



**WORLD BANK GROUP**

Group Internal Audit

**VERIFICATION  
REPORT**

**Management Review of Data  
Irregularities in the Doing Business  
Reports from 2016 to 2020**

DECEMBER 8, 2020

REPORT NO. FY21-2-4-2104615



## Distribution

**Issued by:** Anke D'Angelo, Vice President and Auditor General, GIAVP *Anke D'Angelo*

**To:** David Malpass, President, World Bank Group, EXC


# 1. EXECUTIVE SUMMARY

## 1.1 Background

On August 27, 2020, World Bank management [announced reports of data irregularities](#) in the *Doing Business 2018* report (published in October 2017) and the *Doing Business 2020* report (published in October 2019).

Development Economics Vice Presidency (DEC) management conducted a review of data changes in the Doing Business (DB) reports from 2016 to 2020 in response to the data irregularities reported by the DB team. The review was completed in December 2020 and the results of the review have been described in the report: “*Review of Data Irregularities in Doing Business*”. DEC management defines the data irregularities as “data changes that were made outside of the appropriate review process and were not justified by the DB methodology or by any new information provided to the DB team”. For details on the review process followed by management, refer to *Appendix 2 DEC Management Review Process Flow*.

The management review was limited to data changes that occurred after the circulation of data as part of the institutional review process<sup>1</sup> and before the final publication of the corresponding DB reports. The review was carried out by the current DEC management (who has been in place since June 2020, and who did not have managerial responsibility for the production and publication of the DB reports covered in this review), with inputs from the DB team.

As requested by the World Bank Group President’s Office (EXC), Group Internal Audit (GIA) conducted an independent verification of the DEC management review. The detailed objectives, scope, and approach are provided in the Terms of Reference in *Appendix 3*.

Separately, at the request of the Board and DEC management, GIA completed an assurance review of “*Data integrity in the production process of the Doing Business Report*” (FY21-2-2-2103656). The report was issued on December 8, 2020.

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<sup>1</sup> After the internal reviews within the DB team and DEC management, the draft DB report including the underlying data is shared with wider WBG staff and management for feedback. This institutional review process is also known as the Bank Wide Review (BWR).

## 1.2 Overall Conclusion

GIA verified that DEC management systematically reviewed all data changes that occurred after the institutional review process for the DB reports from 2016 to 2020 in accordance with the process described in its report: “*Review of Data Irregularities in Doing Business*” (version dated December 3, 2020). GIA concluded that the review process as defined by management is sufficiently complete to identify data irregularities.

DEC management concluded that these data changes were reasonable except for nine changes, affecting four countries, which were reported by the DB team as data irregularities. The nine confirmed data irregularities are corrected in the Data Management System<sup>2</sup> (DMS) and documented in DEC management’s review report.

GIA’s verification identified one data discrepancy (*refer to verification objective 1 in section 2*) and potential deviations (*refer to verification objective 2 in section 2*) in the DEC management’s review process. GIA verified that management has addressed the data discrepancy and potential deviations.

GIA’s verification did not cover the overall accuracy of the data and DEC management’s technical judgement to determine changes as reasonable.

*The high-level conclusions of GIA’s verification of DEC management’s review are presented in section 2. The Detailed Verification Results are described in Appendix 1.*

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<sup>2</sup> DMS is the system used by DEC where the DB data is processed, reviewed and approved for final publication.

## 2. Summary of Verification Results

GIA verified each of the six verification objectives as outlined in the TOR (refer to *Appendix 3*). The table below includes GIA's initial observations based on its verification work, DEC management's subsequent actions to address GIA's observations, and GIA's conclusion after verification of management's subsequent actions.

The detailed verification steps and results are presented in *Appendix 1*.

