



Learning Note: Additional Financing for Transport and Information and Communication Technology (ICT)

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Abbreviations

AF	Additional Financing
CPS	Country Partnership Strategy
ECA	Europe and Central Asia
EIRR	Economic Internal Rate of Return
FY	Fiscal Year
GP	Global Practice
HDM	Highway Development and Management Modal
HU	Highly Satisfactory
ICR	Implementation Completion Report
ICRR	Implementation Completion Report Review
ICT	Information and Communication Technology
IEG	Independent Evaluation Group
ISR	Implementation Status and Results Report
M&E	Monitoring and evaluation
MS	Moderately Satisfactory
MU	Moderately Unsatisfactory
OP	Operation Policy
PAD	Project Appraisal Document
RED	Road Economic Decision
S	Satisfactory
WB	World Bank

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Summary

In May 2005, the Bank adopted a new policy and new procedures on Additional Financing (OP/BP 13.20) for investment lending, replacing the previous policy on supplemental financing. This policy was later revised in March 2012. This learning product assesses the performance of the Additional Financing (AF) operations approved since then and draws lessons from their implementation experience. The assessment focuses on AF in projects of the Transport and Information and Communication Technology (ICT) Global Practice (GP). This was selected as the first batch of operations to review because they represent a large share in lending volume, as well as the fact that there is an existing AF study conducted by the former Transport Anchor which this review could use to verify the AF portfolio.

The note first reviewed the 99 AF projects supporting 81 parent projects mapped to the Transport and ICT GP, including their key assessments done at AF stage, such as the updated development objectives, economic analysis, and Monitoring and Evaluation (M&E) framework. Secondly, a more detailed review of the 32 closed AF operations¹ was conducted to test the main hypotheses/assumptions to be investigated, and to generate relevant findings and lessons.

This note is not intended to be an evaluation of the AF instrument or its effectiveness at the corporate level, but rather aims to enhance the understanding of the way it has been used and how it has affected the project outcomes, through reviewing a subset of the AF portfolio for which the relevant data was readily available. The review notes the limitation of the small sample. More areas could be investigated when the data of more projects become available.

The main findings from reviewing the 32 projects

1. ***Projects with additional financing had better overall outcome ratings compared with the rest of the portfolio.*** 87 percent of the 32 projects with additional financing in the Transport and ICT GP were rated Moderately Satisfactory (MS) or above, indicating that these projects did not have significant shortcomings in achieving their development objectives, in efficiency and in relevance. In comparison, 73 percent of the 91 projects in T&I GP without additional financing but closed in the same period as those 32 projects received an MS or above outcome rating. It was noted that these two groups of projects are not really comparable as they might have different characteristics. Therefore, even though such difference in outcome rating might be statistically significant², it does not indicate any causal relationship between the project using additional financing and the final project outcome.

¹ The list of the 32 projects is in Annex 1.

² The t-test shows that there might be a difference at the 10% significance level on the projects' performance (measured by the percentage of projects getting an MS rating) between the additional financing project and project without additional financing.

2. ***Not all projects maintained their performance after getting the additional financing resources; 13 percent (or four projects) had moderately unsatisfactory or below outcome ratings at project closure.*** At the additional financing approval stage, all the 32 projects met the “well-performing” criteria of having Implementation Progress (IP) and Development Objective (DO) rating as being Satisfactory or Moderately Satisfactory with regards to the project progress and the likely achievement of their development objectives. It was expected that these projects would maintain their good performance after obtaining the additional financing resources. However, at project closing, four (13%) had significant or major shortcomings in achieving their development objectives so were rated as Moderately Unsatisfactory (MU) or below. More specifically,

- ***14 out of 15 projects which used additional financing for scale up substantially achieved their development objectives.*** Out of the 15 projects that requested additional financing for scaling up the project activities, one third updated their PDO statement while 13 of them reflected the scale up activities in the output/intermediate outcome indicators with revised targets. A few of them updated the outcome indicators as well. At project closing, 14 of them had their development objectives substantially achieved and activities completed as against the revised output targets.
- ***16 out of 19 project which used additional financing to cover project cost overrun substantially achieved their development objectives.*** Two of the 19 projects used additional financing for scale up as well so had their project development objectives updated at the AF stage. The rest did not update the development objectives because they were supposed to achieve their original development objectives with the assistance of the additional financing resources. At the closing stage, three projects failed to achieve their development objectives.

3. ***Out of the total of 32 projects, 20 of them achieved modest project efficiency at the closing stage.*** It was noted that at the AF stage, the updated economic analyses indicated that all the projects remained economically viable (above the 12 percent or the 10 percent threshold) even with increased project cost. The low project efficiency was mainly due to project implementation inefficiencies which usually included but were not limited to:

- *A substantial cost increase.* On average, the final project cost of the cost-overrun projects was about 163 percent of the original estimate. In comparison, for those 91 projects without additional financing, the final cost was 124% of the original estimated project cost. The review found that in the cost overrun cases, the project cost increase could sometimes be attributed to external factors such as fuel, labor, material cost increases and/or local currency fluctuation, however in many cases they were due to internal factors such as deficiency in engineering design and poor management of bidding process and contracts, which in turn translated into higher project costs and a lengthy project implementation period impairing the project’s efficiency.
- *A prolonged project implementation period.* On average, the project implementation period was about 8.6 years, 8.1 years and 6.5 years for scale up, cost overrun and for the 91 project without additional financing, respectively. While the longer implementation period for the scale up project was necessary to enable the completion of the additional activities, the

longer implementation period for the cost overrun projects to complete the original scope of work would inevitably affect the project efficiency negatively.

- *The projects cost more but delivered less (qualitatively or quantitatively).* There were cases in which the projects cost more but produced less outputs than planned, or the quality of the outputs was below standard. As a result, the benefits generated by the project interventions could not compensate for the cost increase, leading to lower project efficiency.

4. *Even the well performing additional financing projects are facing challenges achieving their institutional objectives.* As often observed in infrastructure projects in general, the additional financing projects were doing well in improving the transport infrastructure but the projects' achievements on institutional development varied. This indicates that even the additional time and resources are often not sufficient or efficiently used to address institutional strengthening objectives.

