds, commercial bank or other sources of funding. Thus, while the contribution of co-financiers might appear rather low with regard to RSFF loans, it is to be assumed that the contribution to the overall RDI
expenditure of the promoter is in fact much higher, considering that what the RSFF loan is financing is in most of the cases only part of the overall RDI budget of a company.

In sum, the RSFF has achieved its intermediate objective of triggering a x3 catalytic effect on other financiers lending to riskier RDI projects, albeit by drawing on the complementary catalytic effect of other EIB loans. However, the interest of such a catalytic effect target (as currently calculated) is questionable since all the other sources of financing are not taken into account. In practice, what RSFF loans usually finance is only part of a corporate RDI programme. Therefore, the very concept of “project” as retained by EIB services does not capture all financing sources of this RDI programme; and in reality, the typical RSFF operation is much more comparable to a framework or a “programme loan” which provides finance to a portfolio of various RDI projects which represents a share of the RDI budget of a company.

(I02) To enable the RSI Financial Intermediaries to provide up to EUR 2.25 billion in loans to SMEs & Small Mid-caps with significant activities in RDI (EUR 253.8m x8.8 leverage effect)

The assessment of this intermediate objective would ideally draw on the RSI portfolio of signed SME and Small Mid-caps transactions to deduce whether the RSI was likely to achieve its PI on the Volume of SME Transactions.

However, as of 31 December 2012, the amount of guarantees committed to SME and Small Mid-caps transactions is EUR 1.95 million, and RSI Financial Intermediaries have, as of the same date, only provided EUR 3.9 million in loans to innovative and research-driven SMEs and Small Mid-caps. This low coverage of the RSI’s PI 3 is not due to the inability of Financial Intermediaries to lend to SMEs and Small Mid-caps but due to the very short period of time banks have had to conclude eligible transactions (the signatures of these RSI Financial Intermediaries started only in Q4 2012).

Consequently, the evaluation of this objective relied upon information collected from the interviews held with two RSI Financial Intermediaries. These interviews concluded that RSI Financial Intermediaries: (i) have benefitted from a suitably-sized guarantee that provides 50% coverage of its underlying portfolio; (ii) have benefitted from the flexibility and control retained by the selected Financial Intermediaries, e.g. the application of the Intermediary’s own credit appraisal methodology; and (iii) have not faced any obstacles in applying the SME or Small Mid-cap eligibility criteria.

However, the RSI Financial Intermediaries have been challenged by:

- Ambiguity in the first eligibility criterion which stipulates that the financing provided under the RSI may be used to “invest in producing or developing products, processes and/or services that are innovative and where there is a risk of technological or industrial failure as evidenced by the business plan”. This broad definition inherently results in a subjective assessment, leaving the Financial Intermediary in question exposed to criticism from the European Court of Auditors, the EIB or the EIF;
- The fact that SMEs and Small Mid-caps are seeking loans with longer maturities (beyond seven years), particularly for RDI-related construction;
- The frequent situation where SMEs separates the asset holding entity from the innovation entity, resulting in the innovation entity being eligible under the RSI but not bankable, and the asset holding entity being bankable but not eligible under the RSI. Therefore, the Call may wish to revisit the definition of a “borrower” under the RSI;
- The difficulty with regard to the eligibility of loans to newly created entities.

As the RSI has only become operational very recently, no preliminary indications could be identified regarding the RSI's ability to provide EUR 2.25 billion in loans to innovative and research-driven SMEs and Small Mid-caps.

(I03) To reach out to a wider range of target groups through RSFF operations

A review of the RSFF’s core portfolio provides significant insight into how the facility had had varying success in reaching out to each target group. The target groups for financing under the RSFF are: enterprises with over 50k employees; enterprises with 10k - 50k employees; enterprises with 3k - 10k employees; banks and financial intermediaries; Mid-caps; Research Infrastructures (including universities); SMEs; and Special Purpose Vehicles (SPVs).
As illustrated in Figure 10, 74% of the RSFF’s total signed loan amount is distributed among Large-caps (with over 3,000 employees), while Mid-caps, SMEs, Research Infrastructures (including universities) continue to be underrepresented in the core portfolio.

The fact that these characteristics of the RSFF core portfolio bear strong resemblance to the RSFF’s target group distribution in the first evaluation of activities under the RSFF (2009-10) is unsurprising as:

- Remedial action for the lack of Mid-cap, Research Infrastructures (including universities) representation in the RSFF core portfolio was only recently taken in the form of Amendment No.4 to the Co-operation Agreement (signed on 11 December 2011);
- There are few preliminary indications as to the success of RSI Financial Intermediaries concluding SME and Small Mid-caps transactions, as the first transactions (amounting to EUR 3.9 million) were concluded in Q4 2012.

Possible factors explaining the continuing under-representation of SMEs, Mid-caps, and Research Infrastructures in the RSFF core portfolio include:

- On the EIB side, the delivery mode and communication strategy is shaped by the Bank’s operating model, i.e. geared towards large companies seeking large loans (see section relating to OO1), with the targeted leverage effect more easily attained by seeking larger operations;
- A lack of indirect lending by the EIB under the RSFF (very small and decreasing share of intermediated loans to Banks/FIs which are usually on-lent to SMEs and Mid-Caps);
- On the demand side, there has been a larger demand coming from large corporates as a result of the crisis from counterparts facing temporary downgrades whereas SMEs and Midcaps have faced additional issues apart from access to finance (maturity mismatch between debt financing expectations and current market debt supply for instance41);
- Regarding Research Infrastructures, they are probably the most challenging target group to reach out to as they almost always use grants to meet their financing needs and, due to their inability to generate a financial surplus, are considered as high risk operations. Consequently, Research Infrastructures (RI) have little to no experience in financing debt, and so do not instinctively approach the EIB (or other debt financiers).

As depicted in Figure 9, the share of intermediated operations with banks and financial institutions is also very low, with only a few of such cases. In one specific case, while the financial contract was signed, it was cancelled after signature due to cumbersome procedures from an operational standpoint, and the inability of the financial intermediary to sign any loans. Such intermediation issues encouraged the EIB to take a direct and corporate loan-only approach of large ticket sizes in order to achieve the RSFF’s targeted x5

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41 As highlighted by SME access to finance surveys conducted by the ECB and Small Business Act to address the other issues faced by SMEs across the EU.
leverage effect. This case illustrates some of the shortcomings of the RSFF’s mechanism for intermediated loans.

Similarly, beneficiaries initially earmarked for RSFF financing under the EU Window such as Joint Technology Initiatives (JTIs), Networks of Excellence; and Research for the benefit of SMEs have not signed any operation as a result of an inadequate match with RSFF to serve them which could have been identified with a stronger ex-ante analysis.

In sum, the RSFF has performed well in reaching out to Large-caps but not so well in reaching out to Mid-caps, SMEs, Research Infrastructures and other initially targeted beneficiaries. The lack of outreach to Mid-caps and SMEs may be tied to the EIB’s delivery mode being geared to Large-caps, as well as the Bank’s shortcomings in providing indirect lending under the RSFF. The implementation of the RSI was a remedial action to better reach SMEs and Mid-caps. However, it is questionable whether the different counterparts acted swiftly enough in taking action to rebalance the RSFF portfolio in terms of target groups, as Amendment No.4 and Amendment No.6 entered into force 4.5 and 5.5 years after the launch of the RSFF. Interviews highlighted the fact that the RSFF SC was awaiting the recommendations of the first interim evaluation of the facility before taking remedial action. A reflection is recommended as to what market gaps and segments are to be targeted by the successor of the RSFF by clarifying ex-ante its intervention logic and desired PIs. A comprehensive market gap analysis should also prevent the instrument from being constantly adapted (with delays) to tackle new funding opportunities that arise throughout its life.

(IO4) **To seek a wide geographical distribution of RSFF operations**

In accordance with the RSFF’s Geographical Spread PI, the RSFF’s signed operations currently cover 21 Member States and 5 FP7 Associated Countries. Consequently, the RSFF has achieved PI 4.5. Member States in which the RSFF does not have signed operations include: Estonia; Latvia, the Czech Republic; Greece; Cyprus; and Malta. FP7 Associated Countries in which the RSFF does not have signed operations include: Iceland; Croatia; the Former Yugoslav Republic of Macedonia; Serbia; Albania; Montenegro; Bosnia 

In complement of this geographical spread, the evolution of the RSFF’s signed loan amount by country is worth analysing. As illustrated in the Figure 11, the RSFF’s total signed loan amount is skewed towards Western and South-western Europe. More specifically, Germany and Spain have consistently been the two leading countries in which signed RSFF operations are located. In contrast, France has been a rather exceptional case, as no RSFF operations were found in the Member State until 2009. This was largely attributed to France having RSFF-like programmes that were offering more “generous” terms and conditions than the RSFF itself. This is a good example of how a stronger ex-ante analysis could have led to better complementarity with other stakeholders and instruments. In spite of the relatively late participation of French projects in the RSFF, France, in 2012, became the third leading country in terms of signed operations, which tends to nuance the existence of such RSFF-like product in that country (which supposes the existence of other explanatory factors such as the difficult emergence of RSFF eligible projects).
The performance indicator for the Geographical Spread of RSI operations (which corresponds to “a minimum country diversification, defined as 8 countries covered by the RSI (including at least one of the following EU Member States: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and one of the Associated Countries) is achieved.”

