

REVIEW OF DATA IRREGULARITIES IN *DOING BUSINESS*

*Prepared by Management of the Development Economics (DEC) Vice-Presidency,
the World Bank Group*

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Executive Summary: This document reports the findings of a review of data irregularities in *Doing Business*. The review examined all data changes that occurred between circulation of the data for Bank-wide review and final publication in the *Doing Business* 2016, 2017, 2018, 2019, and 2020 report cycles. The review details the irregularities and required corrections affecting the data for four countries:

- Azerbaijan: In *Doing Business 2020*, the published score including irregularities affecting the Getting Electricity, Enforcing Contracts, and Trading Across Borders indicators was 76.7 with a global ranking of 34. After correcting the irregularities, the *Doing Business 2020* score is 78.5. Taking as given the published data for all other countries, Azerbaijan's global ranking would be 28 and it would have been on the list of top 10 improvers in the *Doing Business 2020* report had these irregularities not occurred.
- Saudi Arabia: In *Doing Business 2020*, the published score including irregularities affecting the Getting Credit and Paying Taxes indicators was 71.6 with a global ranking of 62. After correcting these irregularities, the *Doing Business 2020* score is 70.9. Taking as given the published data for all other countries, Saudi Arabia's global ranking would be 63, and it would not have been the top improving economy in *Doing Business 2020* had these data irregularities not occurred.
- United Arab Emirates: In *Doing Business 2020*, the published score including irregularities affecting the Paying Taxes indicator was 80.9 with a global ranking of 16. After correcting this irregularity, the *Doing Business 2020* score is 80.8. Taking as given the published data for all other countries, the United Arab Emirates' global ranking would be unchanged at 16.
- China: In *Doing Business 2018*, the published score including irregularities affecting the Starting a Business, Getting Credit, and Paying Taxes indicators was 65.3 with a global ranking of 78, identical to its rank in the *Doing Business 2017* report. After correcting the irregularities described above, the *Doing Business 2018* score is 64.5. Taking as given the published data for all other countries, China's global ranking in *Doing Business 2018* would have been 85, a decline of 7 places relative to the previous year.

These irregularities were reported to DEC management by *Doing Business* team members and triggered the pause of the *Doing Business* report [announced on August 27, 2020](#), as well as this review. The review process did not identify any further specific data irregularities beyond those affecting these four countries as described in this document.

This review was carried out by current DEC senior management, in place since June 2020, and who did not have managerial responsibility for *Doing Business* during the previous five *Doing*

Business report cycles covered in the analysis, with extensive technical inputs from *Doing Business* staff. The World Bank Group Internal Audit (GIA) has issued a [Verification Report](#) on the DEC management review process, which concludes that the review process as defined by management was sufficiently complete to identify data irregularities.

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1. Background

The annual *Doing Business* report is a widely read and highly influential flagship publication produced in the Development Economics (DEC) Vice-Presidency of the World Bank. On August 27, 2020, World Bank management [announced reported data irregularities](#) in the *Doing Business 2018* and *Doing Business 2020* reports published in October of 2017 and 2019. This document reports on DEC management’s implementation of the commitment in this announcement to conduct “...a systematic review and assessment of data changes that occurred subsequent to the institutional data review process for the last five *Doing Business* reports” in order to verify, document, and correct these irregularities.

This document provides details on the reported irregularities and how they will be corrected in the *Doing Business 2021* report which is planned for publication in March of 2021. The irregularities were brought to the attention of current DEC management in place since June 2020 by *Doing Business* team members. *Doing Business* team members reported undue pressure, both directly and indirectly, by management to manipulate data in 2017 during the *Doing Business 2018* production process and in 2019 during the *Doing Business 2020* production process. The data irregularities occurred after the *Doing Business* data had been circulated for Bank-wide Review (BWR), just prior to finalizing the data for publication, resulting in changes to the data for Azerbaijan, Saudi Arabia and the United Arab Emirates in *Doing Business 2020* and in China in *Doing Business 2018*. These data changes were “irregular” because they were made outside of the appropriate review process and were not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

This document provides details on the data irregularities and their implications for these countries’ component data, ranking, and status as “top improvers”. This document does not identify individuals responsible for the data irregularities or possible motivations. Such issues, including potential misconduct by current and/or former Bank staff, have been reported to the Bank’s appropriate internal accountability mechanisms.

In addition to documenting these four reported cases of specific data irregularities, DEC management has reviewed all updates in the *Doing Business* data that occurred between the time the data were circulated for BWR and final publication of the corresponding report, for the past five *Doing Business* report cycles (*Doing Business 2016, 2017, 2018, 2019* and *2020*, published in the fall of 2015, 2016, 2017, 2018 and 2019). For terminological convenience, data updates/changes during the approximately two-month window between circulation for BWR and publication of the report are referred to as “post-BWR” data updates/changes. This focus on post-BWR data updates is because the BWR process provides important external scrutiny of the *Doing Business* data. In contrast, updates to the data after it has been circulated for BWR were not subject to the same scrutiny outside the *Doing Business* team.¹ This review was carried out by current

¹ At the time of BWR, country authorities are notified via the Bank’s Executive Directors of reforms during the previous year that will be scored in the *Doing Business* data (via Reform Update Memos), and the full dataset is circulated widely in the World Bank Group for review and comment. In contrast, while data changes that occur post-BWR are reviewed within the *Doing Business* team using the same protocols that are used to review updates to the data prior to BWR, they are not subsequently reviewed outside the *Doing Business* team. Details on the *Doing Business* data collection and review process are provided in Annex 1.