5. *There was no strong correlation between the number or the timing of the AF and the final outcome of the project.* The performance of those projects with only one additional financing during their life cycle was not statistically different from the performance of those projects with more than one additional financing. Similarly, there was no detectable difference in performance pattern between the ones that requested AF early and those who did this at a later stage. This does not imply anything about causality, since the sample was small and furthermore the projects were unlikely to be comparable due to selection bias.

6. *Not revising PDOs or project design in the face of implementation challenges can represent a missed opportunity especially at the time of AF when such changes can be more easily processed.* All the six projects which revised their PDOs at the AF stage substantially achieved their objectives and had moderately satisfactory or satisfactory outcomes at project closing. For those 26 projects which did not revise their PDOs, four of them had moderately unsatisfactory or unsatisfactory outcomes. One of these four projects could have benefited from a revision of its PDOs; the other three projects which suffered from implementation inefficiencies may have benefited from a change in the design and/or implementation of the AF activities.

7. *27 projects had their M&E framework rated as "Modest".* Though almost all the scale up projects and some of the cost overrun projects updated their M&E framework at the additional financing stage, most of the revision was done at the output/intermediate outcome indicator level. The modest M&E rating was mainly due to the fact that the project outcome indicators could not sufficiently or accurately measure the achievement of project development objectives, or the achievement of the indicator targets could not be attributed to the project. This suggested that the additional financing stage is not fully utilized as an opportunity to improve the projects' result-frameworks.

The main lessons drawn from the finding

1. ***At the project preparation stage, focusing on the engineering design is important to avoid substantial cost overrun at the implementation stage and the associated transaction costs of processing the AF.*** Specific measures could include:

- Allocate sufficient time and budget for the pre-construction activities including preparation and detailed review of engineering designs, such as, the up to date design with current cost information, the more accurate projection of the civil work inputs cost variation trend, and a thorough engineering survey to make sure that there was no big omission or defect in the engineering design. All these measures could help avoid cost overruns and delays in implementation.
- Update the engineer's estimates at the market value at the time of appraisal and allow adequate premium to cover for the procurement delays.
- Try to avoid the time lag between the project preparation and implementation to reduce the likelihood of a financing gap due to higher bid prices.

2. ***More caution is needed when using AF to scale up complex projects or projects experiencing implementation issues.*** For complex projects, it would be helpful to assess whether the implementing agency has the capacity to complete the additional activities and ensure that the works financed by the AF can be effectively implemented within the remaining life of the project. Carefully thinking through the rationale for AF when planning to scale up a project that is experiencing implementation challenges can help to avoid later problems. Both options of either not going ahead with the AF or designing the AF activities differently to respond to anticipated challenges should be considered. As noted earlier, achievements on institutional development under AF have varied; this would suggest the need to consider the extent to which AF can provide sufficient time and resources for this objective and/or be designed and implemented in a way that can support its efficient achievement.

3. ***The additional financing stage is a good opportunity to refine the project result framework and the project team should make good use of this opportunity.*** A good results framework should link the project actions with outputs and the achievement of objectives. The definition of the project development objectives should reflect all project components. If during implementation it becomes clear that the framework needs revision, this should be done formally as soon as possible. The additional activities to be financed by the additional financing should be fully integrated into the monitoring and evaluation system so as to ensure adequate supervision of these activities.

Background and Context

Bank's Additional Financing policy

In May 2005, the Bank adopted a new policy and new procedures on Additional Financing (OP/BP 13.20) for investment lending, replacing the previous policy on supplemental financing. The change in policy had three objectives: to (a) scale up the impact and effectiveness of the Bank's development assistance; (b) reduce transaction costs to borrowers and the Bank; and (c) realign the Bank's policies with borrower needs, the results agenda, and the evolving design and programmatic focus of investment lending.

In March 2012 this policy was revised. According to the revised OP/BP13.20, the Bank may provide additional financing, beyond the amount specified in the Loan Agreement, for an investment project under implementation to finance (a) completion of the original project activities in the event of an unanticipated financing gap or a cost overrun; (b) activities that scale up a project's impact and development effectiveness; and/or (c) modified project activities included as part of project restructuring when the original loan amount is insufficient to cover such activities.

The Bank Policy OP10.00 set the requirements for using the additional financing. Paragraph 29 of OP 10.00 states: "The Bank may provide additional financing to an ongoing, well-performing Project..." and "well-performing" is defined as follows: ISR ratings for implementation progress (IP) and development objectives (DO) have been consistently rated as moderately satisfactory or better over the most recent 12 months. The policy also requires the projects to have substantial compliance with key loan covenants, including audit and financial management reporting requirements. For those projects that do not meet the "well-performing" criteria, additional financing is provided on a case by case base. OP/BP 13.20 also states that an economic justification is required when requesting additional financing.

Bank-Wide Additional Financing Portfolio Overview

During FY2006-14, the Board approved 608 additional financing operations³ at the total volume of US\$32.7 billion, which represented 15 percent of the total commitment of all

³ OP and BP 13.20, Additional Financing for Investment Lending apply to additional loans considered by the Executive Directors on or after June 1, 2005

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the investment projects approved during the same period⁴. The distribution of the AF operations broken down into the Global Practices (GPs) is shown in Table 1.

