

# What Predicts Problems in Project Execution? Evidence from Progress Monitoring Reports

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# **What Predicts Problems in Project Execution? Evidence from Progress Monitoring Reports**

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## **Abstract**

This Technical Note aims to analyze project characteristics associated with problems in execution as reported in the Progress Monitoring Report (PMR), a tool used by the Inter-American Development Bank (IDB) to monitor implementation of its projects. The analysis finds that most IDB projects are satisfactorily classified, and that across years projects' classifications tend to either remain satisfactory or, in the case of previously low-graded projects, transition to a better classification. Using a multinomial logit model, the analysis measures the probabilities of problem classifications associated with project characteristics. The analysis identifies a list of project particularities associated with a higher risk of a project having the lowest performance classification, including the type of executing agency, project modality, whether the project is multi-booked, location of the project team leader, frequency of changes of the team leader, project size, time between project approval and expenses eligibility dates, whether the project is part of a Conditional Credit Line for Investment Projects, and the number of projects the respective executing agency manages. These results help to design a project risk profile regarding problems in project execution.

**JEL codes:** F53, O19, O22

**Keywords:** international organizations, role of international organizations, project analysis

## Key Takeaways

- There has been a decrease on the number of projects classified as “problem” projects in the PMR since 2015.
- Most IDB projects are classified as satisfactory by the PMR methodology.
- Once a project is classified as satisfactory, it is very likely that it will retain this classification in the following year.
- Most of the projects classified as being on alert status evolve to satisfactory in the next year.
- A project classified as a problem has a good chance of improving its classification during the next year.
- There are seven project characteristics associated with a higher likelihood of being classified as a problem project: (1) The project’s executing agency is subnational; (2) The project’s execution modality is Global Multiple Works Operations; (3) The project is designed by several divisions (double-booked); (4) The project’s team leader is located at headquarters; (5) The project has changed team leaders; (6) The project’s approved amount is relatively small; and (7) The project spends longer time between its approval and eligibility dates.
- Two project characteristics are associated with lower risks of being classified as a problem project: (1) The project is part of a Conditional Credit Line for Investment Projects; and (2) The project’s executing agency manages multiple operations.

## Introduction

The Inter-American Development Bank (IDB) is the leading source of developing financing for Latin America and the Caribbean. By the end of 2017, the IDB had 594 sovereign-guaranteed projects in its portfolio in execution for a total amount of US\$53.8 billion.

Good execution is key to accomplishing project results. In 2017, the IDB allocated 50 percent of operational staff time to project supervision<sup>1</sup>. To manage project execution, the IDB created the Progress Monitoring Report (PMR),<sup>2</sup> which is a system that grades project execution in three categories as “problem,” “alert,” and “satisfactory” according to a specific set of monitoring indicators and benchmarks as well as a review undertaken by validators. The PMR is a valuable tool that allows the IDB to annually review how well projects are evolving to meet their start-up financial and physical execution plan.<sup>3</sup>

This Technical Note looks into the dynamics of the three different project execution classification categories, including their transition patterns and correlates, using annual project data from the PMR. The note first reviews the data and presents a transition analysis between the different PMR classification categories. It then presents the multinomial logit model used to estimate project characteristics more associated with problems in project execution. The note then discusses the main results and conclusions.

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<sup>1</sup> Project supervision refers to products and activities related to the oversight, management, and execution of Bank operations (including portfolio monitoring, disbursement management, restructuring, and project completion activities).

<sup>2</sup> The PMR is a tool to facilitate results-based management by shifting the focus of monitoring of implementation from inputs to outputs. The PMR strives to identify delays and deviations early on during project implementation, as well as changes needed during execution. It uses a quantitative approach to track the achievement of a project's outputs relative to its estimated time and cost parameters. The PMR helps measure corporate performance and provides information on delivered results during project execution.

<sup>3</sup> The PMR involves a two-step process to assign a performance classification to projects. First, it produces an automatic calculation of project performance classification based on a specific set of monitoring indicators and benchmarks. As a second step, the report undergoes a revision and validation flow in which the validators involved may choose to modify the former calculated classification. Thus, the validation process may or may not change the automatically calculated classification. The analysis here considers both the automatically calculated and the validated classification to estimate results. No significant differences were found between the estimation results using either classification, so it was decided to use the final classification as the outcome of interest for the results analyses reported in this study.

## 1. A First Look at the Data

The projects assessed by the PMR are separated into three stages depending on their execution: Stage 1 – After project approval but before the project reaches eligibility for financing, which is the date when the project's loan contract conditions are partially or totally met, allowing for partial or total disbursement of funds; Stage 2 – Between eligibility and up to disbursement of 95% of the current project amount; and Stage 3 – Between 95 percent disbursement and project closure. This Technical Note focuses on projects only in stage 2 because this is the period where most of the project execution takes place. In addition, we select for our analysis the set of projects that considers only non-regional sovereign loans with instruments that are currently in use by the Bank. These include Specific Investment Operations (ESP), Global Credit Programs (GCR), Global Multiple Works Operations (GOM), Multiphase Operations (PFM), and Technical Cooperation Loans (TCR). The estimation sample for this exercise is then the set of 865 investment projects that had at least one stage 2 report in the PMR between 2013 and 2017.

Besides the PMR information, the covariates considered included operational information at the project level such as the beneficiary country; IDB originating department; project modality; year of approval; approved amount; project on date (the date when the project is registered in pipeline); project approval date; project disbursement eligibility date; the date the project goes into effect legally (the date when the project achieves ratification, or the contract signature date for cases that do not require ratification); an indicator variable to capture whether the project is part of a Conditional Credit Line for Investment Projects (CCLIP); the project's environmental classification; a dummy variable indicating whether the team leader is at headquarters; the number of team leader changes; the type of project executing agency; a dummy variable that captures whether the project is multiple-booked; and a dummy variable indicating those countries that requires ratification for project approval. Tables 1 and 2 show the descriptive statistics for the covariates considered in the analysis. Table 1 shows the frequencies for the categorical variables and Table 2 shows the main descriptive statistics for the continuous variables.

**Table 1. Frequencies for Categorical Variables**

<b>Country</b>	<b>Frequency</b>	<b>Department</b>	<b>Frequency</b>	<b>Project Modality</b>	<b>Frequency</b>
Argentina	198	CSD	152	ESP	1,554
Barbados	31	IFD	591	GCR	79
Bahamas	18	INE	879	GOM	230
Belize	20	INT	66	PFM	115
Bolivia	117	SCL	315	TCR	25
Brazil	372	Total	2,003	Total	2,003
Chile	26				
Colombia	90	<b>Executing Agency Type</b>	<b>Frequency</b>	<b>Team Leader Location</b>	<b>Frequency</b>
Costa Rica	37	Financial institution	73	COF	1,375
Dominican Republic	54	Foundation	7	COF2	345
Ecuador	110	Government	1,612	HQ	256
EL Salvador	38	International program	9	Total	1,976
Guatemala	44	Private institute	62		
Guyana	38	State/Municipal government	193		
Haiti	141	Total	1,956		
Honduras	68				
Jamaica	40	<b>Environmental Classification</b>	<b>Frequency</b>	<b>Project Requires Ratification</b>	<b>Frequency</b>
Mexico	53	A	109	Yes	654
Nicaragua	85	B	1,144	No	1,349
Peru	70	B13	103	Total	2,003
Panama	55	C	624		
Paraguay	75	Total	1,980		
Suriname	31				
Trinidad and Tobago	32	<b>Project Part of a CCLIP</b>	<b>Frequency</b>	<b>Multiple-booked Operation</b>	<b>Frequency</b>
Uruguay	128	Yes	81	Yes	226
Venezuela	32	No	1,922	No	1,777
Total	2,003	Total	2,003	Total	2,003

Source: Prepared by the authors.

