

ABBREVIATIONS

ADB	-	Asian Development Bank
ADF	-	Asian Development Fund
MDG	-	Millennium Development Goal
PPP	-	public-private partnership

NOTE

In this report, "\$" refers to US dollars.

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I. INTRODUCTION

1. The performance scorecard in the Development Effectiveness Review is designed to provide useful summary information to the Board, Management, and stakeholders. It uses signals to reflect performance relative to targets (colors) and annual change (arrows). The 2013–2016 corporate results framework uses several scoring methods to determine these signals.¹

2. This technical note describes scoring methods for results framework indicators (Section II) and the composite indicators in the summary scorecard (Section III).² The scoring process has been automated based on these predetermined and transparent rules to enhance efficiency, speed, and reliability.

II. RESULTS INDICATORS

A. Colors to Represent Performance

3. The 2013–2016 corporate results framework contains two types of targets: annual and 2016. For annual targets, the scorecard assesses each year whether the performance for a given indicator met the target or not. A simple binary system of colors represents the performance: green (at or above target—target met) and red (below target—target not met).

4. For the 2016 targets, two separate scoring methods are applied. In the final year of the 2013–2016 scorecard, the same scoring as that for annual targets is used: green (at or above target—target met) and red (below target—target not met) (Appendix 1). During the interim years of 2013–2015, the corporate results framework assessed the progress toward the targets to determine whether the performance was in line to achieve the target (Appendix 2). The following colors represented indicator scoring during those years: green check (*at or above target*), green (*on track to meet the target*), amber (*on track but watch*), and red (*off track to meet the target*).

5. The 2013–2016 corporate results framework utilizes 13 scoring methods to determine these colors (Table 1).³

Table 1: Scoring Methods

Category	Scoring method	Notes
Regional performance	1. Millennium Development Goal	Indicator performance in Level 1 (Development Progress in Asia and the Pacific) is assessed relative to Millennium Development Goal targets for 2015 or baseline values.
	2. Progress	
	3. Growth	
Core operational results	4. Achievement rate	The ratio of achieved and planned outputs and outcomes for Core Operational Results (Level 2) is compared to a satisfactory achievement rate of at least 85%.
2016 target	5. Point target	Most indicators are assigned 2016 targets. For such

¹ Asian Development Bank (ADB). 2012. *Review of the ADB Results Framework*. Manila; ADB. 2014. *ADB's Results Framework: Interim Update up Align with the Midterm Review of Strategy 2020*. Manila.

² This guidance is for internal use by ADB staff and will be updated as necessary to reflect good practices and lessons learned.

³ An overview of scoring methods and related results indicators is in Annexes 1–2.

Category	Scoring method	Notes
	6. Range	indicators gradual progress from the baseline value is foreseen. As it may be unrealistic to meet a challenging 2016 target in the earlier years of the new results framework, performance is assessed against implicit interim targets that are derived from the baseline and the 2016 target.
Annual target	7. Performance standard 8. Maintain 9. Above baseline	Indicators with annual targets have minimum and/or maximum threshold values that need to be satisfied every year up to 2016. Failure to meet an annual target is cause for immediate concern and flagged in the corporate scorecard as <i>off track</i> . Annual targets may be based on baseline values if performance is already close to satisfactory levels.
Accumulation	10. Cumulative indicator 11. Cumulative ratio	Some indicators measure cumulative performance during the results framework period. Contrary to other indicators, the data period that is covered differs for each year.
Other	12. Increase 13. Monitor	The signal for the final scoring method, increase, is based on improvements relative to the baseline and annual change. No colors are assigned to indicators that are monitored.

Source: Asian Development Bank Strategy, Policy, and Review Department.

B. Scoring Methods

6. The scoring methods are described in more detail in paras. 7–25.

1. Millennium Development Goal

7. The Millennium Development Goal (MDG) scoring method is applied to indicators with MDG targets in Level 1. Attainability assessments are determined by the Asia-Pacific regional MDG report method.⁴

During 2016:

At or above target
Below target

Region's performance at or above the cut-off value for 2015
Region's performance fell short of desired progress to attain cut-off value for 2015

During 2013–2015:

At or above target
On track
Off track

Latest MDG data better than cut-off value
2015 projection better than cut-off value
2015 projection worse than 2015 cut-off value

8. These general rules are further supplemented with some minor refinements. First, land area covered by forests does not have a numerical target, but is scored against the MDG objective to

⁴ See ADB, the United Nations Economic and Social Commission for Asia and the Pacific, and the United Nations Development Programme. 2013. Asia-Pacific Aspirations: Perspectives for a Post-2015 Development Agenda. <http://www.adb.org/publications/asia-pacific-aspirations-perspectives-post-2015-development-agenda>, p. 7.

“increase the proportion/share of land area covered by forest.”⁵ Second, the revised results framework for 2013–2016 applies a cut-off value of 1.00 for the ratio of boys and girls in secondary and tertiary education (footnote 1).