As of 31 December 2012, the EIF has signed 7 agreements with Financial Intermediaries situated in 6 countries, and barely falls short of achieving this PI. Given the current pipeline of applications such performance indicator should be reached soon. Of particular interest is how the RSI has already reached out to a RSI Financial Intermediary in the Czech Republic, a nation in which the RSFF had not managed to nurture demand for the RSFF so far. In addition, the EIF Board has approved the selection of a Financial Intermediary in Poland, another Member State deemed by the RSFF SC to be underrepresented by the RSFF’s core portfolio.

From a more general viewpoint, the scarcity of operations in Central and Eastern Europe seems to be linked to the region’s still thin technological base and infrastructure. However, one of the objectives of this successor of the RSFF could also be to better address and enhance the RDI potential in these regions (and notably in some promising countries such as the Czech Republic).

The lagging-behind situation of Eastern and Central Europe is exemplified by Project B operation, which, in 2009, began using an EIB loan under the RSFF to invest in the rollout of 3G telecom technology in Bulgaria. However, 3G technology had, by 2003, already been rolled out in the UK and Italy on a large scale. Thus, the innovative nature of the technology, despite being relevant in Bulgaria, ought not to be considered relevant to the RSFF at the EU-level. Consequently, the RSFF should consider how to better reach out to Central and Eastern Europe, and explore how the facility can thicken the region’s technology base. One such possibility would be for the RSFF to complement the pilot programmes earmarked for the European Regional Development Fund and the European Social fund, as some of these programmes might for instance encourage top researchers and scientists from the region to remain in Central and Eastern Europe by offering them attractive posts in their home countries.

With regard to the RSFF’s Geographical Concentration, the EIB has been incentivised to ensure that the RSFF portfolio does not have more than 60% of its signed operations in the three Member States with the largest share of RSFF operations by volume. Since the RSFF currently only has 46% of its signed operations in its three leading Member States, the facility meets its Geographical Concentration target.

To further examine the unevenness in the EU’s technological landscape, an analysis was made by plotting each Member State’s share of total EU27 intramural R&D expenditure against their corresponding percentage of the total signed RSFF loan amount. The difference between the two indicators provides an
approximation of the degree to which each Member State's RSFF potential has been realised, i.e. the closer the two shares are to one another for a Member State, the more the Member State can be regarded as having mobilised a fair share of the RSFF core portfolio. If the Member State's share of the RSFF's core portfolio exceeds the R&D national share, this means that the country has benefitted from a disproportionally high share of RSFF lending. This would be the case for Spain, Sweden, the Netherlands, Finland and Hungary, while the opposite may be said of France, the UK, and Austria. The proportion of the portfolio invested in Eastern Europe is limited but these amounts are commensurate to intramural R&D expenditure in these countries.

For analysing the relationship between the geographical spread of RSFF operations with the facility's promotion activities, a comparison was also made between the percentage of the RSFF core portfolio held in each EU27 Member State or FP7 Associated Country and their corresponding share of the total number of facility awareness raising events. Belgium, as host nation to many European administrations and institutions, and Luxembourg, as host nation to the EIB, accounted for a disproportionately large number of RSFF awareness raising events. The following countries hosted awareness raising events that failed to generate demand for the RSFF that resulted in signed projects under the RSFF: Czech Republic; Estonia; Greece; Latvia; Malta; Portugal; Switzerland; and Tunisia. In contrast, the following countries have demonstrated demand for the RSFF by accounting for a share of the RSFF core portfolio without hosting any awareness raising events: Bulgaria; Romania; Slovakia; and Turkey. The sole EU27 Member State that neither accounts for a share of the RSFF core portfolio nor has hosted an awareness raising event is Cyprus. Therefore no relationship can be drawn between the number of RSFF awareness raising events a country hosts and the country's corresponding share of the RSFF core portfolio. Furthermore, it cannot be assumed that increasing the number of RSFF awareness raising events in Central and Eastern European Member States will result in a proportionate increase in their demand for debt financing from the RSFF.

Further to this analysis, it must also be noted that the geographical impact of RSFF operations may be international. This is for instance the case for Project A, which, in spite of being located in a specific country, draws on its wide array of researchers, hailing from different European countries, to achieve international impact. To further assess the spatial impact of projects, a desk review was performed on the number of countries to which part of a RSFF operation's loan was allocated. The RSFF loans provided for each operation are typically allocated to a single Member State or FP7 Associated Country. However, the case of Project E, which involved 9 different countries, demonstrates the flexibility of the RSFF in providing financing across an array of Member States and FP7 countries. However, this transversal geographical scope was also one of the aspects that negatively affected the efficiency of the operation. Therefore, the question of country distribution and location ought to be addressed in a more elaborate manner where wider spatial and socioeconomic impacts at EU level have to be taken into account.

In conclusion, with seven months to spare, the RSFF remains on track in achieving its Geographical Concentration and has already met its targeted Geographical Spread. In addition, the RSFF SC has created a Geographical Spread PI for the RSI which may partly compensate for the underrepresentation of certain Member States in the RSFF core portfolio. Therefore the RSFF has performed well in seeking a wide geographical distribution. However, the facility's success does not appear to owe to awareness raising activities but rather to demand from the market and beneficiaries. From a more general viewpoint, the spatial impact of RSFF operations is in most cases not limited to the place of legal establishment of the RSFF beneficiary and more sophisticated indicators could be elaborated in that respect.

### 3.2.3 DEGREE OF THE ACHIEVEMENT OF THE RSFF’S GLOBAL OBJECTIVES

As global objectives are distant from the outputs of the RSFF (occurring at the operational objectives level), it is difficult to fully attribute impact to the outputs and outcomes borne from RSFF. Nevertheless, this section uses a number of proxies to examine the RSFF’s impact in relation to its two global objectives and its overall objective.

**GO1** To accelerate the pace of investment in RDI and to fill market gaps in the financing of RDI in the EU27 and FP7 Associated Countries

Thus far, it has become clear that the RSFF has focused on supporting below investment grade operations but since there was no ex-ante assessment of where the market gaps existed within these segments, this is inclusive of all target groups, all sectors, and all countries. The size of the "below investment grade" market that could be served via RSFF was also not quantified. Additionally, the RSFF's design has been somewhat exclusive in terms of the type of financing gap it intends to fill, as the facility only provides debt (and mezzanine) financing. Therefore the RSFF ignores all the equity financing needs of the market and its
underlying beneficiaries. The debt financing provided by the RSFF is also constrained as the loans provided are limited in terms of their:

- **Size**, as loans can range from EUR 25,000 to EUR 300 million, and can only cover up to 50% of the cost of the project;
- **Maturity**, as loans can have a tenor of up to ten years (or more for Research Infrastructures);
- **LG**, as most RSFF operations must be graded between D- and ETI within the EIB’s internal LG system (except for Research Infrastructures, including Universities and Public Research Institutions, for which this rule does not apply).

*As regards “To accelerate the pace of investment in RDI”*

Within its limitations, the RSFF has been successful in providing financing to companies investing in RDI that had been downgraded during the financial crisis and that in some cases were being provided loans previously by the EIB via the i2i/knowledge economy priority. Although several companies were previous clients of the EIB, since their ratings fell below investment grade, without RSFF, the EIB could not have continued supporting them. It can rightly then be considered as having a countercyclical role to play in the economy, although such a role was never anticipated ex ante.

*As regards “To fill market gaps in the financing of RDI”*

Therefore in the financing of RDI, the RSFF has only targeted a specific segment, and within this segment, this evaluation has concluded that the RSFF has had mixed results. In terms of target groups, the RSFF has clearly reached out to Large-caps. However, Mid-caps, SMEs, and Research Infrastructures remain underrepresented in the portfolio. Similarly the geography of the core portfolio is skewed towards Western and South-Western Europe, leaving Central and Eastern Europe and FP7 Associated Countries as small recipients of the RSFF core portfolio. However, the RSFF has undertaken no apparent remedial action to increase the share of RSFF operations located in Central and Eastern Europe of FP7 Associated Countries. In contrast, the RSFF has undertaken remedial action to increase the facility’s ability to finance Mid-caps, SMEs, Public Research Organisations and Universities, and Research Infrastructures. As these remedial actions only came into force at the end of 2011 (Amendment No.4) and the beginning of 2013 (Amendment No.6), this evaluation has been unable to gauge whether the RSFF is now better equipped to effectively fill the debt financing gaps of the aforementioned target groups. In terms of financing type, the RSFF has, in offering loans with longer tenor, contributed to the filling of the market gap related to the mismatch between beneficiary expectations (long-term debt) and current market debt supply (short-term debt). However, in only allowing –due to FP7 legal base- the RSFF to provide debt and mezzanine financing, the facility has rendered itself ineffective in providing equity-type financing for the growth of enterprises with significant RDI activities.

