Transaction-based Interest Rate Benchmarks

GPW BENCHMARK

Information about the impact of Data Transmission Audit on WIRON

Warsaw, January 2023

Spis treści

1. Introduction

1. On December 28, 2022, the Administrator informed about the recalculation of the historical values of the WIRON index following the obligatory audits related to the processes of identification, qualification and transfer of transaction data to the Administrator, that have been imposed on contributors.
2. All the data contributors to GPW Benchmark have participated in the Data Transmission Audit (Audit). The Administrator's decision to conduct the Audit followed an information provided by one of the data contributors, who noted an incorrectly functioning algorithm responsible for internal transfer of input data to the WIRON in the segment of corporate deposits.
3. Based on the recommendation of the Oversight Committee, the Administrator required from all of the data contributors i.e. banks that have assumed such a role in relations with the Administrator based on the Code of Conduct, to audit the processes of identification, qualification and transfer of transaction data used in the process of indexes determination by the Administrator. The purpose of the audit was to identify whether there were (1) errors in the implementation of IT tools (including algorithms) that could have a lasting impact on the quality of the transferred data (systematic incorrect attribution of some information regarding transaction data) and (2) errors in the classification of entities with which data contributors (i.e. banks) made transactions with, for example, due to systematically incorrect classification of the enterprise as a Large Enterprise as set in the Data Delivery Procedures.
4. An error of a systematic nature is considered to be a repetitive error that did not result from the individual nature of a single transaction, but from the elements being a part of data related procedures, which could have led to the lasting irregularities in the process of reporting transactional data in case of a specific group or type of transaction.
5. The revision of transactional data affected mainly deposits of large enterprises and consisted of the correction of the classification of entities as Large Enterprises and the verification of recorded mismatches in IT systems among data contributors. The revision of transaction data in the case of deposits of financial institutions and other financial institutions concerned mainly differences in the classification of some entities between these two categories, e.g. in the classification of investment fund companies.
6. The principles for conducting the test were specified by the Administrator and assumed full verification of the technical, procedural and content-related parameters of the process.
7. If irregularities were identified, the entity was obliged to deliver a fully verified database, cleared of a systematic error, for the period constituting the historical base of the WIRON and thus the period of WIRON provision in accordance with the WIRON documentation, i.e. starting from 2019.
8. Preparation and delivery of fully revised historical database of the WIRON index based on confirmed transaction data is a crucial element for an adequate preparation new index introduction to the market, primarily due to ensuring (1) the medium-term time series of the index necessary for the re-calibration of pricing models (especially relevant in the process of indices replacement) and (2) representativeness of the adjustment spread to the greatest possible extent[1].
9. Administrator does not provide public information about the data contributors or the scale or types of errors and incorrectness of algorithms or data classification, as such information is

[1] As regards the data for 2017 and 2018 Administrator based calculation and presentation on a proxy data that has been so far transferred to the Administrator. As presented on the Administrator's website GPW Benchmark - Historical Data, pre-production history of WIRON starts In January 2019.

not a public information. GPW Benchmark presents only information that allows for the presentation of the principles of conducted actions without any impact on the disclosure of information regarding an individual entity or entities.

2. Statistical information

1. The revision of transactional data stemming from the above mentioned procedure reduced the level of the WIRON on average by 0.5 bp (0.005 pp), i.e. to a small extent. In absolute terms (the modulus of the differences between the old and new time series), the difference was 0.6 bp (0,006 pp).
2. The revision of transactional data was associated with a noticeable increase in the volume of the eligible transaction pool for WIRON. In aggregate terms over the entire audit period the total volume of transactions increased by PLN 110.8 bn, which translates into an increase in the average daily volume of transaction by PLN 110 mn, i.e. by approx. 1.2% compared to the transaction data base before the revision of transaction data.
3. Slightly more than half of the WIRON data readings during the audit period (524 out of a total of 1007, i.e. approx. 52%) noted a change due to the revision of transaction data. The adjustment period resulted from the Data Transmission Audit and ended up on 22nd December 2022[2].
4. Within those 524 observations – for 449 days on which WIRON was changed after the revision - a decrease of an index values by an average 0.012 pp (1.2 bp) was noted, while for 75 observations - an increase by an average of 0.005 pp (0.5 bp) after the revision was recorded.
5. Within the 524 observations that recorded a change in the level of the index, the vast majority, i.e. 422 observations, were such changes that would not have been qualified for revision if the WIRON Interest Rate Index Rules (hereinafter: "Rules") were in force at the time of the calculation. In point 4 the Rules it is specified that the re-determination and re-distributions of the results for the WIRON index takes place only when "the difference resulting from the comparison referred to in point 4.2.1 be not less than 2 basis points". Point 4 of the Rules also provides that a re-determination is only made when information about an error in the input data is provided by the contributors on the date of index determination during the "window" specified in the Rules for submitting information about errors and corrected input data. The introduction of the possibility of index re-determination only on a given day, no later than at the time of re-distribution defined in the Rules, defines the framework of action that cannot be exceeded by the Administrator. The principles adopted by the Administrator reflect global standards, under which value revisions are made only on the date of index determination, and in the event of errors or irregularities regarding the previously submitted transaction data (e.g. late submission of data), some administrators publish disclosures on an impact (ex post) of such data on the index level without retroactively changing the history of this index[3].
   The most significant differences in absolute terms, i.e. equal to or exceeding 10 bp, occurred 3 times during the sample (audit) period, changes lower than 10 bp but not lower than 5 bp