2. Progress

9. The “progress” scoring method is applied to the remaining indicators in Level 1 (except gross domestic product growth per capita), with progress relative to the baseline being scored as *at or above target (2016)* or *on track (2013–2015)*:

During 2016:

<i>At or above baseline</i>	Region’s performance (rounded) at or progressed against baseline
<i>Below baseline</i>	Region’s performance (rounded) below baseline for 3 or more consecutive years

During 2013–2015:

<i>On track</i>	Region’s performance (rounded) progressed against baseline
<i>On track but watch</i>	Region’s performance (rounded) at or below baseline for 1 or 2 consecutive years
<i>Off track</i>	Region’s performance (rounded) at or below baseline for 3 or more consecutive years

3. Growth

10. The scoring for gross domestic product growth per capita in the region considers a range of values for the different scores. This method takes into account the current global economic outlook.

During 2016:

<i>At or above cut-off value</i>	5% or above for the Asian Development Bank (ADB) and 2.5% or above for the Asian Development Fund (ADF)
<i>Below cut-off value</i>	Below 5% for ADB and below 2.5% for the ADF

During 2013–2015:

<i>On track</i>	Above baseline
<i>On track but watch</i>	5.0% or above for ADB and 2.5% or above for the ADF
<i>Off track</i>	Below 5.0% for ADB, and below 2.5% for the ADF

4. Achievement Rate

11. The “achievement rate” scoring method is used to assess the ratio of achieved versus planned outputs and outcomes for Core Operational Results in Level 2:

<i>At or above target</i>	Achievement rate (rounded) equals or is better than the satisfactory achievement rate of 85%
<i>Below target</i>	Achievement rate (rounded) is below the satisfactory achievement rate of 85%

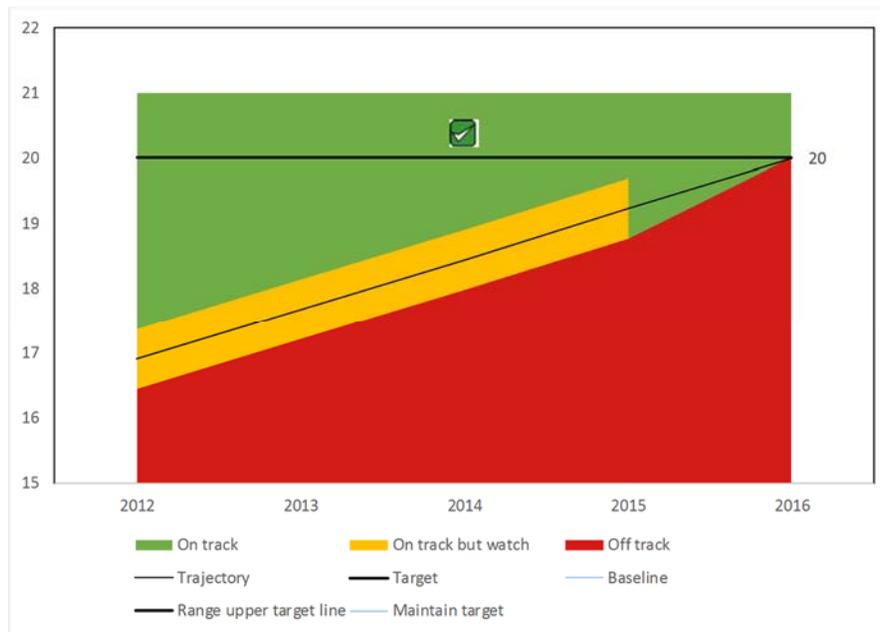
⁵ The estimates for 1990 were 22.2% for ADB developing member countries and 24.5% for Asian Development Fund (ADF) countries.

5. Point Target

12. The “point target” scoring method is used to assess the attaining of long-term targets.⁶ The setting of a baseline and 2016 target for results indicators allows for determining implicit intermediate targets that need to be achieved to make attaining the long-term target more likely.⁷ Comparing results with these implicit intermediate targets enables ADB to determine progress of the results indicator toward the 2016 target and assign a corresponding progress color. The progress color depends on the year and the results indicator value. For 2016 a simple binary system applies: *at or above target* (green) or *below target* (red).

13. For *interim years* amber is assigned as long as the results indicator progresses toward the target within a predetermined band. This band allows for sufficient granularity and avoids frequent and unclear signal changes for results indicators that are progressing toward the target with some minor fluctuations. Within the amber band, a results indicator is deemed to be *on track* to attain the 2016 target, but requires close monitoring as it could easily move *off track* by merely remaining stable. If the results indicator performs worse than the lower border of the band, it is considered to be *off track* and red is assigned. If it performs better than the upper border of the band, the results indicator is *on track* and green is assigned. Finally, green with a checkmark indicates that the rounded-off results indicator is *at or above target*. Note that colors are only used to assess progress toward the target year. In 2016, the target has been either achieved or not. The rules are visually summarized in Figure 1.