In contributing to filling the market gap for financing RDI through debt, the RSFF has achieved mixed results as its core portfolio is skewed towards certain target groups (e.g. large-caps) and countries. However, the RSFF has contributed to filling of the long-term debt financing gap. This issue was exemplified in a recent study conducted by PwC, which investigated the outstanding financing gap for RDI-intensive Mid-caps. The first conclusion drawn from the report is that excess capital demand will emanate from RDI-intensive Mid-caps. The study also concluded that the equity supply available to RDI-intensive Mid-caps is of the utmost importance. Thus, filling the financing gap of the larger Mid-caps is of the utmost importance. The study also concluded that the equity supply available to RDI-intensive Mid-caps is very low. This highlights the need for a dedicated instrument, which would facilitate the development of various forms of financing (hybrid, mezzanine and equity-type), which would cover the funding diversification needs of RDI-intensive Mid-caps. The FP7 legal base limited the design possibilities of the facility to providing mezzanine financing and so only targeted a specific segment of the entire market gap. For instance, Mid-caps, requiring finance solutions such as hybrid or equity type that cannot be appropriately served through the RSFF.

(GO2) **To contribute to total R&D investment reaching 3% of Europe’s GDP**

RSFF’s contribution to total R&D investment which encompasses all RDI investment beyond the notion of market gaps must be put into perspective. If we compare the objective of new projects financed via the RSFF mechanism44 with the total of R&D expenditure at EU 27 level45 or with what would represent 3% of the EU 27 GDP in 200746 then the projects financed with an RSFF contribution represent less than 2% of

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43 However, two new EIB initiatives baptised MCI (Mid-Caps Initiative) and GFI (Growth Financing Instrument), recently launched after testing, will partly solve this issue.
44 EUR 30bn for RDI projects over seven years which corresponds to an average of EUR 4.3bn per year
45 Approximately EUR 240 billion in 2007, source Eurostat
46 EUR 370bn
the total of the yearly EU 27 R&D expenditure. A rough calculation can also estimate that the RSFF portfolio (as initially expected\(^{47}\)) accounts for around 3\% of the gap that would allow EU 27 R&D expenditure to reach the 3\% of GDP target. This comparison makes RSFF appear to be a drop in the ocean.

Although it is clear that the RSFF has made a very limited contribution to the EU achieving its target of R&D expenditure reaching 3\% of EU27 GDP, the question is whether the RSFF’s contribution is commensurate with the financial resources invested by the EU and the EIB in the facility. This implies that RSFF should be evaluated against its potential leverage and catalytic effect:

- Output relating to the facility being on track to achieve its targeted x5 leverage effect;
- Outcome relating to the facility having already achieved, albeit in a questionable manner, its targeted x3 catalytic effect.

Hence, it can be deduced that the RSFF’s contribution to the EU R&D expenditure reaching 3\% of EU27 GDP is commensurate to the constraints placed on it by its EUR 2.420 billion contribution. In addition, the role of the RSFF in contributing to the achievement of this target must be put into perspective, as the facility is one of a myriad of tools employed by the EU for funding RDI. For instance the EU’s contribution to the RSFF accounts for a meagre 2.2\% of the FP7 budget, while FP7 is just one of the five main EU funding instruments used for financing RDI\(^{48}\). The contribution of RSFF to RDI investment should be compared against the size of the below investment grade RDI investment eligible under either the FP7 Cooperation theme, the FP7 Capacities theme, or the EIB’s i2i/Knowledge Economy lending priority for which no estimation of size was made.

In conclusion, the RSFF’s contribution to total R&D investment reaching 3\% of Europe’s GDP happens to be commensurate with the facility’s capital cushion as evidenced by the positive achievement of leverage and catalytic effect.

The contribution of the RSFF to the overall transformation of EU into the world’s leading knowledge based economy

As synthesised by Ghirmai T. Kefela “a knowledge economy is one where organisations and people acquire, create, disseminate, and use knowledge more effectively for greater economic and social development”\(^{49}\). In that context, the World Bank Institute has developed a tool named KEI (Knowledge Economy Index) for benchmarking a country’s position vis-à-vis others in the global knowledge economy competition. It is an aggregate index based on the average performance scores of each of the four pillars used by the World Bank to illustrate the extent to which the country articulates strategies for its transition to a knowledge economy\(^{50}\). In the framework of this evaluation, the question is therefore to see to what extent has the RSFF impacted the different pillars that compose the European knowledge economy?

The RSFF may influence the second, third and fourth pillars of the knowledge economy (respectively innovation, education and ICT) as defined by the World Bank (the first one being linked to the economic and institutional regime).

With regard to Pillar 2 and 3\(^{51}\), the lack of an ex-ante assessment of the suitability of RSFF to support Research Infrastructures led to a slower than expected coverage of this segment by the instrument. The desire to support this target group through RSFF led to the Amendment No.6 of the Co-operation Agreement. Thus, since Amendment No.6 was signed only in January 2013, it is currently not possible to estimate the impact of these changes on targeting this specific target group. However, according to the EIB operational services, 6 to 7 public research centres transactions are planned to be signed before the end of the RSFF availability period.

The RSFF also contributes to the achievement of a coherent system of firms and research centres for increasing knowledge creation and transfer. In that sense, RSFF is involved in the development of the knowledge triangle composed of: (i) research, (ii) innovation / industrial advances and (iii) higher education.

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47 EUR 30bn of projects generated in total
48 The other four instruments are: the Competitiveness and Innovation Framework Programme (CIP); the Structural Funds (SF); the European Agricultural Fund for Rural Development (EAFRD); and the European Fisheries Fund (EFF).
49 Kefela, G. T. (2010), Knowledge-based economy and society has become a vital commodity to countries, International NGO Journal Vol. 5(7), pp. 160-166
51 Linked to the Research Infrastructures.
RSFF participates to knowledge creation, transfer and industrial incorporation of findings as well as support for market launch, but the level of its contribution is difficult to quantify.

Considering ICT and Pillar 4, the RSFF already finances projects related to new communication technologies and supports also projects that are not considered as ICT but that integrate a high volume of ICT components. The EIB is nonetheless unable to monitor this element because it is very transversal and is not part of the core elements to monitor and report in each project.

As already mentioned regarding the design of the facility, the RSFF was first developed with very broad objectives and no initial PIs. It currently does not have indicators with regard to its contribution to the knowledge economy. That is the reason why assessing its achievement vis-à-vis these high-level objectives is difficult and cannot reveal the exact contribution of RSFF on this topic. However from a high level assessment of the contribution of RSFF to pillars 3 and 4 the achievement of this global objective is considered satisfactory.

On this basis, it can be recommended to develop PIs related to the knowledge economy in order to better monitor and evaluate the achievements of RSFF financed projects and the facility itself vis-à-vis this global objective.

3.2.4 EFFECTIVENESS OF THE 16 SAMPLED PROJECTS

Figure 12: Evaluation ratings for the effectiveness of the sample of 16 projects

Drawing on desk reviews of project documentation and conducting interviews with project stakeholders, the evaluation team rated the effectiveness of the sample of 16 RSFF projects. Figure 12 provides an overview of the ratings against effectiveness, of which 15 of 16 projects are graded “satisfactory” or above.

The predominantly positive ratings for effectiveness are largely due to all projects, aside from one, meeting their operational objectives. With regard to intermediate objectives, projects have been more difficult to assess as their outcomes tend to require more time to materialise, and often involve the market launching of products and services after project completion.

Finally, in the context of the global objectives of the 16 projects, EIB lending under the RSFF often enabled promoters to:

- Reinforce their positioning within the market in which they operate;
- Maintain or increase their market share;
- Maintain or increase their RDI workforce.

These impacts produced by EIB lending under the RSFF were particularly important as most of the selected projects, having signed financial contracts under the RSFF during the period 2007-2009, were affected by the global financial crisis in terms of declining LGs and decreasing access to finance.

However, there were exceptions to the rule, as some projects, like Project C and Project D, were able to achieve their objectives despite heavy internal restructuring, divestment and headcount reduction. These changes could have altered the course of the project, but since they were deemed strategic by the promoters they were prioritised in order to ensure the achievement of their operational objectives.

Project A performed “satisfactory” in terms of effectiveness as it achieved its operational objective. In addition, the intermediate and global objectives of the project have or are expected to be reached; even though they remain uncertain.

The sole project deemed to have performed “unsatisfactory” in terms of effectiveness is Project E. The rationale behind this judgement is that the project did not achieve any of its objectives - whether operational, intermediate or global. The project’s inability to achieve its objectives was attributed to the project encountering authorisation issues. These issues prevented the market launch of the promoter’s main product, were detrimental to the achievement of the other objectives of the project, and undermined the ability of the promoter to engage in the exit strategy presented at the appraisal stage of the project. Although
the project was “unsatisfactory” in terms of effectiveness, EIB’s contribution was considered “significant” in allowing the company to undertake its RDI program.

The evaluation of the 16 selected projects have revealed that the most successful ones are those where the promoter is heavily involved in a company network and promote RSFF within this network (as for Projects F and A). Improving the visibility of RSFF among these networks would highlight its usefulness and foster the mutual interests of stakeholders when investing in RDI.

3.2.5 CONCLUSION ON THE EFFECTIVENESS OF THE RSFF

The RSFF, with seven months to spare in its availability period, has already achieved or remains on track to achieve its operational objectives with more than EUR 10bn of lending to riskier projects and intended leverage effect achieved, 8 guarantee agreements signed with Financial Intermediaries (RSI) totalling EUR 405m, and a wide range of beneficiaries reached out through 186 awareness raising events and several other activities.