Table 1: The Distribution of the AFs among GPs

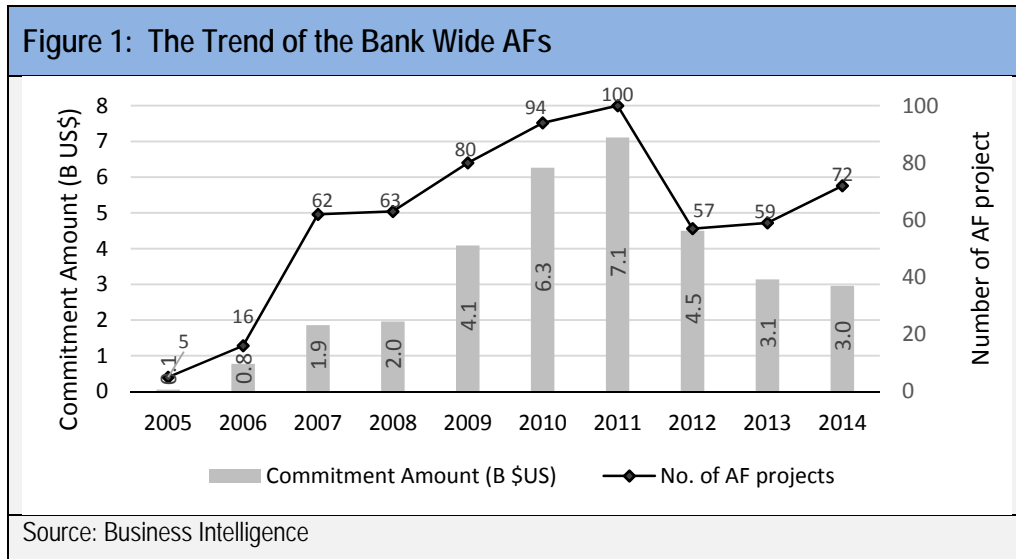
Global Practice	Additional Financing		Percentage (%)		Active Project	Closed Project	WB Investment Lending	
	Number of Project	Commitment Amount (M\$)	Number of AF project (%)	Commitment Amount (%)			Number of Project	Commitment Amount (M\$)
Transport and ICT	99	7,707	16%	24%	56	43	355	48,998
Agriculture	59	2,254	10%	7%	33	26	228	15,827
Energy and Extractives	67	4,380	11%	13%	37	30	254	34,148
Education	36	2,178	6%	7%	10	26	194	16,377
Environment and Natural Resources	15	443	2%	1%	7	8	74	4,428
Finance and Markets	21	1,835	3%	6%	9	12	90	8,718
Governance	21	447	3%	1%	12	9	130	5,504
Health, Nutrition, and Population	58	1,772	10%	5%	26	32	204	14,315
Macroeconomic and Fiscal Management	1	5	0%	0%	1		13	419
Poverty	2	33	0%	0%	1	1	10	227
Social Protection and Labor	55	4,035	9%	12%	22	33	148	15,420
Trade and Competitiveness	10	941	2%	3%	5	5	63	5,114
Social, Urban, Rural, and Resilience	95	3,677	16%	11%	37	58	343	26,003
Water	69	2,998	11%	9%	33	36	243	22,147
Total	608	32,705	100%	100%	289	319	2349	217,644

Information source: the Business Intelligence

From the table, one can see that the Transport & ICT GP had the largest share of the AF operations both in terms of number and the commitment of the AF operations, followed by the Energy and Extractives GP. There was a spike of the AF commitment in FY10-11 (Figure 1), which could possibly be explained by the Bank's increased support to clients affected negatively by the global financial crisis.

The information generated from the Bank Business Intelligence showed that the majority of the AF operations (75 percent) were for project scale up, followed by 49 percent for cost overrun. In many cases, one AF operation was used for covering both scale up and cost overrun.

⁴ Information source: Business Intelligence



Rationale, Purpose, and Methodology

While a large portion of the Banks' financial resources is being deployed every year through the relatively quick and easy processing of the AF instrument, very few reviews have been found on the performance of these AF operations.

This learning product was prepared to assess the performance of the AF operations and draw lessons from their implementation experience. The AF operation in the Transport and ICT GP was selected as the first batch of operations to review because of its large share in lending volume, and because there is an existing AF study conducted by the former Transport Anchor⁵ which the review could rely to verify the AF portfolio.

The assessment first involved a portfolio review of the 99 AF projects supporting 81 parent projects mapped to the Transport and ICT GP to understand their trends and composition. The portfolio review also included the key assessments made at AF stage, such as those related to the development objectives, economic analysis, and M&E framework.

Secondly, a more detailed review of the 32 closed and rated (by IEG) AF operations was conducted to test the main hypotheses/assumptions to be investigated, and to generate findings and lessons from their implementation experiences. The three main hypotheses/assumptions to be examined are:

⁵ "Additional Financing Mechanism in Transport: Trends, structure, and recommendations on its use", which reviewed the AF portfolio in Transport Sector (FY2007-2013)

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#1. A project which met the “well-performing” criteria when the additional financing was requested would maintain its good performance after getting the additional financing resource.

#2. The projects requesting additional financing for scale up would achieve more outputs and/or outcomes than the original projects.

#3. The project efficiency would be reduced as a result of higher project cost unless the benefits were also higher.

The analysis will be based on the review of relevant documents, including the Additional Financing Project Papers, as well as the Implementation Completion and Results Reports (ICRs) and IEG’s ICR Reviews. The outcome rating of the closed projects was used as a proxy for the projects’ performance. This study is not intended to be an evaluation of the AF instrument or its effectiveness at the corporate level, but rather aims to enhance the understanding of the way it has been used and how it has affected the project outcomes, through reviewing a subset of the AF portfolio for which the relevant data was readily available. The limitation of having only 32 projects from which to infer is noted.

Additional Financing Portfolio of the Transport and ICT Global Practice

During FY2006-2014, in total 99 AF operations in the amount of US\$7.8 billion were approved to support the implementation of 81 parent projects which had an original commitment of US\$12.3 billion. The AF commitment in the Transport and ICT GP was equivalent to about 63 percent of the total commitment of the parent projects, and 25 percent of the total investment lending approved during the same period.

The AF as a proportion of the parent projects’ commitment varies from 10 to 350 percent. 16 projects out of a total of 81 parent projects had more than one AF during their life cycle.