Figure 1: Point Target



During 2016:

At or above target

Below target

Performance is at or above target

Performance is below target

⁶ ADB. 2011. *Development Effectiveness Review 2010 Report*. Manila (Supplementary Appendix A).

⁷ For simplicity, a constant slope is assumed.

During 2013–2015:

<i>On track</i>	Progresses above the predetermined band
<i>On track but watch</i>	Progresses toward the target within a predetermined band
<i>Off track</i>	Progresses below the predetermined band

14. The need for prudence and meaningful signals are important considerations. They require careful balancing when determining bandwidths. There are significant differences in volatility, so assigning the same fixed bandwidth for each results indicator would be inappropriate and could result in many bandwidths being too narrow or too wide to give appropriate signals to management. ADB developed a nonparametric approach that classifies results indicators into three distinct bandwidth groups based on a parametric analysis of indicator volatility:

- (i) **Volatility-based bandwidth.** To have meaningful signals, bandwidth should relate to indicator volatility.
- (ii) **Bandwidth classifications.** Based on the calculated volatility-based bandwidths, results indicators are classified in three distinct categories:
 - (a) Low volatility 2.5% of average of the baseline and target
 - (b) Medium volatility⁸ 5.0% of average of the baseline and target
 - (c) High volatility 7.5% of average of the baseline and target
- (iii) **Management adjustment.** The point target method continues to include the possibility of a Management adjustment.

6. Range

15. The “range” scoring method is a variation of the point target scoring method and is used for indicators that are assigned a target range rather than a specific target for 2016, including (i) financing for education, (ii) financing for health, (iii) internal administrative expenses per \$1 million disbursement, and (iv) share of operational expenses for portfolio management.

16. Scoring is similar to point targets, but if performance overshoots the specified range, the signal can become *outside the range*. An *on track but watch* band of 2.5%, 5%, or 7.5% of the average baseline and target is added to the outer range to allow for minor overshooting in intermediate years. Similar to the point target method, colors are only used to assess progress toward the target year (Figure 2). In 2016, the target range has been either achieved or not. Although the range method includes the possibility of a Management adjustment to the volatility-based bandwidth, no such adjustments were made.

During 2016:

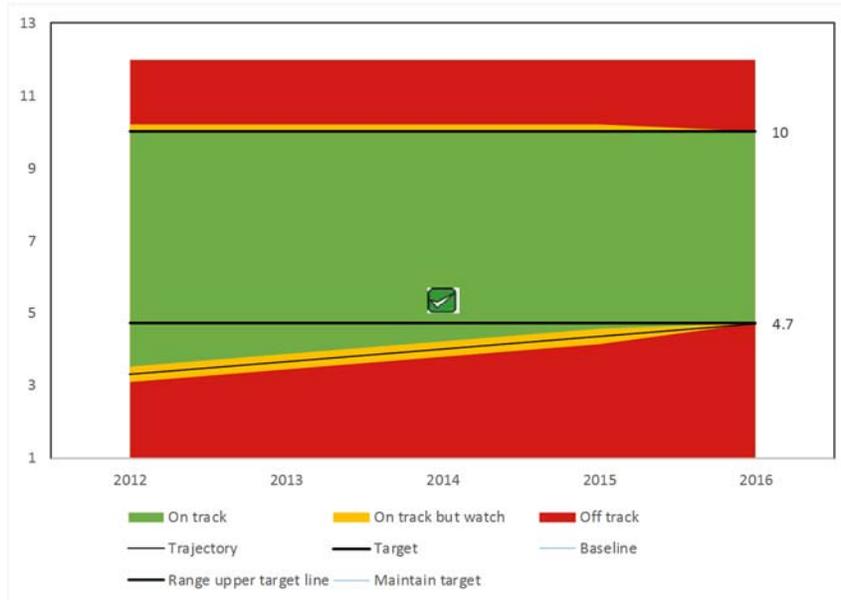
<i>Within the range</i>	Performance is within the range
<i>Outside the range</i>	Performance is outside the range

During 2013–2015:

<i>On track</i>	Progresses inside the predetermined target range
<i>On track but watch</i>	Progresses toward the target range within upper or lower band
<i>Off track</i>	Progresses outside the predetermined upper and lower band

⁸ This category also includes results indicators for which the volatility-based bandwidth cannot be determined.