Note: CCLIP: Conditional Credit Line for Investment Projects.

Department: CSD: Climate Change and Sustainable Development Sector; IFD: Institutions for Development Sector; INE: Infrastructure and Energy Sector; INT: Integration and Trade Sector; SCL: Social Sector.

Modality: ESP: Specific Investment Operations; GCR: Global Credit Programs; GOM: Global Multiple Works Operations; PFM: Multiphase Operations; TCR: Technical Cooperation Loans.

Environmental Classification: A: Likely to cause significant negative impacts or have profound implications affecting natural resources; B: Likely to cause mostly local and short-term negative environmental and associated social impacts for which effective mitigation measures are readily available; B13: Uncategorized Directive B.13 (do not apply environmental classification); C: Likely to cause minimal or no negative environmental and associated social impacts.

Team Leader Location: COF: Team leader located in the project's country office; COF2: Team leader located in a country office different from the project's country; HQ: Team leader located at headquarters.

**Table 2. Descriptive Statistics of Continuous Variables**

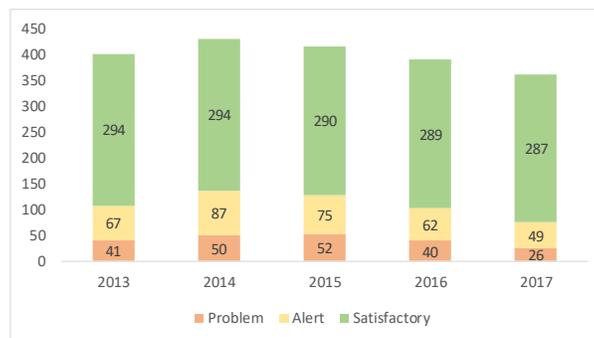
Variable	Mean	Median	Standart Deviation	Minimum	Maximum	Obervations
Approved amount (millions of U.S. dollars)	81.900	40.000	124.476	2.250	1200.000	2,003
Time between on and approval dates (in months)	19.959	15.625	13.791	1.151	112.796	1,993
Time between approval and eligibility dates (in months)	13.217	11.020	9.673	0.164	80.789	1,999
Normalized approved amount (percent)	0.193	0.118	0.230	0.002	1.000	2,002
Team leader changes (number)	2.902	3.000	1.508	1.000	10.000	2,003

Source: Prepared by the authors.

Note: The normalized approved amount is the approved amount of a project as a percentage of the total approved amount of the projects in a country during the project’s approval year. Team leader changes are the cumulated number of team leader changes since the beginning of the project up to the Project Monitoring Report classification.

Most of the projects receive a satisfactory PMR classification every year. Figure 1 presents the distribution of the PMR classification per year for the sample of projects considered in this Technical Note. The figure shows a rise in the number of problem classifications during 2014 and 2015 that reverted in 2016 and 2017. In 2016 and 2017, there was an increase in the frequency of satisfactory classifications,<sup>4</sup> led mainly by the decrease of the number of projects rated as problems in this period. The percentage of projects rated as satisfactory ranges from 68 to 79 percent across the years.

**Figure 1. Project Classification Distribution by Year**



Source: Prepared by the authors.

## Transition Analysis

The execution of a project is an ongoing process over the years. There are projects that face implementation problems that end up in delays to their physical and financial execution at different

<sup>4</sup> A t-test on the equality of proportions showed that this increase is statistically significant at the 1 percent significance level.

stages of the project cycle. A problem PMR classification may be the outcome of a structural problem that is hard to overcome, causing more future negative classifications. At the same time, a classification different than satisfactory PMR classification may stimulate the project team and the executing agency to address problem issues and improve project execution in the following year, leading to future positive classifications. So, a priori, it is not clear how a previous PMR classification is linked to the following one.

To shed some light on this issue, Table 3 presents the transition count using the 298 projects with PMR classifications in 2016 and 2017. In general, it shows that improvement is the most likely outcome for these projects. For example, of the 37 projects that were classified as problem projects in 2016, 15 (41 percent) repeated the classification and the remaining 22 (59 percent) improved it. Similarly, 29 of 52 projects (56 percent) that were previously classified as being in alert status in 2016 improved to satisfactory. Finally, 191 of 209 (91 percent) repeated the satisfactory classification in 2017.

**Table 3. Transition Frequencies between Project Monitoring Report Classification Categories between 2016 and 2017**

		t (2017)			Total
		Problem	Alert	Satisfactory	
t-1 (2016)	Problem	15	10	12	37
	Alert	6	17	29	52
	Satisfactory	1	17	191	209

Source: Prepared by the authors.

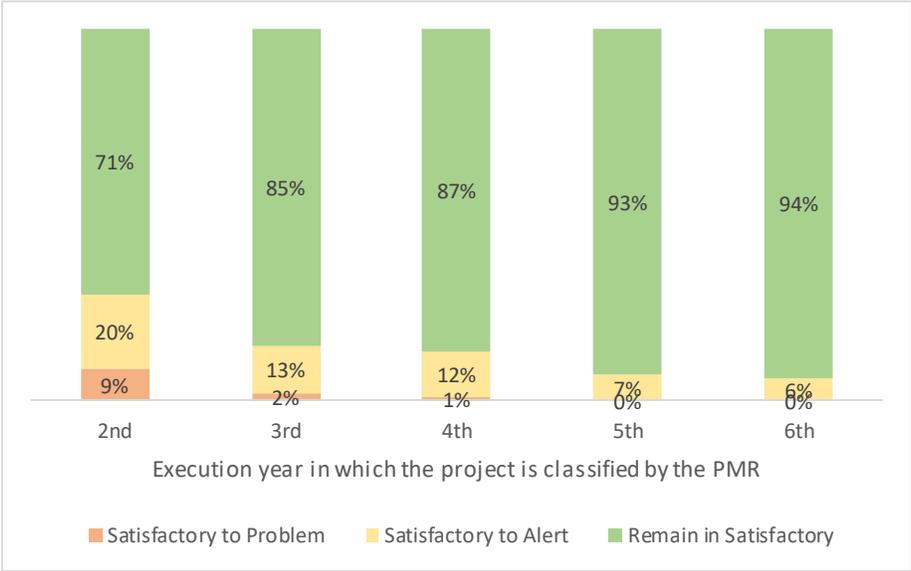
It could be argued that the preliminary results of the above exercise might be different if one considers the “age” of a project. For example, a project at the beginning of its execution stage might face more implementation risks than a project that is about to finish that stage. If this is the case, the transition probabilities between different PMR ratings would change in line with the years of execution of a project. To tackle this issue, the transition frequencies were re-estimated based on the project execution year.<sup>5</sup> Figure 2 shows the distribution of project classifications based on the project being classified as satisfactory in the previous year. Each bar in the figure

<sup>5</sup> The “execution year” is measured as the time elapsed between the eligibility date and the corresponding PMR classification exercise date.

corresponds to an execution year in which there is a PMR classification in stage 2 (i.e., “2nd” is the classification in the second execution year, given that the classification in the first year was satisfactory, “3rd” is the classification in the third execution year given that the classification in the second year was satisfactory, and so on).