[2] Revision has been made on 27th of December 2022.
[3] Compare. https://www.emmi-benchmarks.eu/globalassets/documents/pdf/euribor/d0396--2022-euribor-reported-revisions_public---q2.pdf; https://www.riksbank.se/globalassets/media/statistik/swestr/report-transaction-dataset/2022/report-on-the-transaction-dataset---tertial-3-2021.pdf, or https://www.ecb.europa.eu/stats/financial_markets_and_interest_rates/euro_short-term_rate/transparency/html/ecb.ete211102.en.pdf?d742fb1b508aee49958989523d79f909

were observed 14 times, and observations that are lower than 5 bp but not lower than 2 bps, occurred 85 times.

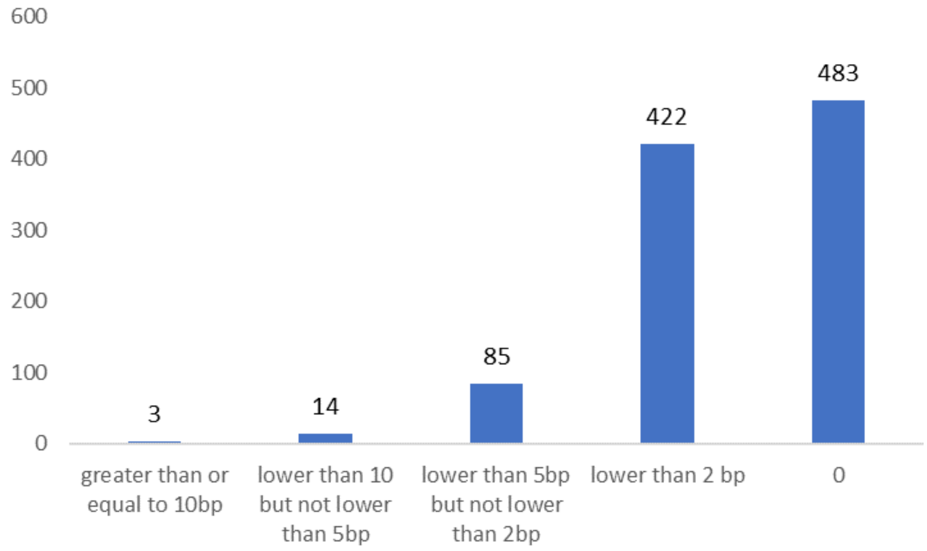

Figure 1 Presentation of a frequency of observations group by a scale of the absolute difference between WIRON before and after data revision following the Data Transmission Audit

6. Administrator decided to carry out a full index recalculation, and not only to present the disclosure of information, taking into account the need to ensure full adequacy of the index history and to enforce an index implementation phase (as no entities used or applied index actively at the time of recalculation).
7. As Rules entered into force on December 1, 2022, the Administrator could not perform any activities related to the index determination, which are not specified in the Rules. The obligation imposed on GPW Benchmark by the KNF enabled the Administrator to recalculate the WIRON index for the period after December 1, 2022, i.e. after the Regulations came into force, while Administrator, having such possibility, decided to revise the historical values of the index for the period before December 1 2022.

3. Index plot- comparison

1. The plots of WIRON index before and after the revision of transactional data are presented in Figure 2. The upper figure shows the index before and after and difference between them in the index's presentation scale.