	Verification Objective	GIA's Initial Observation	Subsequent Management Action	GIA Conclusion
1	DEC management identified all data changes that were made after DEC's circulation of the DB data for the institutional review process prior to its publication	Management identified all data changes except one in DB16 that was excluded due to an oversight (human error) in data retrieval.	DEC management included the DB16 data change with an explanation in the DEC management review report and confirmed this change was not a data irregularity.	Verified
2	DEC management reviewed each of the changes to identify those lacking justification according to clearly defined and verifiable criteria	DEC management reviewed each of the data changes and confirmed nine changes lacking reasonable explanation. DEC management used their technical judgement and the changes reported as potential irregularities by the DB team as criteria to identify changes lacking justification.  In addition, GIA identified four changes, two in DB16 and two in DB17, with incomplete explanations as potential deviations.	DEC management updated the explanations for the four changes identified by GIA. DEC management confirmed that the four changes are not data irregularities.	Verified
3	DEC management reviewed all changes lacking justification according to clearly defined and verifiable	DEC management reviewed the nine changes lacking reasonable explanation with follow-up conversations and emails with the DB team and confirmed them as irregularities.  In addition, five data changes in DB16 and an inconsistent application of DB methodology for a specific country in DB17	No subsequent action was required.	Verified.  GIA did not, however, assess DEC management's technical judgement.

Verification Objective	GIA's Initial Observation	Subsequent Management Action	GIA Conclusion
criteria, and identified irregularities <sup>3</sup>	were flagged by the DB team in their emails to DEC management as potential irregularities. DEC management had reviewed these changes before GIA's verification and reconfirmed that they are not data irregularities as no specific improprieties were identified.		
4 DEC management has decided and implemented corrective actions to address the data irregularities in accordance with management's review process	Management confirmed and corrected the nine irregularities in DMS. The corrections were in accordance with management's review process.	No subsequent action was required.	Verified
5 The DB data in excel annexed to the management review report matches the data in the DB database	The DB data in excel annexed to the management review report matches the data in the excel master files.	No subsequent action was required.	Verified
6 The impact of the correction of data on the country ranking mentioned in the management report is accurate following the existing DB scoring method <sup>4</sup>	The recalculated country rankings are accurate based on the corrected data irregularities by DEC management.	No subsequent action was required.	Verified

<sup>3</sup> The wording of the objective as stated in GIA's TOR is changed from "*DEC management investigated all changes lacking justification according to clearly defined and verifiable criteria, and identified irregularities*" to "*DEC management reviewed all changes lacking justification according to clearly defined and verifiable criteria*", to better reflect management's terminology. Refer to *Appendix 3* for the Terms of Reference.

<sup>4</sup> The wording of the objective as stated in GIA's TOR is changed from "*The impact of the correction of data on the country ranking mentioned in the management report is accurate following the algorithm set by DEC management*" to "*The impact of the correction of data on the country ranking mentioned in the management report is accurate following the existing DB scoring method*" to better reflect management's terminology. Refer to *Appendix 3* for the Terms of Reference.

## Appendix 1: Detailed Verification Results

This section describes for each of the six verification objectives as defined in the *Terms of Reference in Appendix 3*: (i) the results of the verification exercise; and (ii) the steps taken by GIA to verify each of the six objectives.

### 1. DEC management identified all data changes that were made after DEC's circulation of the DB data for the Bank-Wide Review prior to its publication

DEC management identified all data changes except one related to DB16 that was excluded due to an oversight (human error) in data retrieval. Subsequently, DEC management included the DB16 change with an explanation in the DEC management review report and confirmed this change was not a data irregularity.

GIA matched more than 41,000 data points between the draft DB Report (PDF) circulated for the institutional data review process and the published DB Report (PDF) for DB16, DB17, DB18, DB19 and DB20. The PDFs were obtained independently by GIA from the emails circulated for the institutional review process and directly from the internet where the DB reports are published for all the years (DB16 to DB20). GIA identified one additional data change as follows:

	Year	Country	Topic/Indicator	Change*
1	DB16	Swaziland	Getting credit: Private bureau coverage (% of adults)	41.3% to 46.4%

\*Within the change description, the first value is as reflected in the draft DB Report (PDF) circulated for institutional review process and the second value is as reflected in the published DB Report (PDF) for the respective DB year.