Figure 2: Range



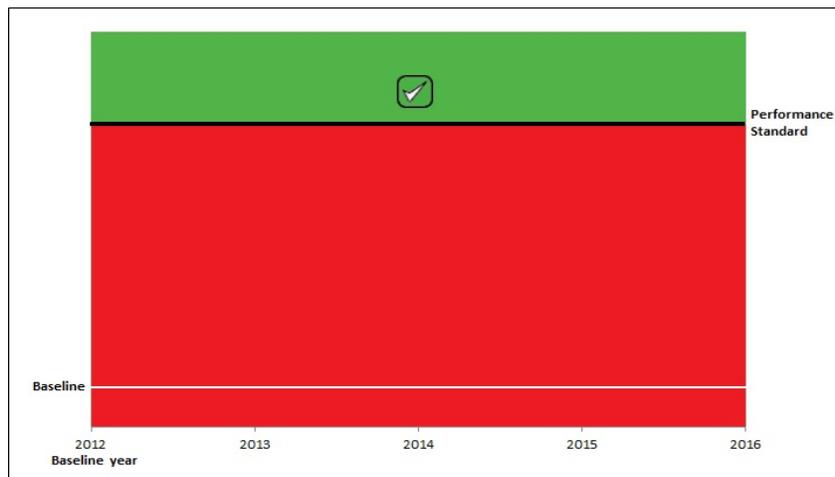
7. Performance Standard

17. The “performance standard” scoring method is used for indicators with minimum and/or maximum threshold values that need to be satisfied throughout the results framework period. Failure to meet annual targets is cause for immediate concern and flagged as *below target* (Figure 3).

At or above target Performance (rounded) is better than or equal to performance standard

Below target Performance (rounded) is worse than performance standard.

Figure 3: Performance Standard



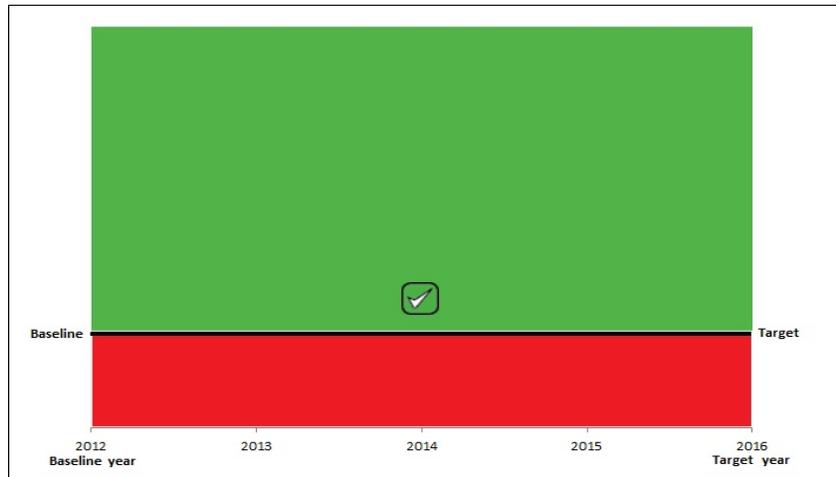
8. Maintain

18. The “maintain” scoring method is a variation of the performance standard method. It sets the threshold value that needs to be met in each year at the baseline level (Figure 4).

At or above target
Below target

Performance (rounded) is better than or equal to baseline
 Performance (rounded) is worse than baseline

Figure 4: Maintain



9. Above Baseline

19. The “above baseline” scoring method is a variation of the performance standard method. It sets the threshold value that needs to be met each year at one measurement unit above the baseline level (Figure 5). Hence, the threshold value for an indicator with a baseline of 24.8 is set at 24.9.

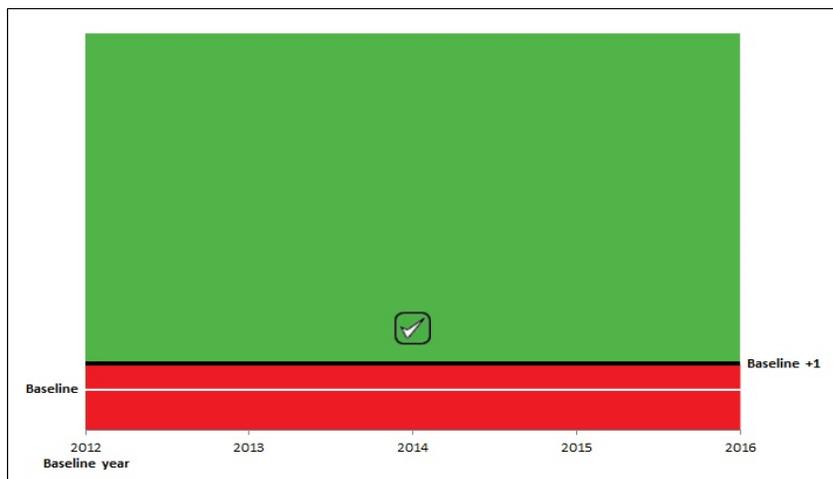
Performance standard or better

Performance (rounded) is better than or equal to baseline plus one

Worse than the performance standard

Performance (rounded) is worse than baseline plus one

Figure 5: Above Baseline



10. Increase

20. The “increase” scoring method is used for web-distributed knowledge solutions. Its signal is based on two criteria: (i) the average annual improvement since baseline year is larger than or equal to 3%, and (ii) the annual improvement is larger than or equal to 3%.