Figure 2 shows that most of the projects classified as satisfactory maintain the same classification in the following period. After being classified as satisfactory, only a few projects are downgraded to alert or problem status, and most of them are likely to keep the satisfactory classification in the following year. Furthermore, the probability of retaining the satisfactory classification increases throughout the project’s execution years.

**Figure 2. Dynamics of the Project Monitoring Report Classification across Execution Years for Projects Classified as Satisfactory in the Previous Period (percent)**



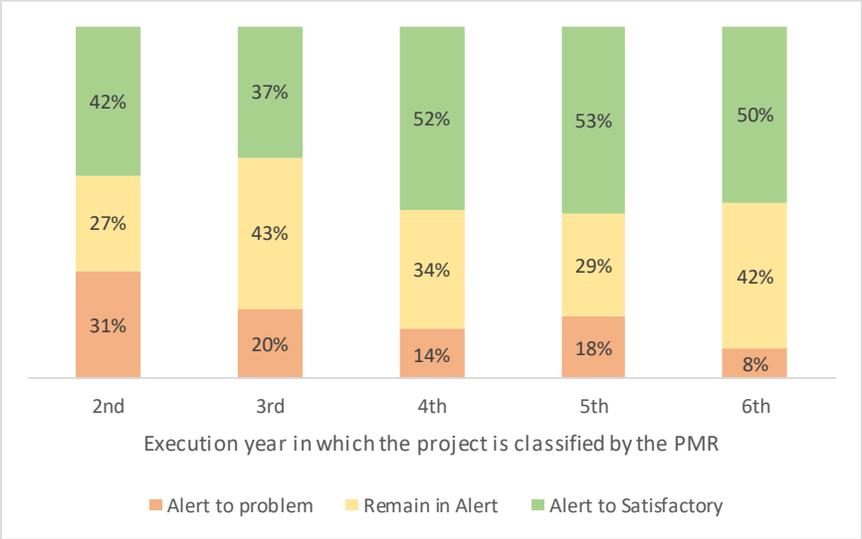
Source: Prepared by the authors.  
 Note: PMR: Project Monitoring Report.

Figures 3 and 4 provide information similar to that found in Figure 2, but based on the rating in the previous year being alert and problem classifications, respectively. Tables 4–8 present detailed information about the transitions of the PMR classification from one period to another according to the number of times a project has been classified.

Figure 3 shows that the likelihood of a project that was classified as being in alert status being classified as satisfactory increases throughout its years of execution. The figure also shows that the likelihood of a project becoming classified as a problem once it has been classified as alert

decreases during almost the entire execution phase of a project. After the third year of execution, most projects classified as alert evolve to satisfactory in the following period.

**Figure 3. Dynamics of the Project Monitoring Report Classification across Execution Years for Projects Classified as Alert in the Previous Period (percent)**

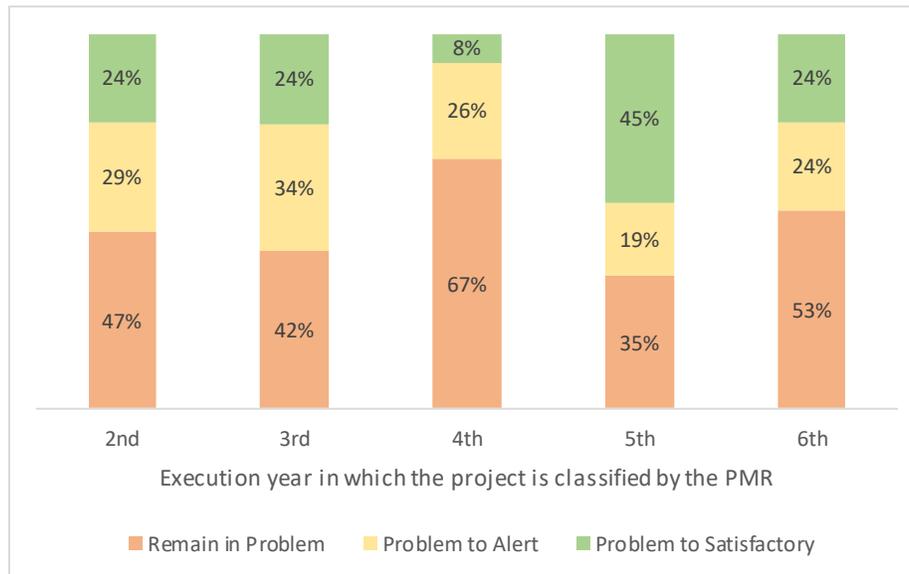


Source: Prepared by the authors.  
 Note: PMR: Project Monitoring Report.

Figure 4 shows that after a project has been classified as a problem project, it has a good chance of improving its classification during the following period. In fact, the odds of the project improving its classification are greater than 50 percent.<sup>6</sup> Although the results seem to be uneven across the years, in general, after a project has been classified as a problem, it is more likely that it will improve its classification in the next year.<sup>7</sup>

<sup>6</sup> Except for the fourth and sixth execution years.  
<sup>7</sup> As the frequency of the problem classification is low, dividing the classification by the number of times a project has been classified generates higher variability per year. In this case, conclusions based on the analysis of a single transition period only may be misleading.

**Figure 4. Dynamics of the Project Monitoring Report Classification across Execution Years for Projects Classified as Problem in the Previous Period (percent)**



Source: Prepared by the authors.

Note: PMR: Project Monitoring Report.

**Table 4. Project Monitoring Report Classification Transition from the First to the Second Time a Project Is Rated (number of projects)**

		t=2			Total
		Problem	Alert	Satisfactory	
t=1	Problem	8	5	4	17
	Alert	8	7	11	26
	Satisfactory	20	45	163	228

Source: Prepared by the authors.

**Table 5. Project Monitoring Report Classification Transition from the Second to the Third Time a Project Is Rated (number of projects)**

		t=3			Total
		Problem	Alert	Satisfactory	
t=2	Problem	21	17	12	50
	Alert	14	30	26	70
	Satisfactory	4	23	153	180

Source: Prepared by the authors.

**Table 6. Project Monitoring Report Classification Transition from the Third to the Fourth Time a Project Is Rated (number of projects)**

		t=4			
		Problem	Alert	Satisfactory	Total
t=3	Problem	26	10	3	39
	Alert	11	27	41	79
	Satisfactory	2	21	153	176

Source: Prepared by the authors.

**Table 7. Project Monitoring Report Classification Transition from the Fourth to the Fifth Time a Project Is Rated (number of projects)**

		t=5			
		Problem	Alert	Satisfactory	Total
t=4	Problem	11	6	14	31
	Alert	8	13	24	45
	Satisfactory	0	10	136	146

Source: Prepared by the authors.

**Table 8. Project Monitoring Report Classification Transition from the Fifth to the Sixth Time a Project Is Rated (number of projects)**

		t=6			
		Problem	Alert	Satisfactory	Total
t=5	Problem	9	4	4	17
	Alert	2	10	12	24
	Satisfactory	0	5	76	81

Source: Prepared by the authors.