The degree of achievement of the RSFF intermediate objectives is also satisfactory with a catalytic effect on other financiers slightly higher than expected (x 3.39 vs. x3), and the instrument is on track to enable financial intermediaries to provide loans to innovative SMEs and Midcaps (EUR 3.9m of loans as per 31 December 2012). However, the interest of such a catalytic effect target (as currently calculated) is questionable since all the other sources of financing are not taken into account considering that RSFF loans usually financed only part of a corporate RDI programme and that the very concept of “project” as retained by EIB services does not capture all financing sources of that programme. A wide geographical distribution has been achieved with a relative concentration on Western and South Western Europe (46% on Germany, Spain & France). However, the spatial impact of RSFF operations is in most cases not limited to the place of legal establishment of the RSFF beneficiary and more sophisticated indicators could be elaborated to better reflect the real geographical impact of the operations financed. The performance in reaching out to large caps is excellent but less so to mid-caps, SMEs, research infrastructures and financial intermediaries (3/4 of signed operations for large caps; SMEs and mid-caps only addressed at the end of the period). Remedial action was undertaken to compensate this imbalance but with so far still limited effects.

While being hardly assessable in a quantitative manner, the RSFF contribution to global objectives is however plausible to filling the long-term debt financing gap and very limited to increasing total R&D investment in Europe. In any case, this limited contribution is however commensurate with the limited size of the instrument.

3.3 EFFICIENCY

Efficiency concerns the extent to which the benefits and outputs of the RSFF are commensurate with the costs/resources and inputs used to achieve benefits/outputs.

3.3.1 OPERATIONAL, ADMINISTRATIVE AND PROCEDURAL EFFICIENCY OF THE RSFF

The RSFF’s project cycle differs from typical EIB procedures, as it requests external opinions on the eligibility of prospective RSFF operations from the RSFF Eligibility Committee. This request provides another dimension to the approval phase in the project cycle, which may lead to a lengthening of the project cycle timeline. The efficiency of this eligibility checking process (conducted by the EC) and the credit appraisal/bankability check (conducted by the EIB) will be reviewed in this section.

A) The eligibility check

In order for the Designated Service (within DG RTD) to confirm if a proposed project may be financed by RSFF operations provisioned under the EU Window, the EIB provides documents to the Eligibility Committee. On the basis of the documents received, the Eligibility Committee provides a recommendation to the Designated Service. The recommendation provided by the Eligibility Committee may then be endorsed by the Designated Service, who sends their endorsed recommendation to the RSFF Programme Manager at the EIB. In cases where additional information is required by the EC Directorates General (i.e. for nearly 90% of the projects according to interviewees), confidentiality agreements held by the EIB with project promoters often restrict the EIB’s ability to transfer sensitive RDI information to the EC. As a result,
the EC’s ability to delimit the boundary between a RDI project’s development and innovation activities is hindered.

A comparative analysis was performed on the differing lengths of time required for eligibility checks under the two Windows. As interviewees anticipated, the EU Window’s eligibility check is longer than the EIB Window’s equivalent, and so is more burdensome. The Average Initial Eligibility Request of the EU Window is 29 days longer than that of the EIB Window (87 days compared to 58), and similarly, the EU Window’s average final eligibility request requires 14 more days than the EIB Window’s equivalent (31 days compared to 17).

**B) The appraisal/ bankability check of RSFF operations**

RSFF can either support projects or RDI programmes. The latter is more similar to corporate programme financing and is the most common type of operation financed under the RSFF.

**Bankability check**

The bankability check performed by the EIB has two components. On the one hand EIB services assess the technical and economic viability of the operation and on the other a credit risk appraisal is performed.

The coordination between PJ (Projects’ directorate) and OPS during the appraisal stage is crucial to ensure that:

- PJ provide a market analysis that OPS can use;
- The relevant technology, promoter and project have been previously and proactively identified;
- RSFF is the facility that best fits the promoter’s needs;
- The cooperation with the promoter is conducted in a smooth manner so that the right people are around the table for discussion (the Chief Financial Officer, the people in charge of R&D, and the Chief Executive Officer when needed);
- The loan conditions as well as the schedule and monitoring obligations are understood and agreed by all parties (including the technicalities related to the RDI project);
- The time required to fulfil each of the different stages before disbursement is reduced as much as possible (pre-appraisal, appraisal, signature, disbursement).

From a risk assessment point of view, it is important to note that the overall approach in determining the LG remains the same as for all EIB operations.

**Supporting RDI projects**

In the case of a project finance transaction, the EIB relies on the servicing of the debt of a promoter whose sole or main source of revenue is generated by a single or limited number of assets that are being financed by the debt. The assessment of a project finance transaction follows its own methodology, as set out in the CRPGs, and results in the definition of an LG. In order to be eligible under the RSFF this LG has to be at least D- or below. As it stands, there are only a limited number of project finance transactions in the RSFF portfolio.

**Supporting RDI programmes**

For the funding of RDI programmes, the EIB assesses the credit risk on the basis of the credibility of the promoter as a whole. The quality of the RDI sub-projects indirectly financed has a limited impact on the risk assessment in as far as it is linked to the credibility of the promoter. This seems to be a prudent approach as it is very difficult to estimate future cash flows of RDI projects (which will most likely only be generated, if at all, in a distant future) and as RDI projects may succumb to technological or industrial failure.

The evaluation of the 16 selected projects has drawn a few lessons to be learned that are specific to RSFF projects to ensure their success. These lessons concern, on the one hand, the coordination between PJ and OPS during the appraisal stage and between OPS and TMR during the implementation of the project and its follow-up. Among the 16 evaluated projects, Project G is of particular interest when considering the good coordination between PJ and OPS. It also illustrates the positive impact this good coordination has had on the overall EIB project management as well as the relation with the promoter.

*Project G* highlights that the coordination and hand-over between OPS and TMR (Transaction Management and Restructuring Directorate General of the EIB) along with the participation of PJ during the follow-up of projects is also crucial to ensure that:
• Communication with the promoter is clear, especially when the EIB communicates with smaller entities such as SMEs and Small Mid-Caps. The large majority of RSFF projects are conducted in a smooth way between EIB services. However, certain promoters might be disconcerted by the change in contact person along the project cycle (especially SMEs and small Mid-caps). EIB’s transfer rules of responsibility from Ops to TMR have to be clearly explained.

• It is consequently important that the EIB ensures a consistent client relationship with a coordinated front line from appraisal to the end of monitoring.

• TMR has all needed elements to monitor the economic health of the promoter and can work on the restructuring if needed. This follow-up process of RSFF projects is particularly important because RDI projects are more likely to drastically evolve in time in comparison to less risky projects. That is why the EIB and the promoters often discuss RDI programmes during the appraisal stage so as to ensure room for changes for the promoter54.

The large majority of RSFF projects have been conducted in a smooth way between EIB services. However, certain promoters might be disconcerted by the change in contact person along the project cycle. This is applicable especially for SMEs and small Mid-caps. EIB’s transfer rules of responsibility from Ops to TMR have to be clearly explained, in full transparency, to the promoter for single project counterparts.

More generally, improving the European knowledge economy is highlighted in each RSFF project when considering the economic and social externalities that each project may have. These externalities are synthesised in the Economic Rate of Return of the projects. Many of the 16 evaluated projects have been appraised with a high Economic Rate of Return which has been confirmed by the Project Completion Reports. These positive externalities often consist in: (i) the creation and/or retention of highly skilled employees; (ii) the development of key innovative sectors (like pharmaceutical), and (iii) the building of new plants following the success of the RSFF financed project. However, these externalities are often not detailed or monitored when they would actually highlight the actual contribution of the RDI projects and thus the RSFF to the knowledge economy in quantitative (number of skilled jobs maintained/created) and qualitative terms (improvement of relations with universities and/or development of the company’s involvement in the corporate research advisory network).

C) Delivery mode

Before 2012, NPST (the New Product and Special Transaction Department of the EIB, previously called Action for Growth Instruments, AGI), shared the responsibility for originating RSFF loans to the promoters with regional departments. Since 2012, the delivery of RSFF loans is conducted exclusively by these geographical departments within the EIB. These loan officers are now supported by NPST, which contributed to the development of the RSFF, and now monitors it.

This change in the delivery mode has had several consequences:

• More RSFF loans may be originated;

• The RSFF may now be considered a mainstreamed EIB product within the Bank’s toolbox;

• NPST has now three functions: (i) origination/execution of complex transactions (solely as well as in support for regional teams; (ii) mandate management and (iii) most importantly product development (MCI, GFI, etc.).

• The loan officers lack an individual award scheme that aligns their loan origination activities with the objectives of the RSFF (volume-orientation vs. smaller size type of operations).

Therefore and on the whole, despite a relative misalignment of the EIB award scheme with the RSFF objectives (with volume-orientation whereas RSFF operations was meant to foster smaller size operations on average), the evolution of the RSFF delivery mode which ended up mainstreaming the RSFF as part of the Bank’s toolbox for all operational officers is enhancing the efficiency of the instrument.