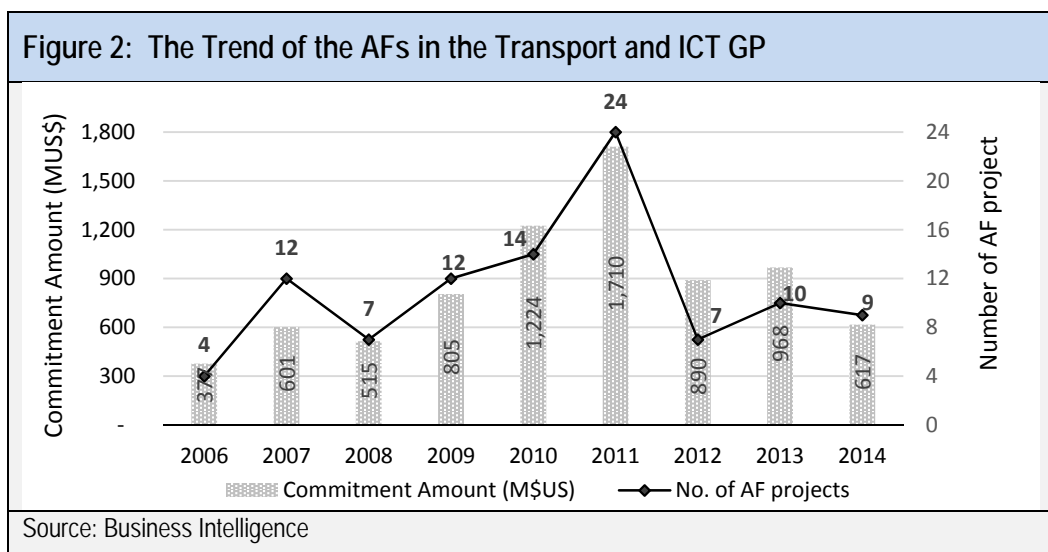
AF in the Transport and ICT GP experienced an increase in FY2010- 2011, similar to the Bank wide trend (Figure 2). The distribution of the 99 AF operations was 49 percent for cost overrun, 61 percent for scale up and 12 percent for restructuring⁶.

Sector wise, AF was used mostly for Rural and Inter-Urban Roads and Highways. Over FY06- FY14, 52 percent of all AF commitment were made for the said sub-sector. The urban transport sub-sector represented 14 percent of AF commitment, while 18 percent

⁶ There were occasions where one AF served multiple purposes, which explains why the total percentage was more than 100 percent.

of AF commitment were requested for Railways projects. Ports and Aviation each counted for about 3 percent of the total AF commitment.

The average timing of the 99 AFs approvals was about 4 years into implementation with huge variation between projects, ranging from 0.35 years to 9.95 years into implementation.



The review of the AF project papers for the 99 AFs found that the updated Economic Internal Rate of Returns (EIRRs) were all above the Bank’s threshold of 12 percent. The most commonly used methodology/ model for economic analysis was HDM4⁷/RED modal⁸. Sometimes, cost effectiveness analysis was applied. However, in a few cases, such as the Georgia Highway Improvement Project, the economic analysis was not updated, instead, the project team used the sensitivity study for the original project to estimate the EIRR. The review also found that not all projects had a detailed economic analysis presented in the Annex of their Project Papers, thus making it difficult to understand why some projects were still economically viable when the cost was much higher than the one originally estimated, unless the benefits are high enough to compensate for the increased cost.

The review also found that about 1/3 of the projects updated their project development objectives at the additional financing stage to reflect the additional activities to be financed or refine the original PDO statement. For the remaining projects which did not formally revised the PDO statements, about a quarter of them updated the M&E framework either by changing the targets of some indicators or adding the required sector core indicators such as the percentage of roads in good or fair conditions, the percentage of rural population with access to a whole season road, or similar.

⁷ Road Economic Decision (RED) modal performs an economic evaluation of road investments and maintenance alternatives for low traffic roads such as rural roads.

⁸ Highway Development and Management Modal (HDM)-4 is a software package and associated documentation which is used as the primary tool for the analysis, planning, management and appraisal of road maintenance, improvements and investment decisions.

Main Findings and Lessons

Main Findings

As of June 30, 2014, out of the 81 parent projects which utilized altogether 99 AFs, 34 had been closed (listed in Annex 1). Since the ICRs for two projects⁹ are not yet available, this analysis is based on the 32 projects for which both ICRs and ICR reviews have been completed. The performance of these 32 additional financing projects, compared with those 91 T&I GP projects without additional financing but closed in the same period as those 32 projects is summarized in the Table 2 below.

Table 2: Performances of the projects with and without AF

IEG Outcome rating	Number of projects with AF	Percentage as of the total projects	Number of projects without AF	Percentage as of the total projects
MU or below	4	13%	28	27%
MS	19	59%	63	48%
S or HS	9	28%	32	25%
Total	32	100%	91	100%

Data source: IEG ICRR Database

The comparison found that the projects with additional financing performed better than those 91 projects without additional financing. 87 percent of the 32 projects with additional financing in the Transport and ICT GP were rated Moderately Satisfactory (MS) or above, indicating that these projects did not have significant shortcomings in achieving their development objectives, in efficiency and in relevance. In comparison, 73 percent of the 91 projects in T&I GP without additional financing but closed in the same period as those 32 projects received an MS or above outcome rating. It is important to note that these two groups of projects are not really comparable as they might have different characteristics. While such a difference in outcome rating might be statistically significant, it does not indicate any causal relationship between a project accessing additional financing and a better overall project performance.

Not all projects maintained their performance after getting the additional financing resources; 13 percent (or four projects) had moderately unsatisfactory or below outcome rating at project closure. At the additional financing approval stage, all the 32 projects met the “well-performing” criteria of having Development Objective (DO) and Implementation Progress (IP) rating as being Satisfactory or Moderately Satisfactory with regards to the project progress and the likely achievement of their development

⁹ Liberia Emergency Infrastructure Project and Zambia Road Rehabilitation and Maintenance Project.

objectives. It was expected that these projects should maintain their good performance after getting additional financing resources. However, at project closing only nine (28%) substantially achieved their development objectives in an efficient manner and got Satisfactory (S) or above outcome rating; 19 (59%) projects had moderate shortcoming in achieving their development objectives and/or in efficiency and got MS rating, and four ¹⁰(13%) had significant or major shortcomings in achieving their development objectives so were rated Moderately Unsatisfactory (MU) or below. Hypothesis#1 does not appear to be fully supported by the evidence.