## **2. An Econometric Model to Find Project Characteristics Associated with Transitions in Project Monitoring Report Classifications**

The above exercise looked at transition probabilities in PMR classification based on the previous rating and on the execution year. However, there are several factors that could be associated with

the probability of changing from one PMR category to another. To look into transition probabilities in more detail, this section estimates a multinomial logit regression model (MLM) to identify the relevant project characteristics associated with PMR classification probabilities. These classifications are separated into three categories (problem, alert, and satisfactory). The MLM is an extension of the binary logit model and is adequate for a multi-categorical dependent variable.

The estimates of the MLM are performed considering the satisfactory classification as the reference outcome of the model. This gives two sets of estimates: one for the relative probability of problem versus satisfactory classification and another for alert versus satisfactory classification. The coefficients obtained are then the relative risk ratios, which are interpreted as the probability of a project being classified as problem or alert relative to being classified as satisfactory.

As in a binary probabilistic model, the aim is to estimate how project characteristics are associated with the response probabilities,  $P(y = c | \mathbf{x})$ , where  $c =$  satisfactory, alert, or problem and  $\mathbf{x}$  is a set of control variables capturing project characteristics. According to the data available for this study,  $\mathbf{x}$  contains information about the year of PMR classification, approval year, original approved amount, preparation time measured from the on date to the approval date, time elapsed from the approval date to eligibility, a dummy variable indicating whether the project was part of a CCLIP, the project's environmental safeguard classification, location of the team leader (beneficiary country, third country, or headquarters), approved amount as a percentage of the total approved amount in the country, number of team leader changes from approval up to the last day of each execution year, type of executing agency, a dummy indicating whether the project is multiple-booked, and a dummy variable indicating whether the project requires legislative ratification to start execution. Additionally, the model includes controls for country, department, and loan-modality effects.

The MLM response probabilities are defined as:

$$P(y = c | \mathbf{x}) = \frac{\exp(\mathbf{x}\beta_c)}{[1 + \sum_{h=1}^C \exp(\mathbf{x}\beta_h)]} \quad (1)$$

where  $c$  is either a problem or alert classification,  $\beta_h$  is  $K \times 1$ , and the vector of covariates including the intercept and  $h$  takes the values of alert and problem. Because the probabilities must add up to 1, the MLM first estimates  $P(y = \text{alert} | \mathbf{x})$  and  $P(y = \text{problem} | \mathbf{x})$ . Then  $P(y = \text{satisfactory} | \mathbf{x})$  is defined as:

$$P(y = \text{satisfactory} | \mathbf{x}) = \frac{1}{[1 + \sum_{h=1}^C \exp(\mathbf{x}\beta_h)]} \quad (2)$$

After the calculation of the three response probabilities, the MLM allows for computing the relative risk ratios. Based on equations (1) and (2), the relative risk ratios for this model can be defined as

$$rrr(c) = \frac{P(y = c | \mathbf{x})}{P(y = \text{"satisfactory"} | \mathbf{x})} = \exp(\mathbf{x} \boldsymbol{\beta}_c),$$

where  $c$  = alert or problem classification. The  $\exp(\mathbf{x} \boldsymbol{\beta}_c)$  is then the relative risk ratio with respect to the base outcome of satisfactory.

To determine the association between the explanatory variables and the likelihood that project execution is rated as a problem classification, the marginal effects are computed in each estimated model. These marginal effects are computed as the average marginal effect instead of the marginal effect at means.<sup>8</sup> The association of a project's characteristics over the probabilities of a PMR classification is then the average of the derivatives of the response probabilities (equation 1). Each derivative is given as  $\frac{\partial P(y = c | \mathbf{x})}{\partial x_k}$ .

Although the classification categories are ordered according to how well an operation has been executed, there is a modeling advantage in using an unordered response model such as the MLM, instead of an ordered response model. The benefit is that there is no need to make assumptions about the equivalence of the proportionality of the distances from problem to alert status and from alert to satisfactory status in the model (as should be assumed if one uses an ordinal logit model). That is, using the MLM makes it unnecessary to assume that the transition from problem to alert status has a probability equivalent to transitioning from alert to satisfactory status.

But this modeling advantage comes at a cost. While the parameters estimated by the ordinal logit model could provide information about the transition of every cut-off of the classifications, the parameters estimated by the MLM do not inform about the transitions of all the PMR classifications. Moreover, one important limitation of the MLM is the independence of irrelevant alternatives, that is, when the probability of being alert over the probability of being satisfactory is

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<sup>8</sup> Because there are qualitative explanatory variables in the model, the computation of the marginal effect at means is not appropriate for this exercise.

calculated, the inclusion of the problem classification is irrelevant. But if the problem classification did not exist, it would be hard to believe that the ratio between the probability of being rated as alert and the probability of being rated as satisfactory would not change.

The MLM is estimated through maximum likelihood pooling the data. As a reference, the pooled ordinary least squares estimates are also computed using standard errors clustered at the operational level. Finally, as a robustness check, two additional exercises are conducted. First, a lagged dependent variable model is estimated to control for the persistence in the PMR performance variable. Second, a random effects model is estimated to control for unobserved heterogeneity.<sup>9</sup> In these last three models, the dependent variable is allowed to be equal to 1 if the project is classified as a problem, and zero if classified as satisfactory.<sup>10</sup>

### 3. Results

The estimates are presented in Table 9. The results for the multinomial logit model are the relative risk ratios for the problem and alert categories compared to the base outcome of satisfactory. Overall, at least one of the auxiliary model estimates presents parameters equally significant when at least one of the relative risk ratios estimated by the MLM is significant. As the aim here is to focus on the covariates of projects most associated with the problem classification, the marginal effects of the multinomial logit model are computed. These computations ( $dy/dx$ ) are presented in Table 10.

Table 10 shows that operations executed by subnational agencies are more likely to be classified as a problem. State and municipal executing agencies have an 11.9 percent higher probability of being classified as a problem than national executing agencies (reference category for the estimation).<sup>11</sup>

Projects belonging to the Global Multiple Works (GOM) modality are more likely to be classified as a problem. The results show that the probability of an operation being classified as a problem is on average 6.8 percent higher for GOM projects than for the reference category of Specific Investment Operations (ESP).

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<sup>9</sup> To estimate a random effects model, it is assumed that the unobserved heterogeneity is constant and uncorrelated with independent variables. If these assumptions are incorrect, the estimates will be inconsistent. A fixed-effects model would allow for imposing less strong assumptions, but it would not allow for measuring the effects of most of the characteristics of interest, since they are invariant.

<sup>10</sup> To keep results comparable to the MLM, we do not consider when the PMR classification is either alert or missing.

<sup>11</sup> Using the same criteria of the country of reference, the federal government is the median type of executing agency based on the number of projects classified as a problem considered as the reference in the estimation here.

Projects prepared by more than one IDB division are associated with higher probabilities of being classified as a problem. The estimates show that operations prepared by more than one division have a 5 percent higher probability of being classified as a problem than operations prepared by a single division.

Results indicate that projects where the team leader is located at headquarters have a higher association with the problem classification. The results indicate that the probability of projects being classified as a problem when the team leader is located at IDB headquarters is 4 percent higher than for projects for which the team leader is located at the project's country office. The exercise also considered whether the team leader is located at a country office different from the beneficiary country, but the results did not show meaningful statistical differences.