D) Timeliness of RSFF financing

To assess the time taken for RSFF operations to complete each phase in the project cycle, an analysis was performed on the 71 RSFF operations that had completed the pre-appraisal, appraisal, negotiation, signature and disbursement phases of the project cycle. This data set of operations was used in order to ensure comparability. The average time taken for RSFF operations to complete all phases of the project

54 As illustrated with Project A during which the promoter divested two business units without affecting the programme supported because the programme agreed with the EIB enabled the promoter for such adjustments.
cycle (from initiation to first disbursement) is 584 days (with each phase of the project cycle taking a similar length of time to complete) whereas the average time from initialisation to signature of the contract is 454 days. On the basis of interviews conducted, it was however deduced that conducting such a comparison on the basis of “typical” or “average” RSFF operation was not always worthwhile as many variables may influence the time required to progress from operation creation to the first Disbursement date of the loan. Such variables include the date of operation creation pre-dating the launch of the RSFF; location; sector; eligibility criteria.

According to the FAQ of the RSFF found on the EIB website, the time elapsing between the promoter’s first contact with the EIB and the signature of a financing contract will typically vary between 3 and 6 months. In order to assess the extent to which the EIB can approve and sign off on RSFF loans within six months, a review was performed on the RSFF’s 101 signed operations. The findings of this review are found in Figure 13, which highlights how most operations require over 12 months to pass from creation to first signature.

Figure 13: Timeliness of RSFF financing from operation creation to first signature date (months)

Source: EV, PwC

Key reasons for longer time are the following:
- dependence on promoter’s collaboration and openness;
- different scopes of eligibility in both windows. As a result the project scope has to be defined twice, one for EIB internal project eligibility and one for the EU window;
- the template use for eligibility check is more a decision tree than a really operational tool;
- the eligibility check is made twice (a first time at initiation and a second time at the end of the appraisal process).

Most RSFF operations were unable to pass from operation creation to first signature date within the 3-6 months’ timeline specified on the EIB website. However, the timeliness for the financing for these RSFF operations is not entirely within the Bank’s control.

3.3.2 Efficiency of the EIF’s Selection of RSI Financial Intermediaries

As previously mentioned, on 6 February 2012 the EIF launched a Call for Expression of Interest to Select Financial Intermediaries under RSI. Since the deadline for the submission of Expression of Interest is fixed on 31 December 2013, the assessment of the efficiency of the EIF does not take into account the timeframe before application which is mostly dependent on the readiness of Financial Intermediaries.

To assess the efficiency with which the EIF has selected Financial Intermediaries, an analysis of the time taken to pass through each stage of the selection process was performed.

As depicted in Figure 14 below, once the application have been received by the EIF and on average, 130 days are required until the signature of the (counter-) guarantee agreement. The interviewed RSI Financial Intermediaries that were aware of the Call before its launch or soon afterwards, largely owe their awareness

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55 Available at: http://www.eib.org/attachments/rsff_faq_31052007.pdf
56 Subject to the completeness of the information/documentation available and the nature of the financing
57 Operation creation represents the time of the promoter’s first contact with the EIB
58 Available at: http://www.eif.org/what_we_do/guarantees/RSI/rsi-call-for-expression-of-interest-_060212.pdf
to their working relationship with the EIB and the EIF, promotion by banking associations (e.g., European Association of Public Banks), or word-of-mouth amongst the banking community. However, regardless of when the RSI Financial Intermediaries became aware of the Call, interviews suggest that some of the information requirements for submitting an application were particularly demanding. More specifically, both interviewed RSI Financial Intermediaries faced difficulties in assembling the risk-related information. In addition, one of them, faced confidentiality issues.

The share of the timeline tied to EIF Board Approval and the (counter-) guarantee agreement being signed is in line with the EIF transaction process. In the case of the contract signature, one of the interviewed Financial Intermediaries considered that the timeline between application and signature was long which seems to be owed to the complexity of the contract with the EIF (regarded by this FI as one of the most complex contracts the bank has ever engaged in).

**Figure 14: Timeline of the selection of RSI Financial Intermediaries (Average number of days on the basis of 7 signed contracts)**

<table>
<thead>
<tr>
<th>Event</th>
<th>Average Number of Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application received to Pre-selection completed</td>
<td>9</td>
</tr>
<tr>
<td>Pre-selection completed to Due Diligence completed</td>
<td>12</td>
</tr>
<tr>
<td>Due Diligence completed to EIF Board Approval</td>
<td>47</td>
</tr>
<tr>
<td>EIF Board Approval to Agreement Signed</td>
<td>62</td>
</tr>
</tbody>
</table>

Source: EV, PwC

It could be argued that the level of effort required to fill in the application can be perceived as a barrier of entry to the RSI as only motivated banks will undertake such an endeavour, even though RSI intermediaries range from small regional bank to multinational commercial banks. Fortunately for the RSI, the senior management of both Financial Intermediaries interviewed supported the RSI initiative, while one of them expressed an understanding that such a thorough selection process was necessary from the EIF’s perspective, and stated that the EIF had been a professional counterpart that was acting in a cooperative manner.

Additionally, as regards the information requirements of the Call for the RSI-SME compartment, albeit necessary from an EIF perspective to comply with prudential supervision rules and guidelines, were demanding, for Financial Intermediaries and may dissuade them from submitting an application in the future. In order to improve cost effectiveness for the Financial Intermediaries, the EIF revised the amounts that could be managed by each of the FIs upwards. Despite reservations on the length of the timeline, according to the EIF, the RSI remains the quickest ever implemented programme by the EIF, in terms of programme development, number of and speed at which applications have been received from Financial Intermediaries.

3.3.3 Efficiency of the 16 Sampled Projects

**Figure 15: Evaluation ratings for the efficiency of the sample of 16 projects**

Drawing on desk reviews of project documentation and conducting interviews with project stakeholders, the sample of RSFF projects was rated. Figure 15 provides an overview of the ratings for which 15 of 16 projects are graded “satisfactory” or above.

These largely positive ratings for efficiency can be attributed to:

- The final cost of most projects being in line with those forecasted at project appraisal;
The schedule and timeliness of most projects, i.e. the start and finish dates, being in line with those forecasted at project appraisal;

- Most promoters applying sound project and operational management processes and procedures;
- Most projects resulting in positive social externalities (and little to no environmental externalities);
- Most projects achieving a level of financial and economic profitability that was in line with those forecasted at project appraisal.

However, the judgement on the efficiency of some projects must be qualified as they have yet to be completed. Thus the evaluation team is unable to fully assess the final project costs, and schedule and timeliness of Projects F, G and A.

With regard to the cost of completed projects, it was noted that a number of projects, including Projects H and I, exceeded the initial project cost. In such cases it was noted that promoters’ overspending on RDI projects was not a concern for the EIB, as the RSFF seeks to increase RDI expenditure in the EU27 and FP7 Associated Countries. In contrast, for cases in which total expenditure was below the cost identified at appraisal, concerns were raised as to whether the RSFF loan would exceed the 50% threshold of project cost, although as mentioned in 3.2.2 the notion of project cost is not entirely relevant since EIB loans are in reality financing large RDI programmes.

As with the forecasting of project cost, and as was the case for Project J, Project B, and Project K, project appraisal documentation’s forecasted start and finish dates, which in some cases, differed from the actual start and finish dates of projects. These changes in the initially established project schedule and costs are often tied to swift changes in the RDI landscape, thereby obliging the promoter to adapt the scope of its RDI project in order to:

- Remain competitive and fully benefit from the EIB loan provided under the RSFF, as was the case with Project D, and Project L; or
- Increase RDI spending as a corporate decision, as was the case with Project I.

Project B, however was implemented in time and according to the scope initially planned while the promoters were experiencing restructuring implying the end of certain business lines, headcount reduction and new internal processes. These restructurings have nevertheless not affected the efficiency of the projects since the promoter highly prioritised the RDI projects.

Most projects also demonstrated positive social externalities. In contrast, few projects demonstrated clear environmental externalities. However, Project J in contributing to the avoidance of 172,000t in CO₂ emissions demonstrates how RSFF projects can contribute to EU efforts in combating climate change. In the context of financial and economic profitability, most of the projects’ Financial Internal Rate of Return (FIRR) and Economic Rate of Return (ERR) defined at appraisal were confirmed at completion. This is despite the fact that some projects had their FIRR reduced from high (at appraisal) to medium (at completion) because of challenging market conditions, as was the case for Project L. In contrast, some projects exceeded their appraised FIRR. This was the case for Project J that benefitted from a feed-in tariff that exceeded the tariff at the time of project appraisal.

Project A performed satisfactorily in terms of efficiency since being in line with its expected total project costs, and the delays being caused by the need for additional time to test and adjust the new facility. These delays were also handled with care and flexibility by the promoter management.

The sole project deemed to have performed “unsatisfactory” in terms of efficiency is Project E. The rationale behind this judgement is that the project encountered significant issues regarding its financing and timeliness, which resulted in project delays and the promoter now seeking a capital injection from venture capitalists. Thus, in spite of the promoter’s promising track record in the field, the challenges facing the project have negatively impacted the profitability of the project.

Finally, project monitoring sometimes only included the Project Completion Report (PCR) and the TMR (Transaction Management and Restructuring Directorate General of the EIB) reports, and so lacked the Progress Reports that would have substantiated this evaluation’s analysis of projects that had yet to be completed. In addition, the case of Project M corroborates how more detailed reporting requirements could have improved the quality of PCRs.

