



Change of the WIG20, mWIG40, sWIG80, and WIG30 Methodology

Consultation Paper

Warsaw, December 2020

GPW Benchmark, licensed administrator of benchmarks, acting in accordance with the Rules of the GPW Indices Family and consistently with the rules of introducing changes to the method of their determination, opens public consultation concerning the changes in elements of method of determination of GPW Indices: WIG20, mWIG40, sWIG80 and WIG30.

Public consultations were preceded by a stage of internal consultations, which the Administrator had conducted with the main advisory body namely Stock Indices Committee, associating experts active in the capital market, and the Oversight Committee of Capital Market Benchmarks (Oversight Committee WRK), i.e. the supervisory body in the meaning of the BMR Regulation.

The consultation document presents proposals for changes defined throughout the analytical process carried out within the defined analysis periods, the results of which are presented in detail in this document.

The main goal of the proposed changes is to respond to the interest and requests of market participants while providing effective tools to ensure the representativeness of flagship Indices in accordance with the purpose of their measurement as expressed in the Rules of the GPW Indices Family.

Participants of the consultation process are invited to send their opinions and responses to the questionnaire until 8th January 2021 at indeksy@gpwbenchmark.pl.

I. SCOPE OF THE PROPOSED CHANGE OF THE METHODOLOGY

Consultation paper presents three changes of the method of determining of GPW Indices, with regard to the selection of companies for the WIG20, mWIG40, sWIG80, and WIG30 rankings, proposed and planned to be implemented as of March 2021, coinciding with the annual revision of the Indices. Administrator has qualified those changes as significant, thus requiring public consultations with GPW Indices users.

The changes of the methodology involve:

- the introduction of a turnover ratio as an additional selection criterion of companies participating in WIG20, mWIG40, sWIG80, and WIG30;
- an adjustment of the scoring method of the WIG20, mWIG40, sWIG80, and WIG30 rankings;
- a change of the selection method of dual-listed companies for mWIG40 and sWIG80.

II. GROUNDS OF THE PROPOSAL

Administrator states that the proposed changes of the classification methodology address:

- a) expectations of the market (Indices' users) concerning the representativeness and quality of the Indices including its reliability as well as stability of companies participating in the Index portfolios;
- b) the requirement for the Administrator to ensure conditions and rules of Indices' provision, that no arbitrary decision of the Administrator is required in the event of extraordinary corrections in accordance with the objectively applied methodology of each Index;
- c) the requirement of transparent selection of companies participating in the portfolios;
- d) the requirement for the Administrator to meet both expectations referred to above at the same time by constructing such selection methods of qualifying companies to GPW Indices portfolios which address current market needs and the reputation of those Indices.

III. THE SCOPE OF PROPOSED CHANGES

1. Implementation of a turnover ratio as an additional selection criterion of companies participating in WIG20, mWIG40, sWIG80, and WIG30

The Administrator has recently been alerted to cases of companies which are eligible to participate in one of the aforementioned indices in accordance with the applicable methodology but the proportion of their free-float shares only modestly exceeds the 10% limit set in the methodology, resulting also in low average EOB turnover of their shares. Such companies are selected for indices such as mWIG40 owing to single transactions of above-average value which impact the total turnover considered in the index ranking, consistently with current rules. It has been stressed that those circumstances do not ensure that market participants can freely buy and sell shares of companies participating in the indices considered to be liquid.

Consequently, the Administrator is proposing to add another selection criterion based on the median turnover ratio in the time horizon of the ranking.