The number of changes of team leaders is associated with a higher likelihood of a project being classified as a problem. The results showed that the probability of a project being classified as a problem increases by 1.3 percent with each team leader change.

Projects that are relatively smaller in size are more likely to receive problem or alert classifications. The relative size of a project is measured as the share of the project's approved amount compared to the total approved amount in the country during the project's approval year. The results show that relatively smaller projects are associated with a higher likelihood of being classified as a problem. On average, an increase of 10 percent in the relative size of a project decreases the probability of the operation being classified as a problem by 0.8 percent.

Longer time between approval and eligibility for disbursement dates is associated with a higher probability of being classified as a problem project. The results show that the probability of a project being classified as a problem increases by 0.6 percent for each month that a project takes to reach eligibility after its approval.

Projects being executed by agencies managing multiple projects simultaneously are less associated with being classified as a problem. The estimates show that projects managed by an agency that is simultaneously executing two or more operations are 2.8 percent less likely to be classified as a problem than projects executed by agencies with a single operation.

Projects that are part of a CCLIP are less likely to be classified as a problem. The estimates show that being part of a CCLIP is associated with a reduction of 7.8 percent in the likelihood of a project being classified as problem compared to projects that are not part of a CCLIP. The result for this project characteristic is related to the estimation result presented in Table 11. As the

CCLIP is available for Specific Investment Operations (ESP) only, this parameter was estimated using an estimation sample containing ESP projects only.

The first part of the table 10 displays the coefficient estimates of the probability of being classified as a problem compared to the reference country Barbados.<sup>12</sup> Venezuela is the only country in the sample that has projects with a statistically significant higher probability of being classified as a problem. Projects executed in Chile, Costa Rica, El Salvador, Honduras, and Uruguay have a lower probability of being classified in problem status. The remaining country effects are not statistically different than Barbados.

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<sup>12</sup> The median country considering the frequency distribution of problem and alert classifications compared to all country classifications.

**Table 9. Model Results**

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Pooled OLS	Multinomial Logit		Multinomial Logit (Specific Investment Operations only)		LDV	RE
		Problem	Alert	Problem	Alert		
Approval year	0.00929* (0.00503)	1.090 (0.0585)	1.055 (0.0407)	1.078 (0.0674)	1.029 (0.0458)	0.0155*** (0.00461)	0.0104** (0.00525)
Approved amount (in millions of U.S. dollars)	-1.36e-05 (0.000115)	0.999 (0.00107)	1.000 (0.000653)	1.000 (0.00140)	1.001 (0.000770)	-3.27e-05 (8.66e-05)	-6.50e-06 (0.000113)
Months between on date and approval	0.000365 (0.000785)	1.002 (0.00712)	1.005 (0.00546)	1.007 (0.00848)	1.004 (0.00622)	-0.000179 (0.000691)	0.000768 (0.000851)
Months between approval and eligibility	0.00989*** (0.00153)	1.090*** (0.0121)	1.046*** (0.00958)	1.096*** (0.0153)	1.050*** (0.0110)	0.00404*** (0.00111)	0.00897*** (0.00139)
Number of team leader changes	0.0174* (0.00970)	1.199*** (0.0707)	1.092* (0.0528)	1.087 (0.0780)	1.103* (0.0614)	0.0142** (0.00567)	0.0166** (0.00708)
Multibook (dummy = 1)	0.0557 (0.0362)	1.902** (0.574)	1.240 (0.309)	2.020** (0.694)	1.130 (0.316)	0.00696 (0.0252)	0.0646* (0.0346)
Normalized approved amount	-0.139** (0.0661)	0.279** (0.152)	0.392** (0.170)	0.380* (0.217)	0.327** (0.154)	-0.0662 (0.0491)	-0.134** (0.0629)
Contemporary projects (dummy=1)	-0.0283 (0.0232)	0.597** (0.124)	0.625*** (0.0969)	0.784 (0.192)	0.604*** (0.109)	-0.0113 (0.0178)	-0.0229 (0.0212)
CCLIP (dummy=1)				0.132* (0.140)	0.363** (0.162)		
Lagged PMR classification						0.486*** (0.0259)	
<b>Project Modality</b>							
<b>ESP</b>							
GCR	-0.0552 (0.0663)	0.493 (0.249)	0.585 (0.253)			-0.0208 (0.0474)	-0.0944 (0.0615)
GOM	0.0988** (0.0499)	2.395*** (0.649)	1.313 (0.286)			0.0421 (0.0271)	0.0835** (0.0365)
PFM	-0.0189 (0.0421)	0.926 (0.392)	0.757 (0.241)			-0.00641 (0.0372)	-0.0146 (0.0471)
TCR	0.0259 (0.0840)	1.086 (0.937)	0.896 (0.544)			0.0228 (0.0725)	0.0137 (0.0937)
<b>Team Leader Location</b>							
<b>COF</b>							
COF2	0.00738 (0.0299)	1.022 (0.286)	1.105 (0.220)	0.855 (0.275)	1.042 (0.229)	0.0172 (0.0243)	0.0123 (0.0307)
HQ	0.0772** (0.0366)	1.647* (0.428)	1.055 (0.246)	1.509 (0.451)	0.865 (0.223)	0.0377 (0.0285)	0.0626* (0.0340)
<b>Executing Agency Type</b>							
<b>Financial institution</b>							
Foundation	-0.0300 (0.0618)	0.918 (0.435)	1.151 (0.499)	0.835 (0.580)	0.811 (0.489)	0.0121 (0.0445)	-0.0472 (0.0595)
Government	-0.404** (0.168)	1.73e-07 (0.000228)	2.20e-07 (0.000262)	2.20e-07 (0.000242)	3.51e-07 (0.000319)	-0.298** (0.136)	-0.334* (0.183)
International program	-0.123 (0.0752)	6.89e-07 (0.000799)	0.915 (0.787)	1.10e-06 (0.00104)	0.736 (0.637)	-0.00365 (0.136)	-0.143 (0.173)
Private institute	-0.0353 (0.0539)	0.752 (0.466)	0.862 (0.334)	0.641 (0.425)	0.790 (0.320)	-0.0926* (0.0508)	-0.0252 (0.0628)
State/Municipal government	0.134** (0.0569)	3.246*** (1.024)	1.053 (0.275)	2.200* (0.953)	0.693 (0.246)	0.116*** (0.0331)	0.119*** (0.0440)
<b>Year Controls</b>							
<b>2013</b>							
2014	0.0128 (0.0198)	1.157 (0.301)	1.340 (0.266)	1.028 (0.300)	1.383 (0.309)		0.00850 (0.0202)
2015	0.00790 (0.0237)	1.135 (0.300)	1.041 (0.219)	0.814 (0.247)	0.921 (0.222)	-0.0225 (0.0214)	-0.00364 (0.0211)
2016	-0.0374 (0.0259)	0.691 (0.213)	0.843 (0.198)	0.446** (0.163)	0.814 (0.216)	-0.0764*** (0.0232)	-0.0374 (0.0237)
2017	-0.0987*** (0.0250)	0.315*** (0.114)	0.577** (0.151)	0.269*** (0.112)	0.594* (0.176)	-0.115*** (0.0247)	-0.100*** (0.0260)
<b>Department</b>							
<b>CSD</b>							
CSD	-0.0119 (0.0428)	0.947 (0.375)	1.152 (0.366)	0.911 (0.453)	0.866 (0.333)	0.0113 (0.0339)	-0.0501 (0.0370)
<b>IFD</b>							
INE	-0.0363 (0.0352)	0.762 (0.212)	1.466* (0.324)	0.945 (0.314)	1.464 (0.369)	-0.0210 (0.0265)	-0.0472 (0.0315)
INT	0.116 (0.0936)	2.732** (1.225)	1.904* (0.727)	2.536** (1.187)	1.893 (0.735)	0.0384 (0.0535)	0.128** (0.0618)
SCL	-0.0292 (0.0331)	0.802 (0.258)	0.838 (0.214)	0.957 (0.336)	0.983 (0.269)	-0.0115 (0.0266)	-0.0352 (0.0339)