DEC senior management who have been in place since June 2020, and who did not have managerial responsibility for *Doing Business* during the previous five *Doing Business* report cycles covered in the analysis, with extensive inputs from *Doing Business* staff. This review process did not identify any further specific data irregularities beyond those affecting the four countries as described in this document. The approach taken by DEC management to conduct this analysis is described in Annex 2. The World Bank Group Internal Audit (GIA) has issued a [Verification Report](#) on the DEC management review process, which concludes that the review process as defined by management was sufficiently complete to identify data irregularities.

In the interest of transparency, the [five Excel files accompanying this document](#) provide a full accounting of all such post-BWR data updates for the past five *Doing Business* report cycles. Aside from the reported irregularities detailed below, these updates are part of the routine *Doing Business* data production and review cycle. The annual *Doing Business* data set consists of over 9000 individual economy-by-indicator data points that are reviewed annually and updated as needed to track business regulatory reforms across 191 economies. This process begins early in the calendar year when the *Doing Business* team reaches out to its network of contributors to gather data on reforms and continues through a process of BWR prior to publication of the report and release of the updated full dataset. Every *Doing Business* report cycle, approximately 2000-3000 individual economy-by-indicator data points are updated based on new information received by the *Doing Business* team.² A small proportion, between 1% and 3%, of these updates routinely occur after the data have been circulated for BWR, and generally fall into three categories: (i) corrections to the data in response to feedback received during BWR, (ii) corrections to the data by the *Doing Business* team as a result of their final reviews and checks of the data prior to publication, and (iii) corrections to the data to incorporate the results of an external review of the data for the Paying Taxes indicator conducted by Pricewaterhouse Coopers which partners with the *Doing Business* team in producing this indicator.

The accompanying Excel files identify the countries and *Doing Business* topics for which the data was updated post-BWR, provide contemporaneous documentation of those changes as recorded in the *Doing Business* team's data management systems at the time the changes were made, and provide further explanatory notes for each change.

Although the data irregularities described in this document were isolated cases affecting only a few data points for four countries, any instance of data irregularity is unacceptable. Current DEC management has been working to address the underlying factors that permitted these data integrity incidents since the time they were first reported.

The remainder of this document provides detailed documentation of the data irregularities for Azerbaijan, China, Saudi Arabia, and the United Arab Emirates. In the tables below, "Published" refers to the data as published in the final *Doing Business* report; "Pre-change" refers to the data that was shared with colleagues as part of the Bank-wide review process, before irregularities took place; and "Corrected" refers to the corrections that will be made to reverse the data irregularities that took place.

² This excludes any effects due to the introduction of new indicators or methodology revisions to existing indicators.

2. *Doing Business 2020 – Azerbaijan*

Table 1. Summary of changes to Azerbaijan data after *Doing Business 2020* Bank-wide review and required corrections

	DB19	DB20	DB20	DB20
	Published	Pre-Change	Published	Corrected
<i>Getting Electricity</i>				
Number of Procedures	7	5	7	5
Time (days)	41	38	41	32
<i>Enforcing Contracts</i>				
Quality of Judicial Process Index	6.5	10.5	8	10.5
<i>Trading Across Borders</i>				
Time to export: border compliance (hours)	17	12	17	12
Time to import: border compliance (hours)	14	4	14	4
Time to export: documentary compliance (hours)	33	28.5	33	28.5
Time to import: documentary compliance (hours)	33	26	33	26
Cost to export: documentary compliance (USD)	250	150	250	150

2.1. Getting electricity

During the *Doing Business 2020* data collection cycle, the Getting Electricity indicator team identified the following positive updates to the data for Azerbaijan relative to the published data for *Doing Business 2019*:

- i. Reform of the implementation of the GIS system at the utility since June 2018, which eliminated the need to carry out site inspection and led to reduced time for issuance of the documents package with technical conditions and electrical design. Specifically, the procedure for a site inspection for technical conditions was eliminated and the time to receive the package of technical conditions and electrical design reduced.
- ii. Correction of issuance of technical conditions and electrical design in one package, which led to merging issuance of technical conditions and electrical design into one procedure.

As a result of these reforms, the number of procedures and time required to obtain a new electrical connection were reduced from 7 to 5, and from 41 to 38 days, relative to the *Doing Business 2019* published data. These updates were confirmed during the *Doing Business* team data collection mission to Azerbaijan in April 2019 as well as through additional follow-up conducted by the Getting Electricity indicator team after the mission with public sector contributors and independent contributors from the private sector. These updates were included in the dataset circulated for Bank-Wide Review on August 28, 2019.