During 2016:

<i>Target met</i>	Both criteria or criteria (i)
<i>Target not met</i>	Neither criteria or criteria (ii) only

During 2013–2015

<i>On track</i>	Both are met
<i>On track but watch</i>	Only one is met
<i>Off track</i>	Neither is met

11. Cumulative Indicator

21. The scoring method for “cumulative indicators” is used for project development transactions for public–private partnerships (PPPs) (total number from 2013). If the indicator is not expected to ramp up gradually, the scoring method assumes that performance increases in equal increments each year and accumulates to the cumulative target (hence a straight target line). Some deviation of this line is allowed in which the indicator is considered to be *on track but watch*. The standard initial bandwidth is 10% of the average baseline and target, which would result in bandwidths of 7.5% (2013), 5% (2014), and 2.5% (2015).

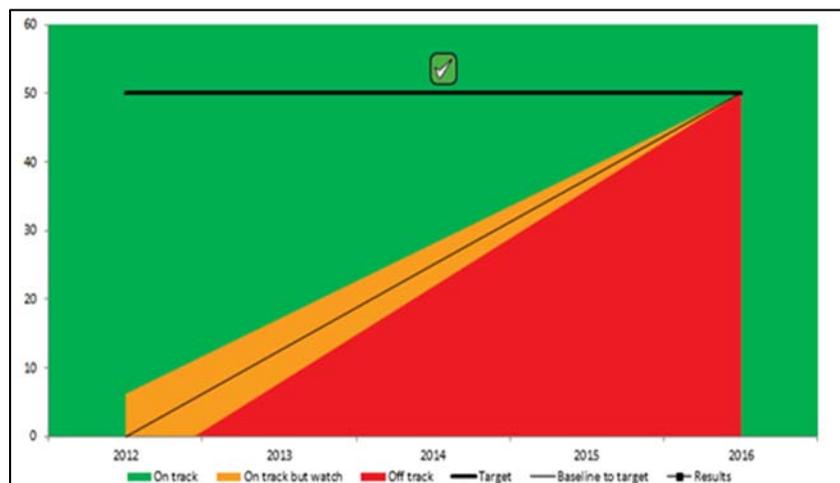
During 2016:

<i>Target met</i>	At or above cumulative total
<i>Target not met</i>	Below cumulative total

During 2013–2015:

<i>On track</i>	Progresses above the predetermined band
<i>On track but watch</i>	Progresses toward the target within a predetermined band
<i>Off track</i>	Progresses below the predetermined band

Figure 6: Cumulative Indicator



22. Similar to the point target and range methods, the cumulative indicator method includes the possibility of a management adjustment to the standard initial bandwidth for an indicator where a gradual performance ramp up is foreseen. In such cases, performance is still considered *on track but watch* in earlier years although deviating considerably from the straight baseline to target line. For project development transactions for PPPs (total number from 2013), a management adjustment was made as performance is expected to accelerate in later years.

12. Cumulative Ratio Indicator

23. This scoring method for “cumulative ratios” is used for cumulative PPP leveraging achieved using ADB financing (ratio of leveraging amount to ADB financing approved). A cumulative ratio becomes more and more certain as it approaches the target year. Some deviation of the targeted ratio is allowed in which the indicator is considered to be *on track but watch* (Figure 7). The standard initial bandwidth is 10% of the average baseline and target, which results in bandwidths of 7.5% (2013), 5% (2014), and 2.5% (2015).

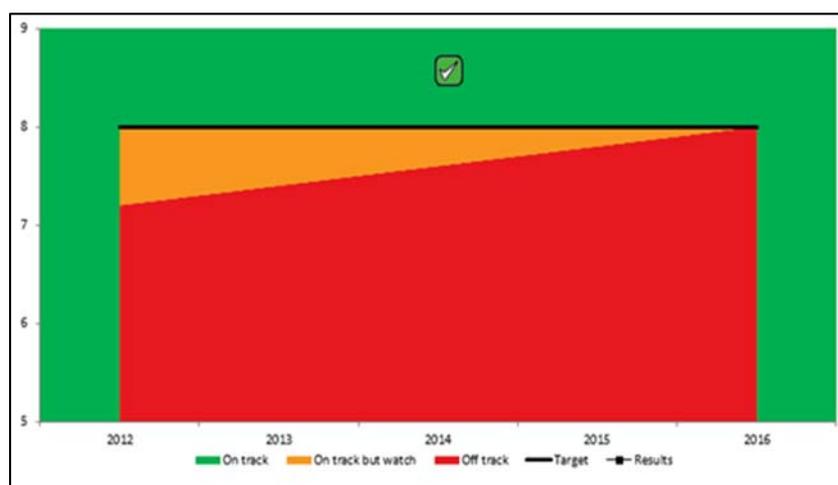
During 2016:

<i>Target met</i>	At or above cumulative ratio
<i>Target not met</i>	Below cumulative ratio

During 2013–2015:

<i>On track</i>	Progresses above the predetermined band
<i>On track but watch</i>	Progresses toward the target within a predetermined band
<i>Off track</i>	Progresses below the predetermined band

Figure 7: Cumulative Ratio Indicator



24. Similar to the point target and range scoring methods, the cumulative ratio includes the possibility of management adjustment to the standard initial bandwidth for indicators where a gradual performance ramp-up is foreseen. No such adjustment was made.