(continued)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Pooled OLS	Multinomial Logit		Multinomial Logit (Specific Investment Operations only)		LDV	RE
		Problem	Alert	Problem	Alert		
(continuation)							
<b>Environmental Classification</b>							
<b>A</b>							
B	0.0201 (0.0582)	1.321 (0.580)	1.061 (0.312)	1.406 (0.894)	0.746 (0.262)	0.00217 (0.0349)	0.0254 (0.0491)
B13	0.0272 (0.0924)	1.376 (0.857)	1.500 (0.701)	2.073 (1.681)	1.734 (0.945)	-0.0253 (0.0563)	0.0192 (0.0731)
C	-0.0524 (0.0658)	0.483 (0.243)	0.836 (0.292)	0.651 (0.447)	0.603 (0.248)	-0.0387 (0.0409)	-0.0503 (0.0560)
<b>Country</b>							
Argentina	-0.0651 (0.136)	0.449 (0.325)	5.417 (5.852)	0.576 (0.445)	1.127e+06 (6.404e+08)	-0.0492 (0.0691)	-0.0981 (0.0983)
Barbados							
Bahamas	0.149 (0.197)	2.815 (2.470)	8.184* (10.18)	2.270 (2.040)	2.521e+06 (1.432e+09)	0.141 (0.0942)	0.0980 (0.138)
Belize	-0.0196 (0.123)	0.612 (0.750)	4.418 (5.744)	0.575 (0.712)	1.266e+06 (7.192e+08)	-0.0110 (0.0969)	-0.0520 (0.133)
Bolivia	-0.0916 (0.125)	0.267* (0.213)	5.429 (5.874)	0.260 (0.230)	1.401e+06 (7.960e+08)	-0.0543 (0.0701)	-0.119 (0.0980)
Brazil	-0.101 (0.134)	0.302* (0.210)	5.798 (6.239)	0.247* (0.184)	1.277e+06 (7.255e+08)	-0.0767 (0.0673)	-0.119 (0.0968)
Chile	-0.135 (0.121)	6.19e-07 (0.000465)	6.898 (8.444)	8.03e-07 (0.000543)	2.632e+06 (1.495e+09)	-0.0556 (0.0896)	-0.159 (0.127)
Colombia	-0.0488 (0.137)	0.541 (0.404)	4.219 (4.653)	0.828 (0.664)	1.589e+06 (9.024e+08)	-0.00623 (0.0719)	-0.0836 (0.103)
Costa Rica	-0.218* (0.128)	0.0430** (0.0539)	2.561 (2.958)	0.0399** (0.0530)	789,816 (4.486e+08)	-0.131 (0.0827)	-0.260** (0.116)
Dominican Republic	-0.111 (0.133)	0.170* (0.166)	4.540 (5.050)	0.246 (0.246)	1.322e+06 (7.507e+08)	-0.0499 (0.0759)	-0.139 (0.107)
Ecuador	0.0271 (0.135)	1.016 (0.739)	4.763 (5.251)	0.965 (0.757)	1.369e+06 (7.777e+08)	-0.0327 (0.0715)	-0.00648 (0.100)
EL Salvador	-0.192 (0.133)	0.130** (0.120)	0.869 (1.123)	0.150* (0.147)	271,183 (1.540e+08)	-0.0731 (0.0804)	-0.186* (0.113)
Guatemala	-0.0382 (0.149)	0.296 (0.262)	4.602 (5.311)	0.128* (0.144)	1.020e+06 (5.792e+08)	0.00216 (0.0868)	-0.0449 (0.123)
Guyana	0.201 (0.150)	4.914** (3.800)	17.45** (19.74)	4.350* (3.539)	5.760e+06 (3.272e+09)	0.0845 (0.0880)	0.130 (0.113)
Haiti	0.0569 (0.136)	1.673 (1.172)	10.62** (11.49)	1.762 (1.292)	2.878e+06 (1.634e+09)	-0.0487 (0.0712)	0.0242 (0.101)
Honduras	-0.130 (0.123)	0.172** (0.151)	0.604 (0.771)	0.146** (0.132)	157,541 (8.948e+07)	-0.0919 (0.0707)	-0.155 (0.101)
Jamaica	0.107 (0.139)	2.768 (2.131)	8.161* (9.327)	3.011 (2.398)	2.787e+06 (1.583e+09)	-0.0326 (0.0780)	0.0496 (0.112)
Mexico	0.0479 (0.139)	1.490 (1.164)	3.380 (3.944)	0.719 (0.695)	969,579 (5.507e+08)	0.0958 (0.0789)	0.0147 (0.109)
Nicaragua	-0.0845 (0.124)	0.207 (0.200)	2.954 (3.333)	0.112* (0.136)	875,171 (4.971e+08)	-0.0738 (0.0725)	-0.116 (0.101)
Peru	-0.103 (0.132)	0.224 (0.215)	2.746 (3.122)	0.212 (0.205)	660,751 (3.753e+08)	-0.0464 (0.0713)	-0.139 (0.105)
Panama	-0.0213 (0.136)	0.753 (0.679)	8.914** (9.944)	0.309 (0.381)	2.064e+06 (1.172e+09)	0.0503 (0.0834)	-0.0472 (0.108)
Paraguay	0.0532 (0.142)	1.127 (0.791)	4.866 (5.362)	1.072 (0.822)	927,607 (5.269e+08)	0.00791 (0.0721)	0.0367 (0.103)
Suriname	0.0263 (0.136)	1.160 (1.110)	4.612 (5.588)	0.991 (0.962)	1.391e+06 (7.900e+08)	-0.0200 (0.0940)	-0.0116 (0.113)
Trinidad and Tobago	0.0890 (0.144)	2.368 (2.005)	15.29** (17.28)	1.931 (1.661)	4.110e+06 (2.335e+09)	0.0647 (0.0881)	0.0681 (0.116)
Uruguay	-0.0652 (0.124)	0.102* (0.122)	5.745 (6.224)	0.0941* (0.115)	1.680e+06 (9.545e+08)	-0.0411 (0.0692)	-0.101 (0.0978)
Venezuela	0.548*** (0.175)	24.69*** (21.01)	46.89*** (55.98)	12.95*** (11.96)	9.900e+06 (5.623e+09)	0.444*** (0.108)	0.500*** (0.126)
Observations	1,573	1,897	1,897	1,472	1,472	1,032	1,573
Number of id (projects)							613
R-squared	0.190					0.441	

Source: Prepared by the authors.