On September 23, 2019 (after Bank-wide review), these data updates were reversed, with the result that the published *Doing Business 2020* data was the same as the *Doing Business 2019* data. These changes were not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

During the *Doing Business 2021* data collection cycle, the reform and the correction identified previously were confirmed again by independent contributors from the private sector. Furthermore, the Getting Electricity team expanded the pool of the expert contributors during the *Doing Business 2021* data collection cycle and received a new evidence about the reduction in time for issuance of technical conditions that should have been recorded in the *Doing Business 2020* data. Specifically, in the *Doing Business 2020* data collection cycle, prior to the BWR, the ‘pre-change’ time for the procedure on technical conditions and electrical design package was coded as 20 days, and the ‘pre-change’ total time for the process of getting a new electricity connection was coded as 38 days. During the *Doing Business 2021* data collection cycle, the Getting Electricity team expanded the pool of expert contributors. The new time estimates received during this cycle determined that the time for the procedure on technical conditions and electrical design package should be corrected to 14 days, and the total time required to obtain a new electrical connection will be corrected to 32 days for *Doing Business 2020*. (Table 1).

2.2. Enforcing contracts

In *Doing Business 2019*, Azerbaijan scored 6.5 points on the quality of judicial processes index (QJPI). During the *Doing Business 2020* cycle, the *Doing Business* team confirmed several updates to the data for the QJPI for Azerbaijan: a correction that decreased the score by 1 point, and several reforms that added 5 points to the QJPI. As a result, Azerbaijan’s score on the QJPI was 10.5 in the data circulated for Bank-wide review on August 28, 2019.

On September 23, 2019 (after Bank-wide review), some reforms originally recorded and confirmed by the indicator team through the standard verification process were reversed in the data, leading to a score of 8 in the QJPI in the published *Doing Business 2020* report. These changes were not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

The three reforms related to the following good practices: (i) whether new cases are assigned randomly and automatically to judges throughout the competent court; (ii) whether there is an electronic case management system for lawyers at the competent court; (iii) whether there is an electronic case management system for judges at the competent court. During the *Doing Business 2021* cycle, the team again confirmed the reforms in these three areas. Therefore, the data for *Doing Business 2020* will be corrected so that Azerbaijan scores 10.5 points in the QJPI.

2.3. Trading across borders

During the *Doing Business 2020* data collection cycle, the Trading across Borders indicator team identified several positive updates to the data for Azerbaijan: (i) reforms related to the introduction of preliminary import declarations, removal of paper document submission and simplification of customs clearance; and (ii) a correction related to the overestimation of export document

requirements in the historical data. These reforms improved the following components: “Time to export: border compliance” decreased from 17 to 12 hours; “Time to export: documentary compliance” decreased from 33 to 28.5 hours; “Time to import: border compliance” decreased from 14 to 4 hours; and “Time to import: documentary compliance” decreased from 33 to 26 hours. The correction improved the component “Cost to export: documentary compliance” from 250 to 150 USD. These updates were confirmed during the *Doing Business* team data collection mission to Azerbaijan in April 2019 as well as through additional follow-up conducted by the Trading across Borders indicator team. The updates were confirmed by public sector contributors and independent contributors from the private sector. This data was circulated for Bank-Wide Review on August 28, 2019.

On September 23, 2019 (after Bank-wide review), these updates were reversed to remove the positive reforms coded by the team, with the result that the published *Doing Business 2020* data was the same as the *Doing Business 2019* data. These changes were not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

During *Doing Business 2021* data collection, the reforms and associated data updates identified during the *Doing Business 2020* data collection cycle were confirmed again by independent contributors from the private sector. The Azerbaijan data for *Doing Business 2020* will be corrected to reflect the updates identified during the *Doing Business 2020* report cycle as described in Table 1.

2.4. Overall impact

In *Doing Business 2020*, the published score including these irregularities for Azerbaijan was 76.7 with a global ranking of 34. After correcting the irregularities, the *Doing Business 2020* score for Azerbaijan is 78.5. Taking as given the published data for all other countries³, Azerbaijan’s global ranking would be 28 and it would have been on the list of top 10 improvers in the *Doing Business 2020* report had these irregularities not occurred.

³ Each annual update of the *Doing Business* dataset includes routine revisions to the historical data for previous years, based on corrections and new information gathered by the *Doing Business* team. These data revisions are disclosed on the *Doing Business* website. Such routine revisions during the *Doing Business 2021* report cycle affecting the data for other countries for *Doing Business 2020* may affect the corrected ranking for Azerbaijan reported here although they will not affect the corrected score.

3. Doing Business 2020 – Saudi Arabia

Table 2. Summary of changes to Saudi Arabia data after *Doing Business 2020* Bank-wide review and required corrections

	DB19	DB20	DB20	DB20
	Published	Pre-Change	Published	Corrected
<i>Legal Rights (Getting Credit)</i>				
Strength of Legal Rights Index	1	3	4	3
<i>Paying Taxes</i>				
Time (hours)	39	152	104	152

3.1. Legal Rights component of Getting Credit

During the *Doing Business 2020* cycle, Saudi Arabia introduced a new secured transactions law and a new insolvency law. After an in-depth review of these laws and discussions with private sector lawyers in Saudi Arabia, the team identified reforms affecting two questions in the Legal Rights indicator: (i) the question related to the priority of secured creditors inside of bankruptcy proceedings, and (ii) the question related to out-of-court enforcement of non-possessory security interests in movable assets. As a result, the Legal Rights index increased from 1 to 3 in the data circulated for Bank-wide Review on August 28, 2019.