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59 As many of the projects in the sample had medical sector connotations, involved talent retention and/or supported the maintenance or creation of skilled and specialised jobs
3.3.4 CONCLUSION ON THE EFFICIENCY OF THE RSFF

The large majority of RSFF projects have been checked, appraised and conducted in a smooth way but the EU Window’s eligibility check is longer than the EIB Window’s equivalent. Similarly, despite a relative misalignment of the EIB staff award scheme with the RSFF objectives, the evolution of the RSFF delivery mode which is now mainstreaming the RSFF as part of the Bank’s toolbox can be regarded as a way to enhance the efficiency of the instrument. According to the EIF, the RSI remains the quickest ever implemented programme by the EIF, both in terms of the number of and speed at which applications have been received from Financial Intermediaries. However, most RSFF operations were unable to pass from operation creation to first signature date within the 3-6 month orientative timeline specified on the EIB website. In addition, the information requirements of the Call for the RSI-SME compartment, albeit necessary from an EIF perspective, were demanding, and may dissuade Financial Intermediaries from submitting an application in the future.

Many of the 16 evaluated projects have been appraised with high Economic Rate of Return which has been confirmed by the Project Completion Reports. These positive externalities consist often in: the creation and / or retention of highly skilled employees, the development of key innovative sectors (like pharmaceutical) and the building of new plants following the success of the RSFF financed project. However, these externalities are often not detailed or monitored when they would actually highlight the actual contribution of the RDI projects to the knowledge economy in quantitative (number of skilled jobs maintained / created) and qualitative terms (improvement of relations with universities and / or development of the company’s involvement in the corporate research advisory network).

3.4 SUSTAINABILITY

Sustainability assesses the likelihood of the benefits of a project continuing long-term, and the strength of mitigants implemented by the promoter for counteracting risks faced by the project over its intended life. Although RSFF will be integrated into the Debt facility under Horizon 2020, there are a number of issues which still need to be considered in terms of sustainability of the instrument and the projects financed under this facility.

3.4.1 ELEMENTS RELATED TO THE SUSTAINABILITY OF THE INSTRUMENT

Support to RDI programmes rather than RDI projects

RSFF is providing funds to support all or part of the RDI programmes of borrowers/promoters. In this regard, RDI programmes tend to be composed of various projects which are diversified into different areas in order to minimize the inherent risk of the RDI activities. It is recommended to maintain in each future operation signed this balance character of the portfolio of RDI projects financed (since it is more unlikely for several projects to fail all at the same time within a diversified portfolio).

Transition of RSFF into the new H2020 instrument

An aspect of sustainability is the ability of the EIB and the EC to design a smooth transition of the portfolio of operations from RSFF into the new H2020 instrument(s) supporting RDI. In this context, there has been a clear willingness from both parties to make the instrument work, as evidenced by the evolution of the instrument through different amendments in order to respond to changing demands and needs. Conversations with the EC also indicate a willingness to provide the mechanisms in order to ensure a smooth transition of the RSFF portfolio of projects into the next generation of instruments.

Beyond the access to finance issue for promoters conducting RDI programmes

Lack of finance is only one of the potential barriers to investment and employment in many countries and sectors throughout the European Union. Limited access to expertise, weak administrative and management capacity are other impediments to the development of bankable projects. Advisory support could compensate for these weaknesses that would otherwise delay investment implementation; it could also be a response to help project delivery and speed up disbursements and investment. In this context the EIB has put forward a proposal to reinforce RDI Advisory Services which is currently under discussion in order to address the issues abovementioned.

Risk of decrease in the average size of the operations with potential increase in the resource requirements

Due to the financial crisis, a larger number of promoters have faced difficulties in terms of access to funding and the crisis has also increased the number of “market gaps” with an increase in the potential area of
intervention of RSFF. This has resulted in "larger tickets" being eligible under RSFF which could otherwise have been financed via the i2i/knowledge economy. The recovery from the crisis could lead to a decrease in the size of the average portfolio of operations which de facto would imply more time and resources since more operations would be needed to achieve RSFF lending commitments. Additionally, evaluating the sustainability of RSFF operations is a proxy for estimating the extent to which the RSFF will last beyond its Availability Period.

3.4.2 SUSTAINABILITY OF THE 16 SAMPLED PROJECTS

Figure 16: Evaluation ratings for the sustainability of the sample of 16 projects

Drawing on desk reviews and interviews, Figure 16 provides an overview of the ratings against sustainability for which 12 of 16 projects are rated “satisfactory” or above. However, no other evaluation criterion in the performance of the RSFF section of this report has as many projects deemed partly unsatisfactory or unsatisfactory.

Such an outcome is somewhat expected as the RSFF is financing riskier RDI programmes and projects that may succumb to physical, operational, institutional, regulatory, environmental, social, financial and/or economic threats. In addition, the economic climate in which the RSFF has been implemented has arguably reinforced such threats. Nevertheless, EIB loans provided under the RSFF supported promoters facing key market and operational risks in difficult times, and enabled promoters to improve their technology and internal processes while preventing brain drain, as was the case with Project F. In addition, the EIB loans under the RSFF provided sufficient flexibility so that promoters could revise their strategy during project implementation, as exemplified by Project C.

The three projects deemed to have performed partly unsatisfactory in terms of sustainability are:

- **Project B**, due to its heavy debt burden emanating from a sequence of leveraged buyouts combined with the unexpected rapid decline in the firm’s fixed line business;
- **Project M**, for which with the current operating cash-flow being generated and in absence of a material improvement in 2013/2014, would have difficulties in repaying the outstanding debt with the current debt profile;
- **Project K**, due to the project’s dependency on local demand.

The sole project deemed to have performed “unsatisfactory” in terms of sustainability is **Project E**. The rationale behind this rating is that despite a very thorough and detailed due diligence to identify and mitigate all possible risks, the operational difficulties that the project is enduring raise questions as to the project’s sustainability. The short term future of the project remains unclear.

With regards to Project C, the project is currently deemed to be satisfactory in terms of sustainability. This judgement is supported by no foreseen risks likely jeopardising the future of the project. Furthermore, mitigation measures have been taken for all potential threats identified during project appraisal.

Another issue that was raised through the portfolio analysis were related to the stronger financial support existing in the US for later phases of the innovation cycle. During the assessment of the portfolio, some promoters which had developed technologies in Europe then rolled out the technologies in the US since the latter provided stronger financial support to take them to the market (e.g. Project J). In this context, several promoters during the interviews highlighted that it was easier for them to obtain financial support in the EU during the earlier phases of innovation than during the latest ones closest to taking the innovation to market.

Nonetheless, overall the majority of the RSFF projects evaluated in-depth have been deemed sustainable.

3.4.3 CONCLUSION ON THE SUSTAINABILITY OF THE RSFF

Since the RDI financing introduced with the RSFF will take a new dimension with the forthcoming Debt Facility to be set-up under Horizon 2020, assessing the sustainability of the current facility is not entirely relevant for the present evaluation study. Nonetheless certain aspects to consider as regards sustainability have been highlighted. Amongst them the main ones are the need (i) to ensure the robustness of the future instrument to be designed, (ii) to continue supporting RDI programmes rather than RDI projects, (iii) to allow a smooth transition of the RSFF project pipeline into the new H2020 instrument, (iv) to try to address market needs beyond the access to finance issue for promoters conducting RDI programmes (e.g. through RDI
advisory services) and (v) to bear in mind the risk of a decrease in the average size of RSFF-type operations following a recovery from the crisis with its subsequent potential increase in resource requirements.

At the level of the 16 projects of our sample, the evaluation has revealed that most of the borrowers/promoters supported via the RSFF are sustainable notably due to a good mitigation of the main risks as a result of the robustness of the promoters and the balanced character of the portfolio of RDI sub-projects financed.
4. THE RSFF GOVERNANCE AND COOPERATION

Beyond the usual evaluation criteria (relevance, effectiveness, efficiency and sustainability), the instrument-orientation of this evaluation has entailed the necessity to assess the performance of the governance of the RSFF mechanism as well as the partnership and cooperation it has brought about.

4.1 THE GOVERNANCE OF THE RSFF

In terms of governance, the RSFF is overseen and supervised by the RSFF Steering Committee (SC), which consists of a minimum of four EC representatives, and four EIB representatives.

As it stands, the RSFF SC has twelve members, evenly split between representatives of six EC-Directorates General (CNECT, ECFIN, BUDG, ENER, MOVE, and RTD), and six EIB representatives (three from OPS A (the Operational Directorate General for EU), two from the Secretariat General and one from PJ, the Project Directorate General). From these representatives, the Chair of the Steering Committee was chosen as DG RTD’s while the selection of the Secretary, as specified in the RSFF’s Co-operation Agreement, is the Director of the EIB department responsible for the management of the RSFF. During RSFF SC meetings in which the RSI is discussed, representatives of the EIF also participate. EIF representatives are typically from the Strategic Development and EU Policies department, as well as its Guarantees, Securitisation and Microfinance department.