Note: Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Standard errors are clustered at the operation level in column (2). The dependent variable in columns (1), (6), and (7) is a dummy variable indicating whether the project had a problem classification (dummy = 1) or satisfactory classification (dummy = 0). Columns (2), (3), (4), and (5) report relative risk ratios. The reference categories are Barbados (BA), the Institutions for Development Sector (IFD) Department, the Specific Investment Operations (ESP) modality, Environmental Classification A, team leader located in the project's country office (COF), and the year 2013. CCLIP: Conditional Credit Line for Investment Projects; LDV: lagged dependent variable; OLS: ordinary least squares; PMR: Project Monitoring Report; RE: Random Effects Model.

Project Modality: ESP: Specific Investment Operations; GCR: Global Credit Programs; GOM: Global Multiple Works Operations; PFM: Multiphase Operations; TCR: Technical Cooperation Loans.

Team Leader Location: COF: Team leader located in the project's country office; COF2: Team leader located in a country office different from the project's country; HQ: Team leader located at headquarters.

Department: CSD: Climate Change and Sustainable Development Sector; IFD: Institutions for Development Sector; INE: Infrastructure and Energy Sector; INT: Integration and Trade Sector; SCL: Social Sector.

Environmental Classification: A: Likely to cause significant negative impacts or have profound implications affecting natural resources; B: Likely to cause mostly local and short-term negative environmental and associated social impacts for which effective mitigation measures are readily available; B13: Uncategorized Directive B.13 (do not apply environmental classification); C: Likely to cause minimal or no negative environmental and associated social impacts.

**Table 10. Marginal Effects (dy/dx) – Total Sample**

Variables	dy/dx	Variables	dy/dx	Variables	dy/dx
<b>Country</b>		<b>Department</b>		<b>Year Controls</b>	
Argentina	-0.0996 (0.0800)	CSD	-0.00772 (0.0330)	2013	
Barbados		IFD		2014	0.00522 (0.0232)
Bahamas	0.102 (0.128)	INE	-0.0299 (0.0222)	2015	0.0107 (0.0238)
Belize	-0.0712 (0.117)	INT	0.0910 (0.0554)	2016	-0.0265 (0.0249)
Bolivia	-0.131* (0.0792)	SCL	-0.0150 (0.0261)	2017	-0.0675*** (0.0235)
Brazil	-0.125 (0.0770)	<b>Modality</b>		<b>Other Controls</b>	
Chile	-0.191** (0.0753)	ESP		Approval year	0.00574 (0.00420)
Colombia	-0.0806 (0.0821)	GCR	-0.0361 (0.0259)	Approved amount (in millions of U.S. dollars)	-5.31e-05 (8.39e-05)
Costa Rica	-0.176** (0.0762)	GOM	0.0763*** (0.0289)	Months between on date and approval	3.09e-05 (0.000551)
Dominican Republic	-0.147* (0.0792)	PFM	-0.000390 (0.0312)	Months between approval and eligibility	0.00592*** (0.000825)
Ecuador	-0.0220 (0.0862)	TCR	0.00875 (0.0684)	Number of team leader changes	0.0125*** (0.00456)
EL Salvador	-0.147* (0.0791)	<b>Environmental Classification</b>		Multibook (dummy=1)	0.0529* (0.0305)
Guatemala	-0.123 (0.0819)	A		Normalized approved amount	-0.0811* (0.0423)
Guyana	0.151 (0.114)	B	0.0229 (0.0353)	Contemporary projects (dummy=1)	-0.0308* (0.0162)
Haiti	0.0104 (0.0856)	B13	0.0169 (0.0530)		
Honduras	-0.136* (0.0796)	C	-0.0449 (0.0372)		
Jamaica	0.0994 (0.107)	<b>Team Leader Location</b>			
Mexico	0.0352 (0.0992)	COF			
Nicaragua	-0.135* (0.0819)	COF2	-0.000466 (0.0209)		
Peru	-0.131 (0.0819)	HQ	0.0429* (0.0241)		
Panama	-0.0710 (0.0950)	<b>Executing Agency Type</b>			
Paraguay	-0.0104 (0.0837)	Financial institution	-0.00919 (0.0328)		
Suriname	-0.00545 (0.116)	Foundation	-0.0966*** (0.00724)		
Trinidad and Tobago	0.0384 (0.112)	Government			
Uruguay	-0.165** (0.0787)	International program	-0.0966*** (0.00724)		
Venezuela	0.373*** (0.126)	Private institute	-0.0170 (0.0392)		
		State/Municipal government	0.122*** (0.0389)		
Observations	1,897		1,897		1,897

Source: Prepared by the authors.

Note: Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The estimation sample is comprised of 1,897 observations. Marginal effects evaluated as the average probabilities. The reference categories are Barbados (BA), the Institutions for Development Sector (IFD) Department, the Specific Investment Operations (ESP) modality, Environmental Classification A, team leader located in the project's country office (COF), and the year 2013.

Department: CSD: Climate Change and Sustainable Development Sector; IFD: Institutions for Development Sector; INE: Infrastructure and Energy Sector; INT: Integration and Trade Sector; SCL: Social Sector.

Modality: ESP: Specific Investment Operations; GCR: Global Credit Programs; GOM: Global Multiple Works Operations; PFM: Multiphase Operations; TCR: Technical Cooperation Loans.

Environmental Classification: A: Likely to cause significant negative impacts or have profound implications affecting natural resources; B: Likely to cause mostly local and short-term negative environmental and associated social impacts for which effective mitigation measures are readily available; B13: Uncategorized Directive B.13 (do not apply environmental classification); C: Likely to cause minimal or no negative environmental and associated social impacts.

Team Leader Location: COF: Team leader located in the project's country office; COF2: Team leader located in a country office different from the project's country; HQ: Team leader located at headquarters.