On September 30, 2019 (after Bank-wide review), one more point was added for the question related to allowing all debts and obligations to be secured between parties, with the result that the Legal Rights index was 4 in the data published in *Doing Business 2020*. This change was not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

The Legal Rights index will be revised back to 3 for *Doing Business 2020* (Table 2).

3.2. Paying taxes

Saudi Arabia published the Unified Agreement for VAT of the Cooperation Council for the Arab States of the Gulf in February 2017. This agreement sets forth the unified legal framework to introduce value-added tax (VAT) in the GCC states, to be imposed on the supply of goods and services. Consequently, Saudi Arabia published its VAT Law on July 28, 2017, effective from January 1, 2018. The VAT was set at a rate of 5%.

The Paying Taxes indicator in *Doing Business 2020* report measured taxes and contributions in calendar year 2018. Therefore, the VAT was included in the list of taxes reported for Saudi Arabia. The VAT is an indirect tax withheld by the firm. This affected the number of payments and time (hours) for Saudi Arabia. The number of payments increased from 3 to 4 and compliance time increased from 39 hours to 152 hours as per the Paying Taxes methodology. This update was reflected in the data circulated for Bank-wide review on August 28, 2019.

On September 30, 2019 (after Bank-wide review), the compliance time for VAT was reduced from 120 hours to 72 hours, with the result that aggregate Time (hours) was reduced from 152 hours to

104 hours. This change was not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

The Time (hours) for VAT in *Doing Business 2020* will be corrected back to 120 hours, as originally estimated based on input from private sector respondents and thorough follow up by the Paying Taxes team. Consequently, the aggregate Time (hours) in *Doing Business 2020* will be corrected back to 152 hours.

3.3. Overall impact

In *Doing Business 2020*, the published score including irregularities for Saudi Arabia was 71.6 with a global ranking of 62. After correcting these irregularities, the *Doing Business 2020* score of Saudi Arabia is 70.9. Taking as given the published data for all other countries⁴, Saudi Arabia's global ranking would be 63, and Saudi Arabia would not have been the top improving economy in *Doing Business 2020* had these data irregularities not occurred.

⁴ Each annual update of the *Doing Business* dataset includes routine revisions to the historical data for previous years, based on corrections and new information gathered by the *Doing Business* team. These data revisions are disclosed on the *Doing Business* website. Such routine revisions during the *Doing Business 2021* report cycle affecting the data for other countries for *Doing Business 2020* may affect the corrected ranking for Saudi Arabia reported here although they will not affect the corrected score.

4. Doing Business 2020 – United Arab Emirates

Table 3. Summary of changes to the United Arab Emirates data after *Doing Business 2020* Bank-wide review and required corrections

	DB19	DB20	DB20	DB20
	Published	Pre-Change	Published	Corrected
<i>Paying Taxes</i>				
Time (hours)	12	158	116	158

4.1. Paying Taxes

As of January 1, 2018, the United Arab Emirate (UAE) implemented a value-added tax per Federal Decree - Law No. 8 of 2017, which was accompanied by various VAT Executive Regulations. The VAT was applied at a rate of 5% on goods and services. The Paying Taxes indicator in *Doing Business 2020* report measured the taxes and contributions in calendar year 2018. As such, with the introduction of VAT in the UAE on January 1, 2018, the VAT was included in the list of taxes reported for the UAE. The VAT is an indirect tax withheld by the firm. This affected number of payments and Time (hours) for the UAE. The number of payments increased from 4 to 5 and hours increased from 12 hours to 158 hours per the Paying Taxes methodology. This update was reflected in the data circulated for Bank-wide review on August 28, 2019.

On September 30, 2019 (after Bank-wide review), the compliance Time (hours) for VAT was reduced from 146 hours to 104 hours, with the result that aggregate Time (hours) was reduced from 158 hours to 116 hours. This change was not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

The Time (hours) for VAT in *Doing Business 2020* will be corrected back to 146 hours which was the original time estimate based on the input from private sector respondents and thorough follow up by the Paying Taxes team. Consequently, the aggregate Time (hours) in *Doing Business 2020* will be corrected back to 158 hours.

4.2. Overall impact

In *Doing Business 2020*, the published score including this irregularity for the United Arab Emirates was 80.9 with a global ranking of 16. After correcting this irregularity, the *Doing Business 2020* score is 80.8. Taking as given the published data for all other countries⁵, the United Arab Emirates' global ranking would be unchanged at 16.

⁵ Each annual update of the *Doing Business* dataset includes routine revisions to the historical data for previous years, based on corrections and new information gathered by the *Doing Business* team. These data revisions are disclosed on the *Doing Business* website. Such routine revisions during the *Doing Business 2021* report cycle affecting the data for other countries for *Doing Business 2020* may affect the corrected ranking for the United Arab Emirates reported here although they will not affect the corrected score.