All the four MU or below projects self-rated their IP and DO progress as being Satisfactory when the additional financing was requested. At project closing, all the projects achieved Moderately Unsatisfactory or below outcome ratings as they had significant shortcomings in achieving their project development objectives (the details of these projects are presented in Annex 2). While there were project specific reasons for such outcomes, one might also question whether the MS or above rating was a result of an inflated performance assessment at the time of the AF request, especially when there is no clear methodology for performance rating of the project while it is still under implementation. More specifically,

- **14 out of 15 projects which used additional financing for scale up substantially achieved their development objectives.** Out of the 15 projects that requested additional financing for scaling up project activities, one third of them updated their PDO statement, 13 of them reflected the scale up activities in the output/intermediate outcome indicators with revised targets. A few of them updated the outcome indicators as well. At project closing, 14 of them had their development objectives rated as substantially achieved and the activities completed against the revised output targets. There is hence evidence in support of hypothesis#2 but more at the output/intermediate outcome level than at the outcome level.
- **16 out of 19 project which used additional financing to cover project cost overrun substantially achieved their development objectives.** The rational for requesting additional financing to cover the project cost overrun was that without the additional resources, the project could not complete its planned activities, thereby jeopardizing the achievement of the project development objectives. Therefore, it is reasonable to say that in the cost overrun cases, the AF played a critical role in ensuring that the projects had sufficient resources to substantially achieve their project development objectives. Out of a total 19 cost overrun cases, two of them

¹⁰ These four projects are: Croatia Rijeka Gateway Project, Ethiopia Road project, Thailand Highway Management Project and the Jordan Amman Development Corridor Project.

used additional financing for scale up as well (i.e. they had their project development objectives updated at the AF stage). The rest did not update the development objectives because they were supposed to achieve their original development objectives with the assistance of the additional financing resources. At closing, three projects were not successful in achieving the project development objectives. There were other projects that achieved (highly) satisfactory outcome ratings such as the two examples listed in the Box 1.

Box 1: Examples of AF projects which had (highly) satisfactory outcomes despite significant cost overruns

For Vietnam 3rd Rural Transport project, the actual cost was 78 percent higher than originally estimated. Using the same methodology at appraisal with updated costs and benefits conducted for all 482 appraised project roads (ICR, p.16, 36), the overall ex-post EIRR of all sub-project roads in 33 provinces is estimated at 43% as compared to the ex-ante EIRR above 28% in that scenario (ICR, 16; PAD p. 15). The higher than estimated EIRR was mainly due to the high savings in vehicle operating costs and travel time.

For Egypt Airport Development Project, actual cost was 23 percent higher than originally budgeted. The project performed well after getting the additional financial resources and achieved Highly Satisfactory outcome rating. The project efficiency was also high. Because of the higher than expected traffic growth, the individual ERRs for Cairo International and Sharm El Sheikh airports were 17.2% and 37.8% at closure, exceeding the estimates of 16.2% and 28.0%.

Source: The Additional Financing Study Team

Out of a total of 32 projects, 20 of them achieved modest project efficiency at the closing stage. Poor project implementation efficiency was cited as the most common reason for the low project efficiency. The implementation inefficiency usually included but was not limited to:

- i) *A substantial cost increase.* On average, for the cost-overrun projects, the final cost was about 163 percent of the original estimated project cost. In comparison, for those 91 projects without additional financing, the final cost was 124% of the original estimated project cost. The review found that in the cost overrun cases, the project cost increase sometimes could be attributed to external factors such as fuel, labor, material cost increases and/or local currency fluctuation. However, in many cases the cost increases were due to internal factors such as deficiency in engineering designs, and poor management of bidding processes and contracts, which in turn translated into higher project costs and lengthy project implementation period.

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- ii) *A prolonged project implementation period.* On average, the project implementation period was about 8.6 years, 8.1 years and 6.5 years for scale up, cost overrun and for the 91 project without additional financing, respectively. While the longer implementation period for the scale up projects was necessary to enable the completion of the additional activities, the longer implementation period for the cost overrun projects to complete the original scope of work would inevitably affect the project efficiency negatively.
- iii) *Poor quality of work or reduced scope of output at higher cost.* There were some cases where the project cost more but delivered less in terms of quantity and/or quality. For example, the final cost of the Pakistan Highway Rehabilitation Project was about double the original estimate, which seems high even after controlling for price increases in key inputs. Yet, the elevated costs at the end did not secure the quality of the works, as evident in localized distress and early need for repairs (ICR, p. 46-47, 51).
- iv) *Lower project benefit which could not compensate for the higher cost.* There were some cases in which the benefits generated by the project were lower than those originally projected. The Cape Verde Road Sector Support Project had two additional financing agreements of a total of \$15 million on top of the \$15 million originally provided by the Bank. At project closure, the actual traffic volume was lower than that projected, and the lower traffic volume combined with higher actual project costs resulted in below the benchmark (12%) project EIRR, i.e, a 5% EIRR for the Ribeira Brava-Tarrafal road improvement as compared with the 16% EIRR estimate at the project appraisal stage. All the above issues would lead to reduced project benefits hence negatively affect the project efficiency.

Overall, it seems the evidence comes out in support of hypothesis#3.

Even the well performing Additional Financing projects are facing challenges achieving their institutional objectives. The review found that all projects rated as moderately satisfactory or above achieved their objectives related to the transport infrastructure improvement which would consequently lead to improved accessibility and mobility. There were however variations in the achievement of their institutional development objectives. About eight projects had specific institutional development sub-objectives, but five of them did not substantially achieve these objectives. Those that involved private sector participation in operations and management experienced issues as in the case of Brazil Rio De Janeiro Mass Transit Project which could not realize the planned investment by the private sector, and consequently failed to achieve the institutional objective.

Institutional integration agendas are difficult, political and often take longer than the conventional project cycle suggests. Even the well performing projects which receive

additional financing have often failed to set realistic institutional reform objectives, and fail to achieve them within the extended implementation period. An example of this is the Sierra Leone Infrastructure Development Project within which considerable efforts went into drafting the reform bill for the creation of the new institutions. Even with parliamentary approval, the low capacity in the country made it difficult to make the new agencies function, long after project effectiveness.