### 2. DEC management reviewed each of the changes to identify those lacking justification according to clearly defined and verifiable criteria

DEC management reviewed each of the changes and confirmed that nine lacked reasonable explanations. DEC management used their technical judgement and the changes reported by the DB team as potential irregularities, to identify changes lacking justification.

In addition, GIA identified four further changes, two in DB16 and two in DB17 with incomplete explanations as potential deviations. DEC management subsequently updated the explanations for the four changes to provide further clarifications. DEC management confirmed the four potential deviations were not considered as data irregularities.

GIA reviewed the explanations for each of the changes provided either at the time of the change or updated at the time of the management review and compiled a list of those changes with

missing or incomplete explanations. GIA verified the completeness and not the technical soundness of the explanations.

The four additional changes are as follows:

	Year	Country	Topic/Indicator
1	DB17	Brunei Darussalam	Dealing with Construction Permits
2	DB17	Malaysia	Paying Taxes
3	DB16	Sri Lanka	Getting Electricity
4	DB16	Belgium	Paying Taxes

### **3. DEC management reviewed all changes lacking justification according to clearly defined and verifiable criteria, and identified irregularities**

DEC management reviewed the nine changes lacking reasonable explanation with follow-up conversations and emails with the DB team and identified them as data irregularities. In addition, five changes in DB16 and an inconsistent application of DB methodology for a specific country in DB17 were flagged by the DB team in their emails to DEC management as potential irregularities. DEC management had reviewed these changes based on subsequent follow-up discussions with the DB team before GIA's verification. DEC management reconfirmed that these changes were not data irregularities as no specific improprieties were identified.

DEC management's criteria for identifying irregularities are: (i) changes without reasonable explanations; and (ii) changes flagged by the DB team as potential irregularities.

For criteria (i), GIA verified the changes with missing or incomplete explanations as stated in verification objective #2 above.

For criteria (ii), GIA verified email communication between the DB team and DEC management to identify concerns flagged by the DB team. GIA also interviewed four out of the 10 Topic Leaders to substantiate information in the emails.

GIA did not assess DEC management's technical judgement.

The five changes in DB16 are as follows:

	Year	Country	Topic/Indicator
1	DB16	Indonesia	Getting Electricity
2	DB16	Slovakia	Getting Electricity
3	DB16	India (Mumbai)	Getting Electricity
4	DB16	Chile	Getting Electricity
5	DB16	Mexico	Getting Electricity

In addition, concerns were raised by DB team in the treatment of India during DB17 regarding the inconsistent application of the DB data collection methodology for the “Dealing with Construction Permits” indicator. These concerns were raised during DEC management’s review. Management reconfirmed that they were not data irregularities during GIA’s verification.

#### 4. DEC management has decided and implemented corrective actions to address the data irregularities in accordance with management’s review process

DEC management confirmed and corrected the nine irregularities in DMS. The corrections were made in accordance with management’s review process.

GIA verified in DMS that the data was corrected by DEC management in accordance with management’s review and approval process, as of the date of this verification. The review process includes a three-layer approval in DMS by the topic leader, peer reviewer and the data manager.