5. *Doing Business 2018* – China

Table 4. Summary of changes to the China data after *Doing Business 2018* Bank-wide review and required corrections

	DB17	DB18	DB18	DB18	DB19	DB19	DB20	DB20
	Published	Pre-Change	Published	Corrected	Published	Corrected	Published	Corrected
<i>Starting a Business</i>								
Procedures (Beijing)	9	9	7	9	4	5	3	4
Procedures (Shanghai)	9	9	7	9	4	5	4	5
Time in days (Beijing)	30	26	24	26	8	8	8	8
Time in days (Shanghai)	28	24	22	24	9	9	9	9
<i>Legal Rights (Getting Credit)</i>								
Strength of Legal Rights Index (both cities)	4	2	4	3	4	3	4	3
<i>Paying Taxes</i>								
Time in hours (Beijing)	254	245	207	243	142	140	138	136
Time in hours (Shanghai)	263	251	207	251	142	142	138	138

5.1. Starting a Business

Beijing:

During the *Doing Business 2018* data collection cycle, the team recorded no updates in the number of procedures to start a business in Beijing when compared with the data from the previous year as published in *Doing Business 2017*. Due to the implementation of a new paper-based business registration system that combined five licenses into a single business license, the team recorded a reduction of four calendar days in the time required to start a business, from 30 days to 26 days in Beijing. These updates were reflected in the data that was circulated for Bank-wide Review on August 30, 2017.

On October 19, 2017 (after Bank-wide review), two procedures (*opening a bank account and getting financial invoices*) were removed and the estimate of time to start a business was reduced by two days for Beijing. These changes were not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

After further verification with independent private sector respondents in Beijing, it was confirmed that those two procedures should be recorded in *Doing Business 2018*.

First, any new company needs to have a bank account when registering its employees with social insurance. The employer needs to give a bank account number to allow the social insurance center to directly deduct employees' contributions from that bank account. When the company is registered, the entrepreneur needs to sign a three-party agreement between the social insurance center, the company and the bank. This agreement needs to be signed before the company registers its employees at the social insurance center. This requirement was applicable as of May 1, 2017 and therefore should be reflected in the *Doing Business 2018* data. The requirement remained in

place as of May 1, 2019. This implies that the number of procedures needs to be corrected with an increase of one procedure in *Doing Business 2019* and *Doing Business 2020*.

Second, the procedure for getting financial invoices needs to be recorded in *Doing Business 2018*. Until then, taxpayers had to buy VAT and ordinary invoices from the local tax authority. These invoices could not be printed by other entities for anti-forgery reasons and could only be obtained after getting a specific authorization on the eligibility for getting financial invoices. This requirement evolved in subsequent years and no longer entailed a separate procedure. In Beijing, starting in April 2018, there was an online application available for entrepreneurs to get the authorization to obtain the invoices and request copies of the invoices at the same time. Therefore, the data for subsequent years will not be affected by this.

In *Doing Business 2019*, a reform removed the procedure for getting financial invoices as a separate process after getting the authorization on the invoice eligibility. In addition, an online platform for business registration was launched in Beijing that revamped the business registration process. In Beijing, it also became possible to obtain the company seal faster and simultaneously with a request on the Beijing online platform for company incorporation. Thanks to the implementation of those several reforms in Beijing, four procedures were removed, and time was reduced from 26 days to 8 days.

In *Doing Business 2020*, Beijing fully incorporated the process of getting the corporate seal in the registration process. Compared to *Doing Business 2019*, this led to a reduction of one procedure but no change in time because this procedure was previously conducted simultaneously with other steps.

Shanghai:

During the *Doing Business 2018* data cycle, the team recorded no updates in the number of the procedures to start a business in Shanghai compared with the data from the previous year as published in the *Doing Business 2017* report. Due to the implementation of a new paper-based business registration system that combined five licenses into a single business license, the team recorded a reduction of calendar four days in the time required to start a business, from 28 days to 24 days in Shanghai. These updates were reflected in the data that was circulated for Bank-wide Review on August 30, 2017.

On October 19, 2017 (after Bank-wide review), two procedures (*opening a bank account and getting financial invoices*) were removed and the estimate of time to start a business was reduced by two days for Shanghai. These changes were not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

After further verification with independent private sector respondents in Shanghai, it was confirmed that those two procedures should be recorded in *Doing Business 2018*.

First, any new company needs to have a bank account when registering its employees with social insurance. The employer needs to give a bank account number to allow the social insurance center to directly deduct employees' contributions from that bank account. When the company is

registered, the entrepreneur needs to sign a three-party agreement between the social insurance center, the company and the bank. This agreement needs to be signed before the company registers its employees at the social insurance center. This requirement was applicable as of May 1, 2017 and therefore should be reflected in the *Doing Business 2018* data. The requirement remains in place as of May 1, 2019. This implies that the number of procedures needs to be corrected with an increase of one procedure in *Doing Business 2019* and *Doing Business 2020*.

Second, the procedure for getting financial invoices needs to be recorded for both cities in *Doing Business 2018*. Until then, taxpayers had to buy VAT and ordinary invoices from the local tax authority. These invoices could not be printed by other entities for anti-forgery reasons and could only be obtained after getting a specific authorization on the eligibility for getting financial invoices. This requirement evolved in subsequent years and no longer entailed a separate procedure. In Shanghai, starting from January 1, 2018, entrepreneurs could apply for the authorization to obtain financial invoice online at the same time as the request for printing invoices. Therefore, the data for subsequent years will not be affected by this.