The study did not find a strong correlation between the number or the timing of the AF and the final outcome of the project. Six projects out of a total of 32 closed and rated projects had more than one AF during their life cycle. Of these, five of them achieved MS or above final outcome rating, as compared with the 88 percent of MS or above outcome rating of those projects with only one additional financing during the life cycle. Similarly, there was no detectable difference in performance pattern between the ones that requested AF early and those who did this at a later stage. (Table 3 shows the outcome ratings of the projects and the timing of the AFs). The timing of the AF did not seem to have an implication on the project's final outcome either. This does not imply anything about causality however, since the sample was small and furthermore the projects were unlikely to be comparable due to selection bias.

Table 3: Projects performance and the timing of the AFs

Years into implementation when AF was approved	Outcome as MS or above (%)	Outcome as MU or below (%)
Less than four years	87%	13%
Between 4-6 years	90%	10%
More than 6 years	86%	14%

Source: IEG ICRR database and project team's estimate

Not revising PDOs or project design in the face of implementation challenges can represent a missed opportunity especially at the time of AF when such changes can be more easily processed. The study found that out of the 32 closed and rated projects, six projects had their PDOs revised at the AF stage. All the six projects substantially achieved their objectives and had moderately satisfactory or satisfactory outcomes at project closing. For those 26 projects which did not revise their PDOs, four of them had moderately unsatisfactory or unsatisfactory outcomes. Out of the four projects, the Jordan Amman Development Corridor Project had PDOs that were too ambitious and could have benefited from a revision of its PDOs; the other three projects were rated in the unsatisfactory range mainly due to project implementation inefficiencies and may have benefited from a change in the design and/or implementation of the AF activities.

27 projects had their M&E framework rated as "Modest". Though almost all the scale up projects and some of the cost overrun projects updated their M&E framework at the additional financing stage, most of the revision was done at the output/intermediate

outcome indicator level. Only five projects out of the total of 32 closed projects had their M&E framework rated as “Substantial”. 27 projects had their M&E framework rated as “Modest”, which suggests that the AF opportunity was not been sufficiently utilized by teams to improve the project M&E frameworks. The shortcomings included: the additional activities to be financed by AF were often not integrated into the M&E system so as to ensure adequate monitoring of their results; and the project outcome indicators could not sufficiently or accurately measure the achievement of project development objectives, or the achievement of the targets could not be attributed to the project. In a few cases, the overall M&E framework was rated as modest due to the poor implementation or the low utilization of the M&E framework, such as for the Columbia Integrated Mass Transit System Project, which had a well-designed M&E framework, but for which implementation was not regular and the data were not very reliable.

Main Lessons

At project preparation stage, focusing on engineering design is important to avoid substantial cost overrun at implementations stage and associated transaction cost of processing the AF. Specific measures could include:

- Allocate sufficient time and budget for the pre-construction activities including preparation and detailed review of engineering designs, such as, the up to date design with current cost information, the more accurate projection of the civil work inputs cost variation trend, and thorough engineering survey to make sure that there was no big omission or defect in the engineering design. All these measures could help avoid cost overruns and delays in implementation.
- Update the engineer's estimates at the market value at the time of appraisal and allow adequate premium to cover for the procurement delays.
- Try to avoid the time lag between the project preparation and implementation to reduce the likelihood of financing gap due to higher bid prices.

More caution is needed when using AF to scale up complex projects or projects experiencing implementation issues. For complex projects, it would be helpful to assess whether the implementing agency has the capacity to complete the additional activities and ensure that the works financed by the AF can be effectively implemented within the remaining life of the project. Carefully thinking through the rationale for AF when planning to scale up a project that is experiencing implementation challenges can help to avoid later problems. Both options of either not going ahead with the AF or designing the AF activities differently to respond to anticipated challenges should be considered. As noted earlier, achievements on institutional development under AF have varied; this would suggest the need to consider the extent to which AF can provide

sufficient time and resources for this objective and/or be designed and implemented in a way that can support its efficient achievement.

The additional financing stage is a good opportunity to refine the project result framework and the project team should make good use of this opportunity. A good results framework should link the project actions with outputs and the achievement of objectives. The definition of the project development objectives should reflect all project components. If during implementation, it becomes clear that the framework needs revision this should be done formally as soon as possible. The additional activities to be financed by the additional financing should be fully integrated into the monitoring and evaluation system so as to ensure adequate supervision of these activities.

Areas for Further Investigation

The review also leads to some interesting questions that could be used to further investigate the effectiveness of additional financing as an instrument, in a possible follow on evaluation by IEG:

- What are the main contributors of the better outcome rating for those projects with additional financing? In addition to the additional financing resource provided to the project, were there other factors that contributed to the improved outcome ratings of additional financing operations?
- A large proportion (about 59%) of the projects with additional financing had Moderately Satisfactory outcome ratings, which indicated that that the projects achieved their objectives but at the cost of the project efficiency. A question to be asked is whether using the additional financing to support the existing project meets the best value for money principle for the Bank's financial resources?
- As the study noted, there were cases in which the additional financing failed to achieve good outcome ratings, even though all these projects were assessed as in compliance with the Bank's additional financing policy OP10.00 and were considered as being "well-performing" and "economically viable" at the additional financing approval stage. Are there perverse incentives to misrepresent the performance at the AF approval stage, and can this be mitigated? Should the Bank redefine the term, "well-performing" or "economically viable" projects and raise the bar to qualify for additional financing?