The nine topics with corrected data irregularities are as follows:

	Year	Country	Topic/Indicator
1	DB20	Azerbaijan	Getting Electricity <i>Number of Procedures</i> <i>Time (days)</i>
2	DB20	Azerbaijan	Enforcing Contracts <i>Quality of Judicial Process Index</i>
3	DB20	Azerbaijan	Trading Across Borders <i>Time to export: border compliance (hours)</i> <i>Time to import: border compliance (hours)</i> <i>Time to export: documentary compliance (hours)</i> <i>Time to import: documentary compliance (hours)</i> <i>Cost to export: documentary compliance (USD)</i>
4	DB20	Saudi Arabia	Legal Rights (Getting Credit) <i>Strength of Legal Rights Index</i>
5	DB20	Saudi Arabia	Paying Taxes <i>Time (hours)</i>

	Year	Country	Topic/Indicator
6	DB20	United Arab Emirates	Paying Taxes <i>Time (hours)</i>
7	DB18-20	China	Starting a Business <i>Procedures (Beijing)</i> <i>Procedures (Shanghai)</i> <i>Time in days (Beijing)</i> <i>Time in days (Shanghai)</i>
8	DB18-20	China	Legal Rights (Getting Credit) <i>Strength of Legal Rights Index (both cities)</i>
9	DB18-20	China	Paying Taxes <i>Time in hours (Beijing)</i> <i>Time in hours (Shanghai)</i>

## 5. The DB data in Excel annexed to the management review report matches the data in the DB database

The DB data in excel annexed to the management review report matches the data in the excel master files<sup>5</sup>.

GIA reconciled the yearly DB data between the five excel files annexed to the DEC management review report and the corresponding data from the master files for DB16-DB20 downloaded from the DB database as explained below:

- GIA compared more than 96,000 data points in the five excel files annexed to the DEC management review report with the Masterfile that was circulated for the institutional review process and the Masterfile that was used for the published DB reports for each of the five years.
- All changes identified in this comparison were identified by DEC management and verified by GIA without any discrepancy.
- GIA verified that each of the data changes identified by DEC management had a corresponding explanation for the change without any discrepancy.

## 6. The impact of the correction of data on the country ranking mentioned in the DEC management review report is accurate following the DB scoring method

The recalculated rankings for the four countries that were impacted by the irregularities are accurate.

<sup>5</sup> GIA matched the DB data in the annexed excel to the contemporaneous master files (downloads of the data from the DB database at the time of DB report circulation for the institutional review and final publication).

GIA independently verified the new ranking of the four economies affected by the data irregularities, using the corrected scores as explained below:

- GIA obtained the historical score and ranking for all economies on November 17, 2020 from the Data Series as published in the Doing Business website.
- GIA verified the new ranking for the four affected countries using the corrected score instead of the historical score, by retaining the data constant for all other countries.
- GIA compared the new ranking verified by GIA with the ranking reported by DEC management in its review report.