4.2 RESPONSIBILITIES OF THE RSFF STEERING COMMITTEE

Responsibilities of the RSFF SC were defined in the initial Co-operation Agreement but were modified in Amendments No.4 and No.6. These Amendments identified 11 responsibilities of the RSFF SC, among which 4 have been identified by the evaluators as key responsibilities.

Responsibility 1 concerns the RSFF SC’s review of the facility60. It has been fulfilled by:
- Each SC’s meeting having a dedicated item for the EIB to provide an overview of RSFF operations, results and present the project pipeline;
- The EIB services and the EC services providing the necessary information to discuss each item on the RSFF SC’s agenda;
- The on-boarding of the First Interim Evaluation’s recommendations, which led to Amendment No.4 and the “regular monitoring” of the RSFF.

However, as illustrated by the analysis of its minutes, the SC dedicates most of its discussions on monitoring the facility’s activities in terms of its PIs, with less emphasis on the pipeline of projects and its sector breakdown.

With regards to responsibilities 2 (to propose amendments) and 5 (to prepare and implement decisions), mixed results have been achieved. The RSFF SC’s positive contribution towards amending the RSFF Co-operation Agreement is exemplified by its implementation of six amendments. However, the four years taken to identify PIs raise questions as to the SC’s ability to amend the Agreement in a timely manner. One should however bear in mind that it was more difficult to adapt the instrument in the absence of a mid-term/interim evaluation (18 months have nevertheless been needed between the date of the publication of the first evaluation report and the formal adoption of the 4th Amendment). Furthermore, the frequency of these amendments (almost once a year) brings into question the capacity of the RSFF to address all the needs and issues it was originally created to tackle, as well as the quality of its initial design. Nevertheless, general consensus is that the RSFF has undergone a learning process in terms of financial cooperation between the EIB and EC. It could also be argued that the frequency of amendments demonstrates the RSFF’s flexibility and consequently its adaptability to changing promoters’ and potential promoters’ needs as well as market changes. The broad objectives of the instrument also bias the decision to make additional amendments in order to accommodate additional market gaps that were not identified ex-ante.

Responsibility 9 (reviewing and amending technical characteristics of the instrument) has been modified with Amendment No.6 signed on 22 January 2013. While the initial version of the responsibility touched only upon the role of the RSFF SC in reviewing the level of the FLP for each Compartment, the new version notably takes into account the evolution of Compartment 1 vis-à-vis Mid-caps operations and the counter-

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60 “Review, on a regular basis, the progress and achievement of the RSFF strategic objective and if necessary, make recommendations on any further measures necessary to be implemented to achieve these.”
guarantees with Financial Intermediaries within Compartiment 2. Since Amendment No.6 was signed on January 2013 and no RSFF SC met after this date, only few indications can be drawn as to the RSFF SC’s fulfilment of this revised responsibility. However, when considering specifically the question of the levels of the three FLP, a change occurred directly with Amendment No.6 since the later integrated the reduction of the FLP for Compartiment 3 from 50% to 25% in anticipation of the signature of a project of EUR 300 million that was already decided by the RSFF SC.

The transition from the RSFF to the new generation of Horizon 2020 instruments is also being undertaken and carefully monitored by the RSFF SC.

In conclusion, despite only semi-annual meetings, the RSFF SC has so far been able to fulfil its responsibilities and take decisions, notably when proposing amendments to the Co-operation Agreement, although sometimes with important delays. To ensure a swifter and more robust decision process and to formalise and institutionalise current practices to overcome inevitable mid-term changes of key persons, it can be recommended to envisage the creation of an inter-institution and interservice task force in complement of the RSFF SC or to put in place ad hoc working groups more systematically for preparatory purposes.

4.3 REPORTING PROCEDURES

The reporting requirements of the RSFF can be classified into two categories, namely (i) the EIB reporting to the EC on matters concerning the RSFF and (ii) the EIF reporting to the EIB on matters concerning RSI operations.

As laid out in the RSFF’s Co-operation Agreement and its six amendments, the EIB and the EIF deliver up to fifteen different types of reports per year to the Designated Service (DG RTD) or the Asset Management Designated Service (DG ECFIN). They are produced annually, semi-annually or quarterly. Beyond these regular reporting obligations, the EIB provides the Eligibility Committee with the necessary information to perform its eligibility check of prospective RSFF projects. The recommendation of the eligibility check is then transferred to the Designated Service for its endorsement.

Amendment No.6 modified the reporting obligations in order to ensure the EU having better vision of the status and use of the EU contribution (e.g. the EU leverage effect, the interest returns yielded by the EU contribution and the risk-related revenues of the EU contribution). These changes are also related to the new financial rules applicable to the general budget of the Union61 entered into force on 1 January 2013 and which specify the scope and principles of the financing instruments. Under this new financial regulation, the financial instruments have to demonstrate the added value of the EU contribution and detail the list of elements that the EC shall report to the European Parliament and the Council on the activities related to financial instruments.

If the innovative nature of the RSFF - and of the partnership itself – may explain the need for stringent reporting, it must also be noted that such requirements hinder the EIB’s priority of generating business for the RSFF by dedicating team resources to reporting matters. In addition, in spite of the cooperation between both institutions reaching a point of maturity, several EC Directorates General have called for better or more extensive reporting. However, the manner in which they seek better reporting varies, as some asked for greater attention to be paid to project potential and relevance to policy, while others proposed that the RSFF use the 6th Amendment as a basis to improve the facility’s financial reporting, and better align it with the new financial regulation. Therefore, the template and structure of RSFF reports ought to be reviewed in order to comprise, in an efficient way, elements some DGs consider to be missing.

Similarly to the reporting the EIB conducts for the EU regarding the RSFF, the EIF conducts a financial and an operational reporting for the EIB regarding the RSI. The EIB then communicates these elements to the EU as part of the reporting obligations relative to the RSFF. The RSI operational reporting comprises the review of the RSI operations signed and the breakdown of the RSI portfolio. The RSI financial reporting includes a semi-annual and an annual reporting with RSI financial statements. An RSFF SC decision may also ask for additional RSI reporting. Considering that the RSI was implemented after Amendment No.4 of December 2011, that the first signatures with Financial Intermediaries occurred during the last quarter of 2012 and that the RSI is currently acquiring a more and more important size, the first reporting elements provided to the EIB and the EU in January 2013 only presented few elements. A thorough evaluation of the RSI reporting will only be feasible at the end of 2013 when the EIF would have more elements to report on and would provide a first view of the SME portfolio.

61 Regulation No. 966/2012.
As a matter of consequence, opportunities currently exist to review the reporting procedures to satisfy both the EIB and the EC while aligning them with the new Financial Regulation. This review is clearly worth undertaking considering that as it stands now reporting procedures satisfy neither the EIB nor the EC services, the latter considering they do not always find what they are looking for while the first find such procedures too burdensome.

4.4 MONITORING PROCEDURES

In terms of monitoring, RSFF operations can also be classified into two categories:

1. The EIB monitors RSFF operations in accordance with its own rules, policies and procedures, including its Credit Risk Policy Guidelines (CRPG) and subject to the terms and conditions of the RSFF Co-operation Agreement for the use of the EU Contribution.

2. The EIF monitors RSI operations in line with its internal processes and procedures, which may include, by initiation of the EIF or request of the EU, monitoring visits to RSI selected Financial Intermediaries. In addition, the EIF uses its RSI Simulation Model and the EIF Quantitative Framework for Risk Assessment for monitoring RSI operations.

In that respect the RSFF and the RSI follow respectively the EIB and the EIF’s usual monitoring processes and procedures with no particular requirements.

Beside these procedures, and as stressed in several sections of this report as well as during many interviews with stakeholders, a need exists to discuss and to agree between partners on the definition of some key concepts such as “innovation”, “mid-caps” and “demand-driven principle”, so as to avoid misunderstanding and to better ensure that respective expectations are correctly matched.

4.5 ADMINISTRATIVE COSTS

Administrative costs relate to costs incurred by the EIB in relation to the following activities:

- RSFF operations, whether abandoned prior to signature or not;
- Identification of RSFF operations;
- Raising awareness, marketing activities, technical and financial advice related to the RSFF;
- Product development;
- Institutional development, including RSFF Administrative costs paid by the EIB to RSFF Financial Intermediaries;
- RSFF Steering Committee meetings;
- Specific EU requirements, as may be expressed, in particular, without limitation, by audit, reporting, IT development, and accounting requirements.

The administrative costs are reported, on an annual basis, to the Designated Service in the form of a financial statement. The financial statement also identifies the expected EU contribution to cover administrative costs incurred by the EIB. However, an EU contribution is only provided if Total Administrative Costs for the financial year are greater than the sum of the corresponding Net Receipts (which has so far never occurred). This approach to calculating administrative costs sought to protect the EU from contributing excessively to covering costs incurred by the EIB when concluding loans under the RSFF. The need to protect the EU is deeply embedded in the RSFF being a new type of instrument, whose portfolio was expected to include a high number of low ticket-size loans.