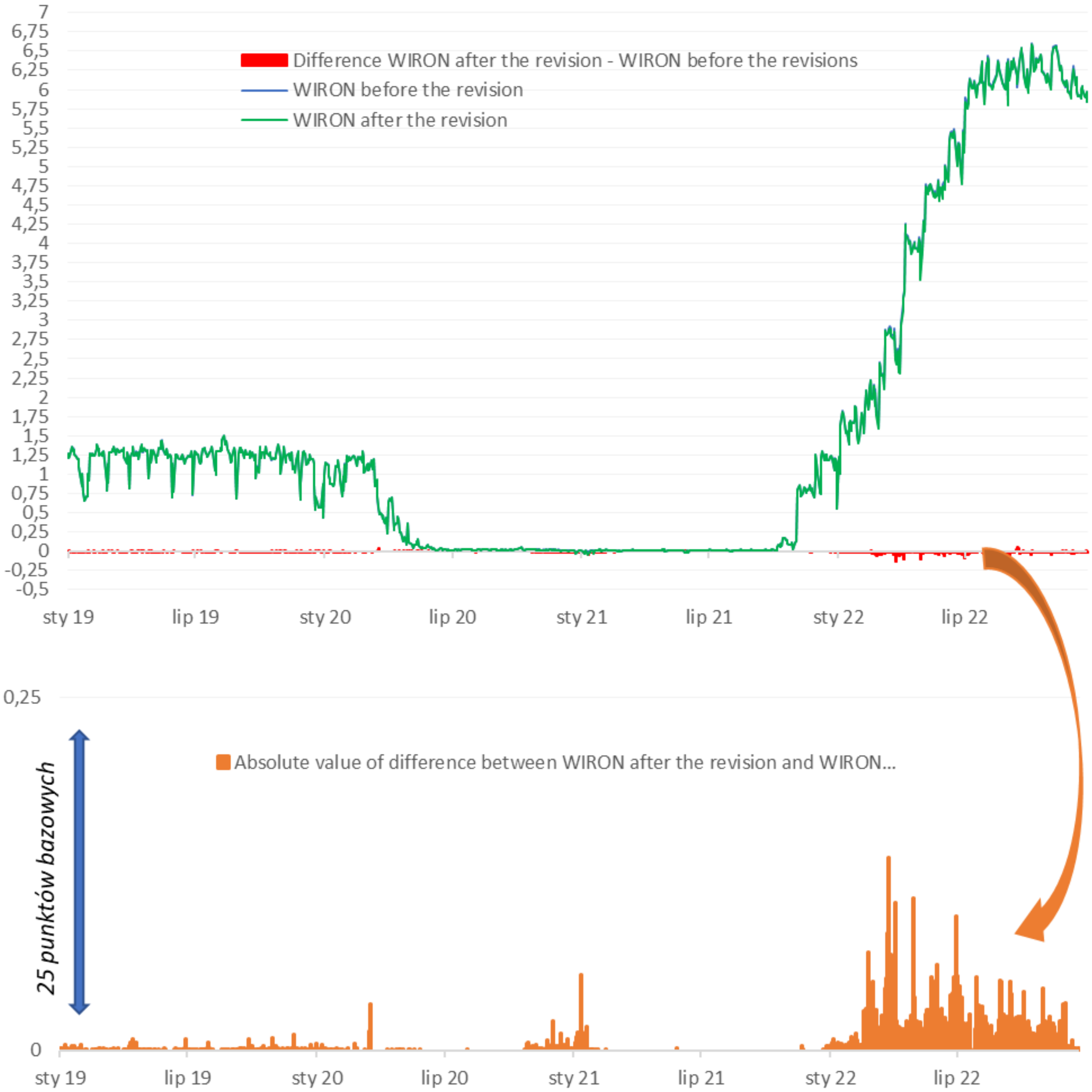

Figure 2 - WIRON index after the data revision carried out in December 2022 and before the data revision, and the difference compared with WIRON index (on a scale of an index) together with the difference expressed in absolute values (on a scale of 25 basis points). The grid lines in the upper chart are set in units of 25 bp. The lower chart, presenting the absolute values of the differences between the WIRON index before and after the revision, is presented on a scale of 25 basis points in order to present the range of differences presented in an "enlarged" scale of an ordinate axis.

2. The largest scale of differences was recorded in 2022 due to the increased activity in the segment of corporate deposits. In this segment, as specified in point 4 of Introductions, the prevailing frequency of irregularities was noted, that led to persistent errors in the procedures of transaction data transfer it concerned, for example, a specific group or type of transaction.

3. The greatest average impact on WIRON values was recorded in 2022 (the average level of change was 2 bp (0.020 pp), and its median - 1.6 bp (0.016 pp). In 2022, the level of absolute difference

measured by the 90th percentile of the distribution was at the level of 0.042 pp (i.e. 4.2 pp), while in previous years this statistics did not exceed the level of 0.002 pp [4].

[4] The 90th percentile was calculated in order to show that the vast majority of observations (i.e. 90%) were below level indicated by this measure. In principle, this means that during 90% of the days in the 2022, an absolute difference recorded was equal to or lower than this percentile, i.e. 4.2 bps (for 2022), while during 10% of the days in the 2022, an absolute difference recorded was higher than this level.