In *Doing Business 2019*, a reform removed the procedure for getting financial invoices as a separate process after getting the authorization on the invoice eligibility. In addition, an online platform for business registration was launched in Shanghai that revamped the business registration process. Thanks to the implementation of those reforms in Shanghai, four procedures were removed, and time was reduced from 24 days to 9 days.

In *Doing Business 2020*, the team recorded no updates for Shanghai.

5.2. Legal Rights component of Getting Credit

During the *Doing Business 2018* cycle, the Legal Rights indicator team identified negative corrections to the questions related to (i) priority of secured creditors inside of bankruptcy proceedings, and (ii) priority of secured creditors outside of bankruptcy proceedings. These updates led to a reduction in the Legal Rights index from 4 to 2 for both Beijing and Shanghai, and were reflected in the data circulated for Bank-wide Review on August 30, 2017. On September 15, 2017 (during the Bank-wide Review period) the Legal Rights team received new evidence from private sector contributors and based on this reversed the negative correction made on the question related to priority of secured creditors inside of bankruptcy proceedings.

On October 19, 2017 (after Bank-wide Review), the second negative correction made on the question related to priority of secured creditors outside of bankruptcy proceedings was removed with the result that the score of China on the Legal Rights indicator did not change during the *Doing Business 2018* cycle and was equal to 4. This change was not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

As no justification was provided for this change, and as the team has not identified any subsequent reforms affecting this indicator, the value of the Legal Rights indicator will be restored to 3 in *Doing Business 2018, 2019, 2020*⁶.

5.3. Paying taxes

In *Doing Business 2018*, the team recorded data updates due to the rollout of the Business Tax to VAT (B2V) reform that occurred in 2016 (the reference year for this report). This increased the number of input VAT invoices that a taxpayer would receive and verify, and the VAT return become more complex. These factors contributed to increased estimates of VAT compliance time reported by contributors for both Beijing and Shanghai in *Doing Business 2018* compared to the previous year. Additionally, China implemented several administrative reforms during 2016 that resulted in a decrease in the compliance time for corporate income tax and labor contributions. The combined effect of these reforms was to reduce overall compliance time for Beijing from 254 to 245 hours and for Shanghai from 263 to 251 hours, relative to the *Doing Business 2017* report. These updates were reflected in the data that was circulated for Bank-wide review on August 30, 2017.

Beijing:

On October 19, 2017 (after Bank-wide review), the compliance time for the mandatory labor contributions was reduced from 96 hours to 91 hours and the compliance time for VAT was reduced from 97 hours to 64 hours. As a result of this change, aggregate Time (hours) was reduced from 245 hours to 207 hours. These changes were not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

The Time (hours) for the labor contributions in *Doing Business 2018* will be corrected back to 94 hours. It will not be corrected to the original value of 96 hours because, after verification this year with private sector respondents, two hours should be removed as a result of a missed reform for Beijing that should have been captured in *Doing Business 2018*. After thorough follow-up by the Paying Taxes team this year, it was confirmed that Beijing had synchronized the timing of the annual update of the housing funds and social security contributions in 2014. The legislation Jingshebaofa [2014] No.23 adjusted the timing to update the base and the salary level of the social security contributions from April to July, together with the housing fund. The Time (hours) for VAT in *Doing Business 2018* will be corrected back to 97 hours which was the original time estimate based on input from private sector respondents and thorough follow-up by the Paying taxes team. As a result, the overall Time (hours) indicator will be corrected back to 243 for *Doing Business 2018*.

Due to a set of administrative reforms during the *Doing Business 2019* data cycle (calendar year 2017 for the Paying taxes indicator) and *Doing Business 2020* data cycle (calendar year 2018 for this indicator), there were further reductions in estimated compliance time, to 142 and 138 hours respectively, as published in these reports. These will be revised to 140 and 136 hours respectively

⁶ The change to the data on the question related to priority of secured creditors outside of bankruptcy proceedings will impact the score of Shanghai as of the *Doing Business 2005* report and the score of Beijing as of the *Doing Business 2014* report.

to reflect the reduction in two hours noted in the previous paragraph that was identified during the *Doing Business 2021* data cycle and is unrelated to the data irregularities.

Shanghai:

On October 19, 2017 (after Bank-wide review), compliance time for mandatory labor contributions was reduced from 99 hours to 91 hours and compliance for VAT was reduced from 100 hours to 64 hours. As a result of this change, aggregate Time (hours) was reduced from 251 hours to 207 hours. These changes were not justified by the *Doing Business* methodology or by any new information provided to the *Doing Business* team.

The Time (hours) for the labor contributions in *Doing Business 2018* will be corrected back to 99 hours and the Time (hours) for VAT in *Doing Business 2018* will be corrected back to 100 hours. These were the original time estimates which were based on input from private sector respondents and thorough follow-up by the Paying Taxes team. As a result, the overall Time (hours) indicator will be corrected back to 251 for *Doing Business 2018*.

Due to a set of administrative reforms captured during the *Doing Business 2019* data cycle (calendar year 2017) and *Doing Business 2020* data cycle (calendar year 2018), overall Time (hours) fell to 142 and 138 hours respectively.