1.1 The turnover ratio is to be calculated according to the following formula:

Daily Turnover Ratio (DTR) (%) = daily turnover volume / number of free-float shares*

*as at the end of a month

Monthly Turnover Ratio (MTR) (%) = median [DTR (%)]

Example:

DTR (%) = 20,000/20,000,000 = 0.1%

DTR values

trading day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DTR (%)	0.10	0.45	0.12	0.12	0.01	0.11	0.12	0.25	0.01	0.02	0.20	0.15	0.13	0.12	0.08	0.06	0.00	0.01	0.01	0.22

DTR values in the ascending order

trading day	17	5	9	18	19	10	16	15	1	6	4	7	3	14	13	12	11	20	8	2
DTR (%)	0.00	0.01	0.01	0.01	0.01	0.02	0.06	0.08	0.10	0.11	0.12	0.12	0.12	0.12	0.13	0.15	0.20	0.22	0.25	0.45

MTR (%) = (0.11+0.12)/2 = 0.1150%

1.2 DTR values have been computed based on historical data for the past 12 years taking into account differences resulting from the liquidity of shares, depending on the index:

- for WIG20, MTR = 0.0500,
- for mWIG40, MTR = 0.0100,
- for sWIG80, MTR = 0.0010.

The DTR values have been tested for periods of high liquidity as well as periods of low liquidity (measured by turnover value) in order to confirm that the ratios and their levels are effective under different market conditions. Nonetheless, the Administrator assumes periodic verification of the ratios in order to adjust them to prevailing market conditions.

The ratios are to be verified on an annual basis using data for the past 12 months (from February to January of the current year) and published on the Administrator's website (www.gpwbenchmark.pl) after the close of the fifth trading day in February.

1.3 The Administrator is proposing to verify each company's MTR in each ranking using the available last 12 values (for the last twelve months), e.g. for the quarterly correction of an index ranking each December, prepared in November, the ratios to be verified will cover data for the period from November (of the previous year) to October (of the current year). The ratios will be verified in two steps:

- in the first step, to be selected for the index, companies must exceed the MTR in eight out of twelve months. If the criterion is met, the verification is successful.
- if a company fails to meet the index selection criterion in step 1, it enters verification step 2, where it must exceed the MTR in four out of the last six months. If the criterion is met, the verification is successful.

Example:

MTR for mWIG40	Number of months with passed MTR in the last 12 months
0,0100	8
	Number of months with passed MTR in the last 6 months
	4

Step I

Company/Month	2019-11	2019-12	2020-01	2020-02	2020-03	2020-04	2020-05	2020-06	2020-07	2020-08	2020-09	2020-10	Step I	Notices
AAA	0.1992	0.2127	0.1802	0.2828	0.2586	0.4652	0.8291	0.5607	0.6616	0.7761	0.4013	0.2605	12/12	company passed MTR criterium
BBB	0.0097	0.0082	0.0176	0.0121	0.0088	0.0372	0.1075	0.0234	0.0600	0.0342	0.0217	0.0453	9/12	company passed MTR criterium
CCC	0.0054	0.0034	0.0105	0.0053	0.0083	0.0077	0.0142	0.0082	0.0072	0.0183	0.0055	0.0054	3/12	company didn't passed MTR criterium
DDD	0.0003	0.0061	0.0093	0.0720	0.0003	0.0032	0.0248	0.4217	0.3377	0.5048	0.2808	0.2474	7/12	company didn't passed MTR criterium
EEE	0.0093	0.0014	0.0037	0.0018	0.0148	0.0558	0.0137	0.0579	0.0372	0.0151	0.0001	0.0002	6/12	company didn't passed MTR criterium

Step II

Company/Month	2019-11	2019-12	2020-01	2020-02	2020-03	2020-04	2020-05	2020-06	2020-07	2020-08	2020-09	2020-10	Step II	Notices
CCC	0.0054	0.0034	0.0105	0.0053	0.0083	0.0077	0.0142	0.0082	0.0072	0.0183	0.0055	0.0054	2/6	company didn't passed MTR criterium
DDD	0.0003	0.0061	0.0093	0.0720	0.0003	0.0032	0.0248	0.4217	0.3377	0.5048	0.2808	0.2474	6/6	company passed MTR criterium
EEE	0.0093	0.0014	0.0037	0.0018	0.0148	0.0558	0.0137	0.0579	0.0372	0.0151	0.0001	0.0002	4/6	company passed MTR criterium

If a company fails to meet the MTR verification criterion in step 1 and in step 2, it cannot be selected for the index even if it meets the other criteria, including the turnover value or the free-float share value, considered in the ranking of companies.