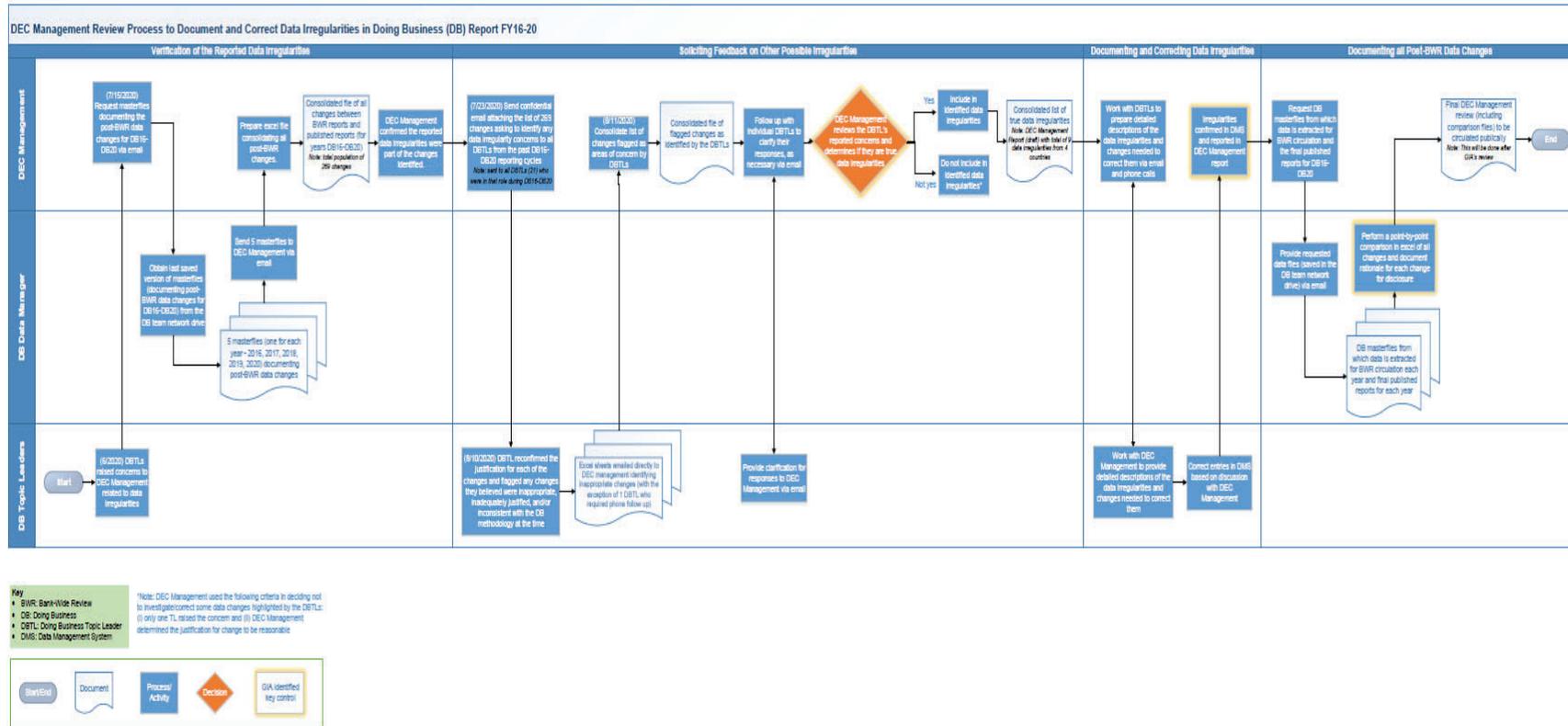
GIA verified the mathematical accuracy of the country rankings applying the existing scoring method followed by DEC management. GIA did not verify the underlying scoring method.

The corrected score and ranking of the countries are as follows:

	<b>DB Year</b>	<b>Country</b>	<b>Irregular score and ranking</b>	<b>Corrected score and ranking</b>
1	DB20	Azerbaijan	Score: 76.7; Ranking: 34	Score: 78.5; Ranking: 28
2	DB20	Saudi Arabia	Score: 71.6; Ranking: 62	Score: 70.9; Ranking: 63
3	DB20	United Arab Emirates	Score: 80.9; Ranking: 16	Score: 80.8; Ranking: 16
4	DB18	China	Score: 65.3; Ranking: 78	Score: 64.5; Ranking: 85

# APPENDIX 2: DEC Management Review Process Flow

Click [HERE](#) for an enlarged PDF version.



Source: GIA's analysis based on meetings and documents provided by DEC management.

## APPENDIX 3: Terms of Reference

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### OFFICE MEMORANDUM

DATE: November 6, 2020

TO: David Malpass, President, World Bank Group, EXC

FROM: Anke D'Angelo, Vice President and Auditor General, GIAVP *Anke D'Angelo*

EXTENSION: 34181

SUBJECT: **Terms of Reference for the Independent Verification of the Management Review of Data Irregularities in the Doing Business Reports from 2016 to 2020**

Please find attached our Terms of Reference (TOR) for the above-mentioned engagement. The engagement will be conducted by [REDACTED]

If you have any questions regarding this TOR or if we can be of further assistance, please do not hesitate to contact me [REDACTED]

Attachments

[REDACTED]

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**Independent Verification of the Management Review of Data Irregularities in the Doing Business Reports from 2016 to 2020**

## Terms of Reference

### Introduction

On August 27, 2020, World Bank management [announced data irregularities](#) in the *Doing Business 2018* and *Doing Business 2020* reports published in October of 2017 and 2019, respectively. In response, DEC management conducted a review of data irregularities in the Doing Business Reports from 2016 to 2020.