ANNEX1: LIST OF THE 34 CLOSED PROJECTS

Annex1: List of the 34 Closed Projects

No.	Par Proj ID	Proj ID	Project Name	Approval Date	Closing date for parent Project	Region	Approval FY	Country	Lending Amount (M US\$)
1	P115486	P121287	LIFELINE ROADS 2nd Addl. Fin.	7/15/2010	12/31/2013	ECA	2011	Armenia	40
2	P115486	P116760	Lifeline Roads - Add Fin	8/27/2009	12/31/2013	ECA	2010	Armenia	37
3	P004397	P102792	PG- (Supplement) Road Maint. and Rehab	4/26/2007	6/30/2012	EAP	2007	Papua New Guinea	37
4	P103343	P118828	AF: National Emergency Rural Access-AF	12/16/2010	12/31/2013	SAR	2011	Afghanistan	40
5	P100160	P117005	LR: EIP - Additional Financing	6/30/2009	12/31/2012	AFR	2009	Liberia	8
6	P100160	P103276	LR-EIP Supplemental ERL (FY07)	10/26/2006	12/31/2012	AFR	2007	Liberia	17
7	P095523	P114059	HT (AF) Transport Additional Financing	12/8/2009	7/30/2013	LCR	2010	Haiti	12
8	P094044	P107610	HIGHWAY IMPROVEMENT 2 ADDL. FINANCING	10/30/2008	6/30/2012	ECA	2009	Georgia	20
9	P087004	P112767	CV - RSSP Second Additional Financing	4/5/2011	6/30/2013	AFR	2011	Cabo Verde	10
10	P087004	P110773	CV-Road Sec. Sup. Proj. Additional Finan	6/26/2008	6/30/2013	AFR	2008	Cabo Verde	5
11	P010556	P099040	PK: Highways Rehab	12/1/2005	6/30/2013	SAR	2006	Pakistan	100
12	P010556	P100155	PK: Highways Rehabilitation Project	3/29/2006	6/30/2013	SAR	2006	Pakistan	65
13	P010556	P123311	PK: Highways Rehabilitation Project-AF	9/28/2010	6/30/2013	SAR	2011	Pakistan	130
14	P086277	P114365	Secondary and Local Roads Pr: Ad.Fin	3/19/2009	6/30/2012	ECA	2009	Georgia	70
15	P083923	P107853	NP:Rural Access (RAIDP) - AF	12/17/2009	12/31/2013	SAR	2010	Nepal	45
16	P083906	P114572	Emerg Customs & Trade Faci Add Fina	5/26/2009	12/31/2010	SAR	2009	Afghanistan	7
17	P083110	P117860	First East West Highway - AF	11/10/2009	6/30/2013	ECA	2010	Georgia	28
18	P039584	P104984	AR BA Urb Transport Add'l Financ	3/27/2007	6/30/2011	LCR	2007	Argentina	100
19	P082998	P117644	ET-Road Sec. Dev. Prgm. Ph.2 Add'l Fin.	5/27/2010	6/30/2012	AFR	2010	Ethiopia	100
20	P082998	P099480	ET-Road Sec Dev Pro II Supl APL (FY06)	6/22/2006	6/30/2012	AFR	2006	Ethiopia	87
21	P082914	P105750	EG-AIRPORTS DEV ADDITIONAL FINANCING	4/24/2008	6/30/2009	MNA	2008	Egypt, Arab Republic of	40
22	P082806	P105044	MG-Transport Inf. Invst APL - AF (FY07)	5/22/2007	6/30/2012	AFR	2007	Madagascar	16
23	P082466	P114325	CO (AF II) Integrated Mass Transit Syst	8/4/2009	12/31/2012	LCR	2010	Colombia	300
24	P082466	P101356	CO (AF)Integrated Mass Transit System	6/12/2007	12/31/2012	LCR	2007	Colombia	207
25	P081505	P110954	JO - Amman Dev Corridor Add'l Financing	12/4/2008	12/31/2012	MNA	2009	Jordan	33
26	P042927	P105120	VN -SUPP- Mkg Transp & Flood Protection	6/20/2007	6/30/2011	EAP	2007	Vietnam	25

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No.	Par Proj ID	Proj ID	Project Name	Approval Date	Closing date for parent Project	Region	Approval FY	Country	Lending Amount (M US\$)
27	P043195	P105238	GATEWAY(ADDTL FNCG)	5/30/2007	9/30/2012	ECA	2007	Croatia	48
28	P078389	P110968	SL IDP Transport Additional Financing	6/19/2008	9/13/2013	AFR	2008	Sierra Leone	11
29	P043421	P106427	BR (AF-C)RJ Mass Transit	2/12/2008	6/30/2009	LCR	2008	Brazil	44
30	P075523	P091025	WS-Suppl Infra Asset Mgmt Additional Fi	6/19/2007	6/30/2013	EAP	2007	Samoa	8
31	P075407	P113498	VN-3rd Rural Transport-Add Fin	12/15/2011	6/30/2014	EAP	2012	Vietnam	97
32	P075207	P096206	TRANSPORT REHAB - ADDITIONAL FINANCING	6/20/2007	9/30/2012	ECA	2007	Serbia	50
33	P075173	P112918	TH: Highways Management Project AF	3/18/2010	6/30/2013	EAP	2010	Thailand	79
34	P074963	P102029	NG-Lagos Urban Transp. Add'l Fin (FY07)	4/10/2007	12/31/2010	AFR	2007	Nigeria	50
35	P050649	P118981	IN: TN Road Add Financing	3/30/2010	3/31/2012	SAR	2010	India	51
36	P074030	P121033	BF-Transp. Sec. Additional Financing	9/30/2010	3/31/2013	AFR	2011	Burkina Faso	16
37	P071985	P120723	ZM:Road Rehab Maintenance Add'l Financin	10/14/2010	6/30/2014	AFR	2011	Zambia	15
38	P071985	P093611	ZM-RRMP Additional Financing (FY07)	3/29/2007	6/30/2014	AFR	2007	Zambia	25
39	P071435	P110281	BD: Rur Trans Improv -AF	1/10/2008	6/30/2012	SAR	2008	Bangladesh	20
40	P069889	P122371	IN: Mizoram Roads AF II-AF	10/21/2010	12/31/2010	SAR	2011	India	13
41	P069889	P105775	Mizoram Roads - Additional Financing	5/22/2007	12/31/2010	SAR	2007	India	18
42	P057296	P096305	DRC-Emerg MS Rehab & Recov Suppl. (FY06)	12/8/2005	5/15/2010	AFR	2006	Congo, Democratic Republic of	125
43	P051696	P105959	BR (AF-C)S.P. Metro Line 4 (Add'l Fin)	4/8/2008	3/31/2011	LCR	2008	Brazil	95

Annex 2: The Four MU Projects with MU or below outcome ratings

The Croatia Rijeka Gateway Project was approved in April 2003 and closed in September 2012. The project development objectives were: (a) increase efficiency, through private operators, and improve financial, social and environmental conditions at Port of Rijeka, rehabilitate infrastructure and replace heavy cargo equipment; (b) prepare redeveloping part of Port of Rijeka for urban purposes; and (c) improve international road connections linked to the Rijeka gateway, and the administration of the road sector. Additional finance of US \$48 million was approved in May 2007 to finance the cost increase associated with: (i) cost overrun in completing the construction of the main port component, the Zagrebacko Terminal; and (ii) financing gap in technical services to prepare the concession arrangements for the Zagrebacko Terminal.