5.4. Overall impact

In *Doing Business 2018*, the published score including irregularities for China was 65.3 with a global ranking of 78 – identical to its rank in the *Doing Business 2017* report. After correcting the irregularities described above, the *Doing Business 2018* score of China is 64.5. Taking as given the published data for all other countries⁷, China's global ranking in *Doing Business 2018* would have been 85, a decline of 7 places relative to the previous year.

⁷ Each annual update of the *Doing Business* dataset includes routine revisions to the historical data for previous years, based on corrections and new information gathered by the *Doing Business* team. These data revisions are disclosed on the *Doing Business* website. Such routine revisions during the *Doing Business 2021* report cycle affecting the data for other countries for *Doing Business 2018* may affect the corrected ranking for China reported here although they will not affect the corrected score.

Annex 1: *Doing Business* Data Collection and Review Process

This Annex summarizes the data collection and review process used by the *Doing Business* team during the *Doing Business 2020* report cycle. The process was similar during the *Doing Business 2016* to *Doing Business 2019* report cycles.

Data collection and review prior to Bank-wide Review

The *Doing Business* team is comprised of the management team and 11 topic teams: Starting a Business, Dealing with Construction Permits, Getting Electricity, Registering Property, Legal Rights (part of Getting Credit topic), Credit Information (part of Getting Credit topic), Protecting Minority Investors, Paying Taxes, Trading Across Borders, Enforcing Contracts, and Resolving Insolvency.

Each topic team is comprised of one topic leader and 2-5 analysts. For every report cycle, each topic team collects and analyzes data for 191 economies, which are distributed among the team members mainly based on language skills and years of experience. Each topic team member - topic leader included - is responsible for collecting data in the assigned set of economies through questionnaires and telephone interviews with *Doing Business* contributors, undertaking rounds of follow-up to verify potential changes, conducting independent research, and analyzing and coding data in the Data Management System (DMS). This process of coding involves documenting any changes, including data updates from one year to another, and refining the historical data as needed based on any new information received during the data collection cycle.

It is important to note that there is extensive external consultation and scrutiny of the data during the data collection period. During each data collection cycle, the *Doing Business* team receives information from governments and World Bank colleagues suggesting potential reforms and data corrections to the data of economies they represent. These are received via “Data Update Submissions” (DUS). The team reviews such information, follows up on it with private sector respondents in the economy in question, incorporates confirmed changes to the data and finally provides a written response to the received information (the “DUS Response”). When the DUS is submitted by World Bank colleagues, the *Doing Business* team response is sent to the person who submitted it, the relevant country director, country manager, operations manager, as well as members of the Global Practices and International Financial Corporation (IFC), such as the Equitable Growth, Finance and Institutions (EFI) program leader, the Finance, Competitiveness and Innovation (FCI) lead or country specialist, the EFI regional director, the Macroeconomics, Trade and Investment (MTI) practice manager, IFC advisory services, IFC director, IFC country manager, IFC representative or country officer, and strategy officer. When the DUS is submitted by governments, the response is sent to the person who submitted it, the same recipient list to DUS received from colleagues, and the relevant World Bank Executive Director and alternate Executive Director.

For every topic, the review process of the data for each economy starts with the three-layer review and approval in DMS: approval by the topic leader, peer-review by the data reviewer (usually the topic leader from another topic area) and review by the data manager. The review process is intended to ensure the consistent application of methodology across all economies, to verify that

the minimum level of confirmations from private sector respondents required to justify a data update, and to validate the technical analysis of the data. If this data review results in a need to make any change to the data or fix errors, it requires sending back the data for the economy in question to the relevant analyst, who updates the data as required and provides written explanations on the changes implemented in DMS. The data again needs to pass all three levels of review and approval, which are recorded in DMS.⁸

After all the data are cleared by all reviewers in DMS, the team holds two data review meetings for each topic: (i) one meeting chaired by the data manager and (ii) one meeting chaired by the *Doing Business* manager, DECIG senior manager/director and often with a representative of DEC management. During these two rounds of meetings, participants discuss data changes within each topic. These data review meetings may result in requests to further review the data and update if warranted, e.g. requests to increase the level of contributor confirmations for an economy with substantial data changes.

Once the data are finalized and ready for BWR, the data for all economies and topics are locked in DMS. That means that staff cannot make any changes to the data in DMS during and after the BWR process without the approval of the data manager.

Bank-wide Review and subsequent data changes.

Roughly 8 weeks prior to the publication of the report, the draft report and the data are circulated widely within the Bank for Bank-wide Review (BWR). In addition, a description of the reforms that will be reflected in the upcoming data are shared with country authorities via World Bank Executive Directors, who receive “Reform Update Memos” (RUM) providing this information.

During the BWR process, colleagues across the World Bank Group submit comments on the draft *Doing Business* report, data, and the DUS Response. Some of these comments could be related to specific datapoints including information that was not available before BWR. The *Doing Business* team checks these data specific comments and verifies the provided information with private sector respondents in the economy in question. In addition, the team occasionally receives more information and/or evidence from governments pursuant to the RUMs or the DUS Response notes. This information is also followed-up on by the team with private sector respondents and incorporated in the data where relevant and when confirmed. The *Doing Business* team then provides a written response only to comments received from bank colleagues during BWR.