A summary of the administrative costs calculation for each financial year is provided in Figure 17. Of particular interest is the financial year 2007/2008, in which the Net Receipts received by the EIB fell short of the administrative costs incurred by the Bank. Yet when adding the theoretical EU share of costs to the Net Receipts for the aforementioned year, the EIB’s revenues theoretically exceeded the EIB’s costs. As a result, and as per the “all-or-nothing” terms of the RSFF’s Co-operation Agreement, the EIB received no EU Contribution for the year 2007/2008. Therefore, the EU’s actual share of costs was 0, and the EIB’s costs actually exceeded the EIB’s revenues. The case of 2007/2008 has been repeated ever since, as there has not been a single RSFF financial year in which the EIB’s total administrative costs have exceeded the sum of Net Receipts and EU share of costs. Consequently the EIB has received no EU Contribution towards the EIB’s conservative calculation of total administrative costs.
Figure 17: Administrative costs of the RSFF over the period 2007-2011

The approach to calculating the administrative Costs has also proven problematic to the EIB on an internal basis as the calculations are not well aligned with the Bank’s internal Cost Allocation Methodology. Therefore reconciling the EIB’s internal Cost Allocation Methodology to the instrument-specific administrative cost calculation approach of the RSFF is problematic. A rough approximation of the difference between the two methodologies applied to calculate the administrative costs (the RSFF agreed and reported methodology vs. the EIB internal Cost Allocation Methodology) can demonstrate that costs reported to the RSFF SC are far below the level of costs measured according to the EIB internal methodology, although this difference tends to decrease over the period 2007-2011.

In conclusion, the administrative costs calculation approach has been very protective for the EC but costly to the EIB. Thus, a review of the calculation of administrative costs is advised for the successor of the RSFF under Horizon 2020 while ensuring its compliance with the new financial regulation adopted on 25th October 2012. This new regulation is intended to harmonise and simplify the methodology for all financial instruments on the basis of a fee-based mechanism (similar to the one adopted for the RSI compartment and the EIF, i.e. combining fixed and performance fees). Such a mechanism is likely to offset most of the remaining difference and to rebalance the partnership in that respect.

4.6 BREAKDOWN OF RISK DISTRIBUTION BETWEEN THE EC AND THE EIB

The degree of intensity of the cooperation can also be illustrated with the loan grading breakdown of the RSFF operations and the distribution of risk between the EU and EIB Windows. As illustrated in Figures 7 and 8 page 16 in Effectiveness section, both in terms of the number of projects and the signed loan amount, the RSFF portfolio is clearly skewed to the higher eligible LGs. In fact, 82 of the 101 signed RSFF operations, corresponding to 90% of the total signed loan amount, are graded in the three highest eligible LGs: A0; D-; and E1+. In contrast, only 16 projects, corresponding to 8% of total signed loans have a LG below E1+. To complete this analysis a comparison was made between the risk distribution of the RSFF’s core portfolio pre- and post-Amendment No.4.

Amendment No.4 has had little impact on reducing the concentration of RSFF operations in the D- to E3+ LG bracket but has increased the number of projects graded within this bracket that are financed under the EU Window. This is exemplified by the EU Window reducing the gap between itself and the EIB Window for the total signed loan amount of RSFF operations with a LG of D- or E1+ and the EU and EIB Windows are now being used in a similar risk taking manner.

Another lens through which this cooperation can be assessed is the breakdown of the core portfolio by Window and Compartment. The RSFF portfolio remains skewed towards the EIB Window. However, since the entering into force of Amendment No.4 on 5 December 2011, this skewness towards the EIB Window has decreased as the EU Window now accounts for 45% of the RSFF’s core portfolio, compared to a mere 34% pre-Amendment No.4.

This clearly illustrates the more balance character of the partnership post-Amendment No.4.
4.7 CONCLUSION ON THE PERFORMANCE OF GOVERNANCE AND COOPERATION

Seven years after its outset, the partnership initiated between the EC and the EIB for and around the implementation of the RSFF has performed well thanks to the nurturing of a cooperative and constructive approach between the two partners.

This positive performance is illustrated by the RSFF SC’s ability to fulfil its responsibilities, both services providing the necessary information to ease its decision making process (some decisions were however taken with some delays). The two RSFF Windows are now being used in a similar risk taking manner. The cooperative approach is also exemplified by the adoption of common eligibility criteria between the EIF and the EC for the RSI compartment. All these elements have clearly contributed to consolidate the partnership which is now mutually beneficial for both the EC and the EIB.

However, some imbalances and potential areas of tension in the cooperation have been identified regarding (i) reporting procedures which satisfy neither the EIB nor the EC services, (ii) the methodology used to measure and report administrative costs, and the very definition of some key concepts such as “innovation”, “midcaps” and “demand-driven principle”. The design of the successor of the RSFF under Horizon 2020 thus represents a good opportunity to address these issues and to consolidate the fruitful partnership.
## ANNEX 1 - PROJECT TABLE

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</tr>
<tr>
<td>B</td>
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<td>Medium</td>
<td>2008</td>
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<tr>
<td>C</td>
<td>Life Science</td>
<td>Medium</td>
<td>2007</td>
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<tr>
<td>D</td>
<td>ICT</td>
<td>Large</td>
<td>2009</td>
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<tr>
<td>E</td>
<td>Life Science</td>
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<td>2008</td>
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<td>F</td>
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<td>Large</td>
<td>2009 - 2010</td>
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<td>G</td>
<td>Life Science</td>
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*Large: > 350  Medium: 150m – 350m  Small: < 150m*
ANNEX 2 - EVALUATION PROCESS AND CRITERIA

In accordance with EV’s Terms of Reference, the objectives of evaluation are:

- To assess the quality of the operations financed, which is assessed using generally accepted evaluation criteria, in particular those developed by the Evaluation Cooperation Group, which brings together the evaluation offices of the multilateral development banks. The criteria are:

  a) **Relevance** corresponding to the first pillar of value added: is the extent to which the objectives of a project are consistent with EU policies, as defined by the Treaty, Directives, Council Decisions, Mandates, etc., the decisions of the EIB Governors, as well as the beneficiaries’ requirements, country needs, global priorities and partners’ policies. In the EU, reference is made to the relevant EU and EIB policies and specifically to the EU Treaty that defines the mission of the Bank. Outside the Union, the main references are the policy objectives considered in the relevant mandates.

  b) Project performance, measured through **Effectiveness (efficacy)**, **Efficiency** and **Sustainability** and second pillar of value added.

  **Effectiveness** relates to the extent to which the objectives of the project have been achieved, or are expected to be achieved, taking into account their relative importance, while recognising any change introduced in the project since loan approval.

  **Efficiency** concerns the extent to which project benefits/outputs are commensurate with resources/inputs. At ex-ante appraisal, project efficiency is normally measured through the economic and financial rates of return. In public sector projects a financial rate of return is often not calculated ex-ante, in which case the efficiency of the project is estimated by a cost effectiveness analysis.

  **Sustainability** is the likelihood of continued long-term benefits and the resilience to risk over the intended life of the project. The assessment of project sustainability varies substantially from case to case depending on circumstances, and takes into account the issues identified in the ex-ante due-diligence carried out by the Bank.

  **Environmental and Social Impact** of the projects evaluated and specifically considers two categories: (a) compliance with guidelines, including EU and/or national as well as Bank guidelines, and (b) environmental performance, including the relationship between ex ante expectations and ex post findings, and the extent to which residual impacts are broadly similar, worse or even better than anticipated.

  Evaluations take due account of the analytical criteria used in the ex-ante project appraisal and the strategy, policies and procedures that relate to the operations evaluated. Changes in EIB policies or procedures following project appraisal, which are relevant to the assessment of the project, will also be taken into account.

- To assess the EIB contribution (Third Pillar) and management of the project cycle:

  **EIB Financial contribution** identifies the financial contribution provided in relation to the alternatives available, including improvements on financial aspects as facilitating co-financing from other sources (catalytic effect).

  **Other EIB contribution (optional)** relates to any significant non-financial contribution to the operation provided by the EIB; it may take the form of improvements of the technical, economic or other aspects of the project.

  **EIB Management of the project cycle** rates the Bank’s handling of the operation, from project identification and selection to post completion monitoring.
In 1995, Operations Evaluation (EV) was established with the aim of undertaking ex-post evaluations both inside and outside the Union.

Within EV, evaluation is carried out according to established international practice, and takes account of the generally accepted criteria of relevance, efficacy, efficiency and sustainability. EV makes recommendations based on its findings from ex-post evaluation. The lessons learned should improve operational performance, accountability and transparency.

Each evaluation involves an in-depth evaluation of selected investments, the findings of which are then summarized in a synthesis report.

The following thematic ex-post evaluations are published on the EIB Website:

1. Performance of a Sample of Nine Sewage Treatment Plants in European Union Member Countries (1996 - available in English, French and German)
2. Evaluation of 10 Operations in the Telecommunications Sector in EU Member States (1998 - available in English, French and German)
3. Contribution of Large Rail and Road Infrastructure to Regional Development (1998 - available in English, French and German)
4. Evaluation of Industrial Projects Financed by the European Investment Bank under the Objective of Regional Development (1998 - available in English, French and German)
5. An Evaluation Study of 17 Water Projects located around the Mediterranean (1999 - available in English, French, German, Italian and Spanish).
7. EIB Contribution to Regional Development A synthesis report on the regional development impact of EIB funding on 17 projects in Portugal and Italy (2001 – available in English (original version), French, German, Italian and Portuguese (translations from the original version)).
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