**Table 11. Marginal Effects (dy/dx) – Sample including Specific Investment Operations Only**

Variables	dy/dx	Variables	dy/dx	Variables	dy/dx
<b>Country</b>		<b>Department</b>		<b>Other Controls</b>	
Argentina	-0.0795 (0.0847)	CSD	-0.00442 (0.0358)	Approval year	0.00495 (0.00451)
Barbados		IFD		Approved amount (in millions)	-2.37e-05 (0.000101)
Bahamas	0.0513 (0.122)	INE	-0.0115 (0.0235)	Months between on date and approval	0.000398 (0.000605)
Belize	-0.0819 (0.111)	INT	0.0708 (0.0496)	Months between approval and eligibility	0.00579*** (0.000975)
Bolivia	-0.131 (0.0815)	SCL	-0.00294 (0.0257)	CCLIP (dummy=1)	-0.0776*** (0.0222)
Brazil	-0.132* (0.0788)	<b>Environmental Classification</b>		Number of team leader changes	0.00413 (0.00514)
Chile	-0.182** (0.0770)	A		Multibook (dummy=1)	0.0569* (0.0327)
Colombia	-0.0555 (0.0892)	B	0.0327 (0.0426)	Normalized approved amount	-0.0487 (0.0409)
Costa Rica	-0.171** (0.0776)	B13	0.0417 (0.0621)	Contemporary projects (dummy=1)	-0.00771 (0.0177)
Dominican Republic	-0.132 (0.0827)	C	-0.0171 (0.0443)		
Ecuador	-0.0363 (0.0905)	<b>Team Leader Location</b>			
EL Salvador	-0.140* (0.0816)	COF			
Guatemala	-0.152* (0.0798)	COF2	-0.0113 (0.0207)		
Guyana	0.102 (0.116)	HQ	0.0366 (0.0252)		
Haiti	0.00868 (0.0891)	<b>Executing Agency Type</b>			
Honduras	-0.140* (0.0802)	Financial institution	-0.00862 (0.0465)		
Jamaica	0.0911 (0.110)	Foundation	-0.0941*** (0.00770)		
Mexico	-0.0580 (0.101)	Government			
Nicaragua	-0.154* (0.0812)	International program	-0.0941*** (0.00770)		
Peru	-0.132 (0.0816)	Private institute	-0.0245 (0.0372)		
Panama	-0.129 (0.0914)	State/Municipal government	0.0814* (0.0467)		
Paraguay	-0.0157 (0.0897)	<b>Year Controls</b>			
Suriname	-0.0340 (0.109)	2013			
Trinidad and Tobago	0.00185 (0.106)	2014	-0.00632 (0.0262)		
Uruguay	-0.162** (0.0795)	2015	-0.0163 (0.0265)		
Venezuela	0.260* (0.144)	2016	-0.0569** (0.0272)		
		2017	-0.0787*** (0.0268)		
Observations	1,472		1,472		1,472

Source: Prepared by the authors.

Note: Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The estimation sample is comprised of 1,472 observations. Marginal effects evaluated as the average probabilities. The reference categories are Barbados (BA), the Institutions for Development Sector (IFD) Department, the Specific Investment Operations (ESP) modality, Environmental Classification A, team leader located in the project's country office (COF), and the year 2013. CCLIP: Conditional Credit Line for Investment Projects.

Department: CSD: Climate Change and Sustainable Development Sector; IFD: Institutions for Development Sector; INE: Infrastructure and Energy Sector; INT: Integration and Trade Sector; SCL: Social Sector.

Environmental Classification: A: Likely to cause significant negative impacts or have profound implications affecting natural resources; B: Likely to cause mostly local and short-term negative environmental and associated social impacts for which effective mitigation measures are readily available; B13: Uncategorized Directive B.13 (do not apply environmental classification); C: Likely to cause minimal or no negative environmental and associated social impacts.

Team Leader Location: COF: Team leader located in the project's country office; COF2: Team leader located in a country office different from the project's country; HQ: Team leader located at headquarters.

### **Box 1. Update to the Project Monitoring Report Methodology**

The Inter-American Development Bank updated the methodology of the Progress Monitoring Report (PMR) in 2018. The adjustments were based on inputs provided by sector specialists, country office staff, and empirical evidence gathered through the 2014–2018 period. Such adjustments improve the accuracy of the project execution rating because they tackle some of the issues highlighted in this Technical Note. In particular, the updated methodology addresses issues related to the performance classification of Global Multiple Works Operations (GOM) (noted as having a higher probability of being classified as problem projects) and the relation between the time elapsed between approval and eligibility in stage 2 of project execution (longer times between these milestones are associated with projects being classified as being in problem or alert status).

When GOM projects reach eligibility, the information available for the operational plan only accounts for a sample of 30 percent of the total project amount. Therefore, the project team has two options: (1) Prepare a Start-up Plan corresponding to 30 percent of the project total amount, which leads to an underestimation of the planned and earned values,<sup>1</sup> and consequently to distortions in the Schedule Performance Index (SPI) and the Cost Performance Index (CPI) indicators; or (2) Prepare a Start-up Plan corresponding to 100 percent of the project total amount but based on a very theoretical and preliminary estimate. In this latter case, the Start-up Plan cannot be considered reliable for calculating the SPI and CPI, which could explain why such operations have a higher likelihood of receiving a problem classification than Specific Investment Operations (ESP). According to the update of the PMR methodology, the classification of GOM operations will no longer take into consideration performance against the Start-up Plan. According to the nature of such operations, the classification will only consider the historic disbursement curve and the annually revised data.

The analysis also found that projects with longer time periods between their approval and eligibility dates are more likely to receive problem and alert classifications in stage 2 of project execution. This could be the mechanical result of the disbursement indicator used in stage 2 depending on the time elapsed from approval. Therefore, projects that reach eligibility later in time are also more likely to be late compared to the disbursement benchmark of the beneficiary country because of the time elapsed since approval. The updated PMR methodology measures disbursement

performance depending on the time elapsed from the project's first eligibility, thus not counting the time from approval.

It is also worth mentioning that for stage 1 of project execution, the updated methodology will continue measuring the days elapsed between Board approval and the project going into effect legally, as well as the days elapsed between the project going into effect legally and eligibility. These indicators and the resulting classification will be reported separately from the performance classification, mainly because changes in these indicators are heavily affected by factors that are exogenous to the operation, so it is crucial to identify and monitor them in order to take the necessary corrective actions. Additionally, there will be four indicators for performance tracking purposes: two indicators related to the percentage of conditions met prior to eligibility, and two indicators related to extensions granted to achieve official legal status and eligibility.

The PMR methodology also considers that there are country factors that affect some of the variables used to measure performance. These include the time elapsed between the approval date when the project goes into effect legally and eligibility dates; the disbursement rate; and the time elapsed between reaching 95 percent of disbursements and closing the project. In these cases, the indicators are compared to a country benchmark to account for differences across countries to reach these milestones. Such country benchmarks are built on a historical 10-year mobile series. Any country-specific fluctuation in the values of the observed variables is then taken into account in the benchmark metric for the following years.

<sup>1</sup> Planned value is the budgeted cost for all the outputs scheduled to be delivered until the reporting period. Earned value is the portion of the total budget completed up to the reporting period.

#### **4. Final remarks**

This Technical Note has examined the execution of IDB projects as measured by Project Monitoring Report classifications. It described how projects transition from one classification category to another and identified project characteristics associated with delays in execution. From 2013 to 2017, the PMR methodology classified most IDB projects considered in analysis (on average 73 percent) to be satisfactory. The analysis looked at projects in execution from eligibility up to 95 percent disbursement.

Looking into the PMR classification transitions of projects during the second stage of their execution, the analysis found that projects that were initially satisfactory remained satisfactory, while projects that were not satisfactory had good chances of improving to satisfactory status in

the following period. The analysis also identified a set of project characteristics associated with a higher risk for a project to be classified as a problem. Projects more likely to be classified in this category included those managed by subnational executing agencies; GOM operations; multi-booked (prepared by different departments) operations; projects with the team leader located in headquarters during the project's last classification period; projects with frequent team leader changes; projects relatively smaller in size; and projects where longer time elapsed between project approval and eligibility dates.

The results show that projects being managed by executing agencies that are managing multiple operations are associated with a lower probability of being classified as problem could be either because there is some selection process ex ante or that executing agencies “learn by doing,” as they seem to improve their performance as they gain more experience. Finally, ESP operations that correspond to a CCLIP are also associated with a lower probability of being classified as problem projects. The Bank has updated the PMR methodology to improve the project monitoring process, and some of the new features are consistent with the results presented in this note (See Box 1).

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