As a result of the checks, if data need to be updated, then the economy under consideration needs to be ‘unlocked’ in DMS to change the data. To unlock an economy, a specific process is followed: the topic leader sends an email to the data manager and data reviewer explaining what datapoints need to be changed and the justification for this change. Both data reviewer and data manager clear the justification by email. Once the proposed change is cleared, only the product administrator has the authority to unlock the economy in DMS to enter the change.

⁸ Capturing the mandatory three levels of review in DMS was systematically implemented by the *Doing Business* team beginning in the *Doing Business* 2019 report cycle.

For the Paying Taxes topic, in parallel to the BWR process, the Paying Taxes data is reviewed by Pricewaterhouse Coopers (PwC) which partners with the *Doing Business* team in the production of the data for this topic. The data that is shared with PwC includes the tax financial statements of the case study company and the core data of the post filing index. The overall Paying Taxes scores are not shared with PwC. Each PwC jurisdiction reviews the data for the respective country and sends back comments (if any) to the *Doing Business* team. These comments include bringing to the attention of the team a change in the area of taxation, a check on a formula in the financial statements or a check on the application of a specific tax policy reform, among others. The *Doing Business* team then validates these comments by proceeding with the same process of coding and reviewing the data as explained above, i.e. corroborating these possible changes with other private sector respondents, checking the laws when applicable and if the change is validated, the topic leader requests the data manager to ‘unlock’ the country. Then the data change is entered following the three layers of review and approval described above.

During the BWR period, the team also initiates corrections and refinements to the data resulting from their final review and checking of the data prior to publication. Any data updates arising out of this process also require the topic leader to request the data manager to ‘unlock’ the country, and the data update is entered subject to the three layers of review and approval described above.

Annex 2: Methodology Followed by DEC Management to Review Post-BWR Data Changes

This Annex describes the approach taken by DEC management to review post-BWR data changes in order to verify and document the data irregularities described in the main text. The approach proceeded in four steps:

Step 1: Confirmation of the Reported Data Irregularities

After receiving reports of data irregularities from *Doing Business* staff, DEC management requested the *Doing Business* team to provide the “master files” tracking post-BWR data changes for the DB16-DB20 report cycles. A review of the entries in these files confirmed that the data irregularities reported by the *Doing Business* team members to DEC management in fact were present as entries in the master files as described by the *Doing Business* staff members and lacked adequate documentation.

Step 2: Soliciting Feedback on Other Possible Irregularities

DEC management prepared an Excel file consolidating all post-BWR data changes identified in the five master files described above. This file was distributed by confidential email to *Doing Business* topic leaders from the past five *Doing Business* report cycles, requesting topic leaders to identify any cases where they felt pressured to change the data in ways that were incompatible with the *Doing Business* methodology and the information gathered by the team. Topic leaders were given two weeks to respond. Email and/or phone responses were received from all topic leaders, with multiple follow-ups between DEC management and individual *Doing Business* topic leaders to clarify details of responses provided. To confirm concerns raised by *Doing Business* topic leaders as cases of data irregularities, DEC management relied on factors including whether cases were identified as inappropriate by multiple topic leaders combined with limited or missing documentation in the master files.⁹

Step 3: Documenting Data Irregularities

In August and September, DEC management worked with *Doing Business* topic leaders for the topics affected by the data irregularities for the four countries, to prepare the detailed description of the data irregularities and the changes needed to correct them. This information is provided in the main text of this document.

Step 4: Documenting all Post-BWR Data Updates

As discussed in the main text, the irregularities occurred after the data had been circulated for BWR. During this period, there are also many updates to the data reflecting the team’s work to finalize the data and to respond to BWR comments. Although this work is unrelated to the data

⁹ In addition to the specific instances of inappropriate data changes to the four countries described in this document, in response to this request for feedback *Doing Business* topic leaders reported concerns about (i) efforts by some governments to unduly influence *Doing Business* contributors and the *Doing Business* data collection process, (ii) pressures for inconsistent application of the data collection methodology to some countries, and (iii) an unusual last-minute change in the coding methodology for a component of the Getting Electricity indicator in *Doing Business* 2016 that affected the data for five countries. Although follow-up discussions with *Doing Business* team members did not result in reports of specific instructions to inappropriately change data in these cases, following the recommendations of the GIA Assurance Review of *Doing Business*, DEC management is developing protocols and safeguards to address the risk of such events occurring in the future.

irregularities described in the main text, since none of these data updates were subsequently reviewed outside the *Doing Business* team, and in the interests of transparency, DEC management is publishing the complete set of all data changes during this period, for the past five *Doing Business* report cycles. The full set of data changes was identified by retrieving the *Doing Business* datasets as circulated for BWR and the final published versions and doing a point-by-point comparison of all changes. Written documentation for each change was provided by the *Doing Business* topic leaders. In addition, for all such changes with corresponding master file entries, the contemporaneous documentation was retrieved from the master files, anonymized to remove names of individual *Doing Business* team members and contributors, and reported in the file. These files accompany the documentation of the DEC review.

The World Bank Group Internal Audit (GIA) has issued a [Verification Report](#) on the DEC management review process, which concludes that the review process as defined by management was sufficiently complete to identify data irregularities.