At the end of the project, the objective related to road improvement was substantially achieved, however, the objective of increasing the port operation efficiency through more private sector' involvement was not achieved. More specifically, the target of having private sector participating 80 percent operation of Rijeka port was achieved at 35 percent level in 2012. There has been a progressive reduction in government subsidies to the port. The level of subsidy was 19 percent lower than the target benchmark. The ratio of total operating expenses (including asset depreciation) of the port authority to total operating revenues (excluding subsidies) was expected to decline from a target of 240 percent to 150 percent. The target was not achieved. The third sub-objective "Prepare for redevelopment of part of the Port of Rijeka for urban purposes" was modestly achieved. The new Bradjika passenger terminal with waterfront facilities was completed ahead of schedule and is operational. It has become a popular social venue encouraged by better access from the city. However, the number of passengers using the terminal declined following the removal of subsidies on the ferry services. At the output level, the Becko berth was rehabilitated, the Brajdica Container Terminal was constructed, heavy cranes were installed and various equipment and software systems were procured. However, unanticipated difficult soil conditions prevented the construction of a multipurpose terminal at the Zagreb pier. This design and build contract was deferred to be constructed under a follow-on project, but as a container terminal. Since the activity was not implemented, the additional financing funds were unnecessarily tied up and not utilized efficiently, some US\$30.5 million was cancelled.

The Ethiopia Road Project was approved in September 2004 and closed in June 2012. The project development objective was “to assist the borrower in increasing its road transport infrastructure and improving the reliability thereof, strengthening the capacity for road construction, management and maintenance and enhancing the financing program in relation there to in order to ensure sustainability, and creating conditions conducive to private sector participation in the road transport sector”.

Two packages of Additional Financing (AF) of about US\$ 190 million were approved during the life of the project to cover the project cost-overrun. In June 2006, the first AF in the amount of US\$87.3 million was approved to help finance the disparity between the engineer’s estimate and the bids that was partly related to increased prices of fuel and bitumen between project conception and project effectiveness. Other possible factors could be the low level of contractor participation and reduced competition. In May 2010, the second AF in the amount of US\$100 million was approved to help finance cost overruns, which were primarily due to changes in design/correction of design errors and associated price adjustments.

At the end of the project, the sub-objective of “increased road transport infrastructure and improved reliability” was substantially achieved. Not much has been achieved under the other two sub-objectives. The project efficiency was modest. It had an implementation delay of two years involving substantial cost overruns with the actual costs 136% higher than the appraised estimates. The ex-post ERRs for the project roads were much lower than the ERRs estimated at the appraisal. The ICR concluded that the 2nd AF could have been avoided if the project had been better managed.

The Thailand Highway Management Project was approved in December 2003 and closed in June 2013. The project development objective was “enhancing the efficiency, productive use, and management of the road network”. Prior to the request for the additional financing, the original project implementation already experienced three different closing date extensions of totaling 24 months. An additional financing of US\$79.30 million was approved in March 2010 to finance the widening of 216 km of national highway sections and Public-Private Partnership transaction advisory services. The purpose of the additional financing was to support the achievement of the project development objective, however, those activities were never implemented because the flood in Thailand in 2011 delayed the bidding process and finally led to the cancellation of the civil work activities to be financed by the additional financing. As a result, the achievement of the PDOs was compromised. More specifically, the project sub-objectives of “strengthening of the institutional capacity and modernization of the Department of Highways” and “enhancing sustainable road maintenance programs to preserve road assets” were not fully achieved. The utilization of the project funds was not efficient because the project implementation period was 10 years instead of the

originally planned five years. At the end of the project, only US\$ 0.24 million out of the total US\$79.30 million in additional financing was spent. The ICR (page 8) assessed that there were some shortcomings with the project design including the too ambitious project design with too many activities, the insufficient capacity of the implementation agency and lengthy internal processes. This may also explain why the additional financing was never utilized because the implementation agency may not have had the capacity to finish the extra activities without further extending the project implementation period.

The Jordan Amman Development Corridor Project was approved in June 2004 and closed in December 2012. The project had the development objectives of “providing access to affordable land for productive investment and urban development” which were ambitious for the short time period and for the inputs provided through the project. Due to unanticipated increases in the cost of key inputs and technical modifications to the design during construction, actual total project costs (\$456.24 million) were 2.8 times the appraisal estimates (\$160.98million). The Bank together with the other two financiers provided additional financing of a total of \$ 295.26 million in 2008 to cover the cost increase. At project closing, the project could only complete part of the committed project activities. The project fell short of achieving the first sub-objective “supporting more efficient transport and logistics services” with major shortcomings in achieving efficiency in the logistics services. The achievement of the second sub-objective of "providing access to affordable land for productive investment and urban development purposes" was negligible because the ring road constructed under the project provided access to newly cleared lands with minimal and limited services, but those were far from ready for productive investments and urban development. This project was prepared in a surprisingly short time of two months with outdated engineering design and cost estimates. According to the team, the project costs were not revised from their initial costs in 2000 to 2004 prices. The actual EIRR was calculated at 12.71%, lower than the estimates at the appraisal and the AF stage. At completion, some of project activities were not fully completed, the second component (port and trucking industry) was dropped.