13. Monitor

25. No color is assigned for indicators that are monitored because they have no impact on the composite signals. A downward or upward arrow is shown if there is a change in the most recent previous value.

C. Arrows to Report Annual Change

26. Arrows represent annual deteriorations or improvements. A downward or upward arrow is shown if the change is large enough to justify a signal (Figure 8). No arrow is shown if annual change remains below a threshold of 3% of the most recent previous value. For results indicators that are monitored, the arrow shows the direction of movement only. No arrows are shown for Core Operational Results in Level 2, as there is no comparison to past baseline achievement rates.

Figure 8: Annual Change of Results Indicators

	significant improvement ($\geq 3\%$)
	remained stable (no arrow)
	significant deterioration ($\geq 3\%$)

D. Integrating Progress and Annual Change

27. Single integrated symbols indicate both target attainability and periodic change. This provides more information at a glance. For instance, a green box with a downward arrow means that performance is *on track* but deteriorated from the previous year. This might prompt management to analyze the indicator in more detail. A red box with an upward arrow may show that measures are already paying off, although progress is still unsatisfactory. Table 2 shows the signals in Level 1 and Table 3 shows the signals in Levels 2–4.

Table 2: Signals in Level 1

Scoring Method		Signal	Annual Change ^a
During 2016	During 2013–2015		
A. MDG Indicators			
At or above target —region’s performance at or above cutoff value for 2015	At or above target —region’s performance at or above cutoff value for 2015		
	On track —region’s performance on track to achieve cutoff value for 2015		Improved
			Deteriorated
Below target —region’s performance fell short of desired progress to attain cutoff value for 2015	Off track —region’s performance fell short of desired progress to attain cutoff value for 2015		Improved
			Remained stable
			Deteriorated
B. Non-MDG Indicators			
At or above target —region’s performance progressed against baseline	On track —region’s performance progressed against baseline		Improved
			Remained stable
			Deteriorated

	On track but watch — region's performance at or below baseline for 1 or 2 consecutive years	  	Improved Remained stable Deteriorated
Below target —region's performance at or below baseline for 3 or more consecutive years	Off track —region's performance at or below baseline for 3 or more consecutive years	  	Improved Remained stable Deteriorated

MDG = Millennium Development Goal.

^a An arrow indicates a significant ($\geq 3\%$) change from previous performance: an arrow pointing up indicates improvement; an arrow pointing down indicates deterioration. There are no arrows for Core Operational Results (level 2), as there is no comparison to past and/or baseline achievement percentages. For results indicators that are monitored, the arrow shows the direction of movement only.

Source: Asian Development Bank Strategy, Policy, and Review Department.

Table 3: Signals in Levels 2–4

Scoring Method		Signal	Annual Change ^a
During 2016	During 2013–2015		
At or above target — performance at or above target	At or above target — performance at or above target		
	On track —performance exceeded desired progress to attain 2016 target	  	Improved Remained stable Deteriorated
	On track but watch — performance met desired progress to attain 2016 target but requires close monitoring	  	Improved Remained stable Deteriorated
Below target — performance fell short of desired progress to attain target	Off track —performance fell short of desired progress to attain target	  	Improved Remained stable Deteriorated
Monitor —no performance assessment	Monitor —no performance assessment	  	Increased Remained stable Decreased

^a An arrow indicates a significant ($\geq 3\%$) change from previous performance: an arrow pointing up indicates improvement; an arrow pointing down indicates deterioration. There are no arrows for Core Operational Results (level 2), as there is no comparison to past and/or baseline achievement percentages. For results indicators that are monitored, the arrow shows the direction of movement only.

Source: Asian Development Bank Strategy, Policy, and Review Department.

III. COMPOSITE INDICATORS

28. The composite indicators provide an overview of the performance for particular group of indicators. Table 4 summarizes how these indicators are derived.

Table 4: Composite Signals

Signal	Explanation
 <p><i>good</i></p>	<p>During 2016, two-thirds or more of results indicators in the group achieved a green signal. During 2013–2015, two-thirds or more of results indicators in the group achieved a green or amber signal.</p>
 <p><i>mixed</i></p>	<p>During 2016, more than half but less than two-thirds of results indicators in the group achieved a green signal. During 2013–2015, more than half but less than two-thirds of results indicators in the group achieved a green or amber signal.^a</p>
 <p><i>poor</i></p>	<p>During 2016, half or less of results indicators in the group achieved a green signal. During 2013–2015, half or less of results indicators in the group achieved a green or amber signal.</p>

^a Exception: If half of results indicators are *off track* (red) and the other half exceed desired progress or are at or above target (green), a composite rating of amber, rather than red, is given.

Source: Asian Development Bank Strategy, Policy, and Review Department.