The management review was led by a Development Economics Vice Presidency (DEC) Director and completed in October 2020. In this review, management analyzed data irregularities and decided how they will be corrected in the *Doing Business 2021* report.

As per the request from the World Bank Group President's Office (EXC), Group Internal Audit (GIA) will conduct the independent verification of the management review completed in October 2020.

### Engagement Objectives

The primary objectives of this engagement are: (i) to review the process followed by management in their review of DB data changes and verify or otherwise comment on its completeness; (ii) verify that management conducted its review of DB data changes in accordance with the review process indicated in its report and therefore reached reasonably defensible conclusions; and (iii) confirm that the corrections made to the DB data are consistent with the conclusions of the review. Specifically, GIA's verification will confirm whether:

1. DEC management identified all data changes that were made after DEC's circulation of the DB data for the Bank-Wide Review prior to its publication;
2. DEC management reviewed each of the changes to identify those lacking justification according to clearly defined and verifiable criteria;
3. DEC management investigated all changes lacking justification according to clearly defined and verifiable criteria, and identified irregularities;
4. DEC Management has decided and implemented corrective actions to address the data irregularities in accordance with management's review process;
5. The DB data in Excel annexed to the management review report matches the data in the DB database; and
6. The impact of the correction of data on the country ranking mentioned in the management report is accurate following the algorithm set by DEC management.

GIA will also assess the adequacy of controls in the management review process.

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**Independent Verification of the Management Review of Data Irregularities in the Doing Business Reports from 2016 to 2020**

## Engagement Scope

The scope of verification covers activities management undertook to complete the management review of data irregularities for the DB report from 2016 to 2020.

The following will NOT be included in the scope of verification:

1. Adequacy of management's technical judgement to determine data irregularities; however, the review will seek to confirm that clear and verifiable criteria were defined and applied accordingly;
2. Adequacy of management's actions to correct data irregularities; however, the review will seek to confirm that corrections were implemented for all irregular data changes determined under the review process;
3. Overall accuracy of the updated DB data following the management review;
4. Adequacy of the underlying DB methodology to collect, analyze, and aggregate data; and
5. Any potential data irregularities that were introduced in the concerned historical data sets for the 2016 to 2020 DB reports before the Bank-Wide Reviews and after the publication of the DB reports.

## Engagement Approach

The engagement will involve:

1. Obtaining details on the approach used in the management review to understand the activities involved and assess the adequacy of controls;
2. Obtaining documented evidence from management that the activities described in the approach took place;
3. Conducting data analytics to independently identify data changes between the data used for the Bank-Wide-Review and the published data; and
4. Conducting data analytics to confirm that all corrective changes via the management review are accurately reflected in the Excel files attached to the management report.

## Administration and Reporting



The engagement commenced on November 4, 2020 with a target date for the draft report by November 30, 2020. The Final Report will be issued soon thereafter.

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**Independent Verification of the Management Review of Data Irregularities in the Doing Business Reports from 2016 to 2020**

## Appendix 1: Report Distribution

The draft and final reports identifying key issues will be addressed to the President and copied to the following stakeholders:

Unit	Title
MDOPS	Managing Director, Operations
MDOPS	Director, Strategy and Operations
MDDPP	Managing Director
MDDPP	Director, Strategy and Operations
MDDPP	Special Assistant
DECVP	Vice President and Chief Economist
DECVP	Director, Office of Vice President and Chief Economist
ECRVP	Vice President
	Key Client Management and Staff