ANNEX 1: SCORING METHODS AT A GLANCE FOR 2016

Type	Target	Notes	Applied to ^a
MDG	2015	<ul style="list-style-type: none"> At or above MDG target Below target 	<ul style="list-style-type: none"> Level 1: indicators 1, 5–8, 10, 14–17, 21–22
Progress (non-MDG)	Annual	<ul style="list-style-type: none"> At or above baseline Below baseline 	<ul style="list-style-type: none"> Level 1: indicators 2–4, 9, 11–13, 18–20
Achievement rate	Annual	<ul style="list-style-type: none"> Better than target Worse than target 	<ul style="list-style-type: none"> Level 2 (Core Operational Results)
Point target	2016	<ul style="list-style-type: none"> At or above target Below target 	<ul style="list-style-type: none"> Level 2 (Quality at Completion) Level 3: indicators 3, 6–9, 11, 17–19, 20 (core operational areas), 22–23, 25, 26, Level 4: indicators 2, 6, 9
Range	2016	<ul style="list-style-type: none"> Within the target range Outside the target range 	<ul style="list-style-type: none"> Level 3: indicators 20 (financing for education), 21 Level 4: indicators 4, 5
Performance standard	Annual	<ul style="list-style-type: none"> Performance standard or better Worse than the performance standard 	<ul style="list-style-type: none"> Level 3: indicators 1, 2, 4, 5, 20, 28, 29 Level 4: indicators 1, 3, 7
Maintain	Annual	<ul style="list-style-type: none"> Baseline or better Worse than the baseline 	<ul style="list-style-type: none"> Level 3: indicator 10 Level 4: indicator 8
Above baseline	Annual	<ul style="list-style-type: none"> One measurement unit above the baseline or better Worse than the baseline plus one measurement unit 	<ul style="list-style-type: none"> Level 3: indicator 16, 24, 30
Increase	Annual	<ul style="list-style-type: none"> Criteria used: <ol style="list-style-type: none"> Average annual improvement since baseline year larger than or equal 3% threshold Annual improvement larger than or equal 3% threshold Both or criteria 1 only Neither or criteria 2 only 	<ul style="list-style-type: none"> Level 3: indicator 27
Cumulative indicator	2016	<ul style="list-style-type: none"> At or above cumulative target Below cumulative target 	<ul style="list-style-type: none"> Level 3: indicator 12
Cumulative ratio indicator	2016	<ul style="list-style-type: none"> At or above cumulative ratio target Below cumulative ratio target 	<ul style="list-style-type: none"> Level 3: indicator 13
Monitor	2016	<ul style="list-style-type: none"> Only arrows are shown No impact on summary scorecard 	<ul style="list-style-type: none"> Level 3: indicators 14, 15

MDG = Millennium Development Goal.

^a Refers to the results framework indicator numbers used in the 2013–2016 corporate results framework Interim Update to Align with the Midterm Review Strategy 2020 (December 2014) and the 2014 Development Effectiveness Review.

Source: Asian Development Bank Strategy, Policy, and Review Department.

ANNEX 2: SCORING METHODS AT A GLANCE DURING 2013–2015

Type	Target	Notes		Applied to ^a
MDG	2015	• Better than MDG target		Level 1: indicators 1, 5–8, 10, 14–17, 21–22
		• Projection better than MDG target		
		• Projection worse than MDG target		
Progress (non-MDG)	Annual	• Better than baseline		Level 1: indicators 2–4, 9, 11–13, 18–20
		• Rounded value at or below baseline for 1 or 2 consecutive years		
		• Rounded value at or below baseline for 3 or more consecutive years		
Achievement rate	Annual	• Better than target		Level 2 (Core Operational Results)
		• Worse than target		
Point target	2016	• At or above target		Level 2 (Quality at Completion) Level 3: indicators 3, 6–9, 11, 17–19, 20 (core operational areas), 22–23, 25, 26, Level 4: indicators 2, 6, 9
		• Within band from baseline to target		
		• Above band from baseline to target		
		• Under band from baseline to target		
Range	2016	• See point target		Level 3: indicators 20 (financing for education), 21 Level 4: indicators 4, 5
		• Within the target range		
		• An <i>on track but watch</i> area is added to the top of the range to allow for temporary overshooting		
Performance standard	Annual	• Performance standard or better		Level 3: indicators 1, 2, 4, 5, 20, 28, 29 Level 4: indicators 1, 3, 7
		• Worse than the performance standard		
Maintain	Annual	• Baseline or better		Level 3: indicator 10 Level 4: indicator 8
		• Worse than the baseline		
Above baseline	Annual	• One measurement unit above the baseline or better		Level 3: indicator 16, 24, 30
		• Worse than the baseline plus one measurement unit		
Increase	Annual	• Criteria used:		Level 3: indicator 27
		3. Average annual improvement since baseline year larger than or equal 3% threshold		
		4. Annual improvement larger than or equal 3% threshold		
		• Both		
		• Only one		
• Neither				

Type	Target	Notes	Applied to ^a
Cumulative indicator	2016	<ul style="list-style-type: none"> Performance is expected to increase in equal increments each year and accumulate into the cumulative target 	Level 3: indicator 12
		<ul style="list-style-type: none"> Above cumulative target 	
		<ul style="list-style-type: none"> Cumulative indicator is assumed to hover along this expectation (<i>on track but watch</i>) with less leeway in later years as less time remains to correct performance 	
Cumulative ratio indicator	2016	<ul style="list-style-type: none"> Below band 	
		<ul style="list-style-type: none"> Above cumulative target: green check 	
		<ul style="list-style-type: none"> Cumulative ratio is assumed to hover around the target (<i>on track but watch</i>) but allowed more leeway to fall below the target in initial years 	
Monitor	2016	<ul style="list-style-type: none"> Below narrowing band 	
		<ul style="list-style-type: none"> Only arrows are shown 	
		<ul style="list-style-type: none"> No impact on summary scorecard 	
			Level 3: indicators 14,15

MDG = Millennium Development Goal.

^a Refers to the results framework indicator numbers used in the 2013–2016 corporate results framework Interim Update to Align with the Midterm Review Strategy 2020 (December 2014) and the 2014 Development Effectiveness Review.

Source: Asian Development Bank Strategy, Policy, and Review Department.

ANNEX 3: DETERMINING BANDWIDTHS

1. The following three-step approach to determine bandwidths has been in place since 2011. The bandwidth calculation described in this annex is used for the point target and range scoring methods.

A. Step 1: Volatility-Based bandwidth

2. Volatility-based bandwidths are calculated as a first crude input for deriving the bandwidth classification of results indicators. The volatility-based bandwidth around the target line Y^T , is determined by assuming that the observed results indicator, Y_i for year i can be expressed by the baseline value, Y_0 , the average change needed to reach the target, $d^T = \frac{(\text{Target} - Y_0)}{\text{\# years to Target}}$ and a random error, ϵ_i , such that

$$Y_i = Y_0 + d^T \times i + \epsilon_i = Y_i^T + \epsilon_i,$$

and $\epsilon_i \sim N(0, \sigma_\epsilon^2)$.

ϵ_i is a random variable with zero mean. Volatility of ϵ_i will determine the volatility-based bandwidth, with a highly volatile error term leading to a broader bandwidth and vice versa. Estimating the parameters of ϵ_i is a challenge due to the lack of sufficient data for many results indicators. Where data are available, the standard deviation of ϵ_i can be estimated using the linear regression model. With the estimated variance, the confidence intervals (or bandwidth) around the observed value can be estimated using t-statistic. The volatility-based bandwidth will be $\pm t_{(\alpha/2, n-2)} \times \hat{\sigma}_\epsilon$, where $\hat{\sigma}_\epsilon$ is the estimated standard deviation of ϵ_i . The confidence level is set at 95%.

3. Since there are results indicators for which the targets are lower values than the baseline (e.g., average sovereign operations processing time and months from fact-finding to effectiveness), a different set of criteria has to be applied depending on the type of results indicator.

For indicators where higher values are targeted:

Criteria	Color
$Y_i > Y_i^T + \text{margin of error}$ and $Y_i < \text{Target}$	Green
$Y_i^T - \text{margin of error} \leq Y_i \leq Y_i^T + \text{margin of error}$ and $Y_i < \text{Target}$	Yellow
$Y_i < Y_i^T - \text{margin of error}$ and $Y_i < \text{Target}$	Red

For indicators where lower values are targeted:

Criteria	Color
$Y_i < Y_i^T + \text{margin of error}$ and $Y_i > \text{Target}$	Green
$Y_i^T - \text{margin of error} \leq Y_i \leq Y_i^T + \text{margin of error}$ and $Y_i > \text{Target}$	Yellow
$Y_i > Y_i^T - \text{margin of error}$ and $Y_i > \text{Target}$	Red

B. Step 2: Initial Bandwidth Classifications

4. Based on these volatility-based bandwidths, results indicators are classified in the following three broad categories and assigned a corresponding bandwidth.

Category	Volatility-Based Bandwidth	Assigned Prudent Bandwidth
Low volatility	0.0%–5.0%	2.5%
Medium volatility	5.0%–15.0%	5.0%
High volatility	>15.0%	7.5%

Bandwidths are one-sided and a percentage of the average baseline and target.

5. This second step makes the approach more prudent from a management perspective. As most bandwidths are narrowed in the process, red signals will be given sooner if the results indicator starts to deteriorate. Note that a classification into narrower bandwidths is also likely to provide fewer “watch” signals for results indicators that are considered to be *on track*.

C. Step 3: Reclassification based on Management Judgment

6. As limited availability of data affects the reliability of volatility calculations, it needs to be supplemented by management judgment in order to derive more prudent results. Such a reclassification may be particularly relevant in situations where (i) the bandwidth cannot be determined, (ii) data availability is limited, (iii) the target year is close, or (iv) there are already predetermined institutional bandwidths.¹

¹ Results indicators for which no volatility-based bandwidth could be calculated due to limited data are usually considered to be of medium volatility.