The ratio is not to be verified for companies selected for WIG20 in the fast-track procedure in the first twelve months after the IPO.

1.4 The addition of the new selection criterion for the WIG20, mWIG40, sWIG80, and WIG30 rankings, as proposed by the Administrator, requires that the bottom range of the company rankings be extended.

At present, to remain in the mWIG40 portfolio, companies must rank at least #60 in the annual revision and at least #70 in the quarterly correction. The limits for sWIG80 are, respectively, #145 in the revision and #155 in the correction.

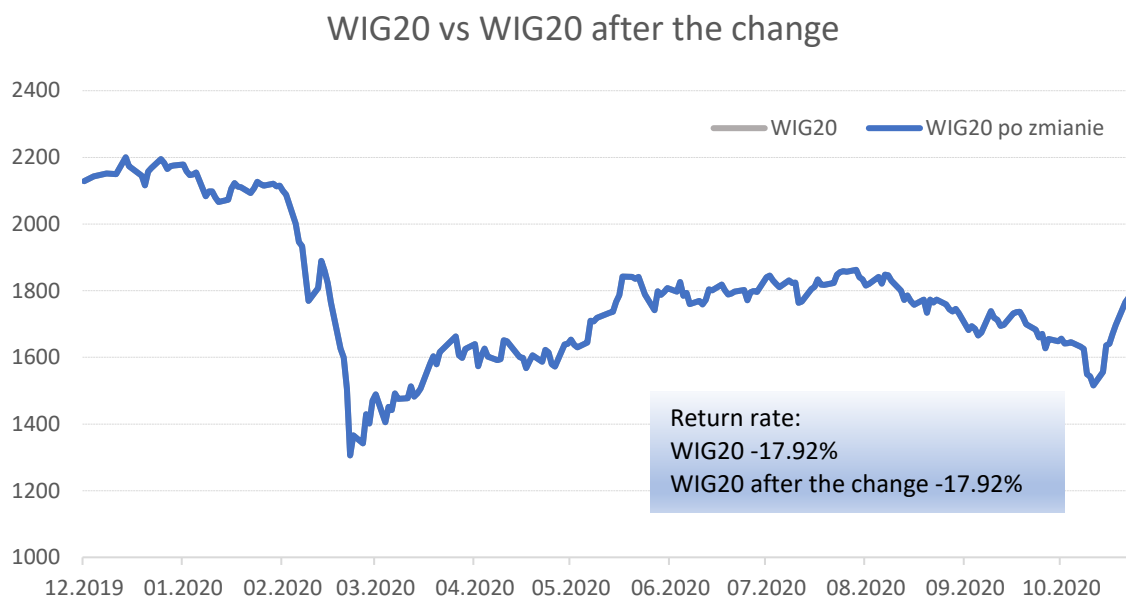
The new relaxed limits after the change are as follows:

- #65 in the annual revision and #75 in the quarterly correction for mWIG40,
- #150 in the annual revision and #160 in the quarterly correction for sWIG80,
- no change for WIG20 and WIG30.

The Administrator is proposing to introduce more relaxed limits of company rankings for the indices because the additional criterion may eliminate companies which have so far complied with the index criteria. The extension of the bottom limit extends the list of companies which may be eligible to participate in the index, in particular by preventing a shortage of companies participating in the index if such companies meet the additional criterion and could be selected for the index. In other words, lacking a more liberal approach, mWIG40 could in the extreme case have fewer than 40 participating companies and sWIG80, fewer than 80 companies.

The charts below present the impact of the additional criterion (MTR) on index values resulting from changes to the index portfolios:

Figure 1*



**WIG20 – the introduction of the ratio does not change the index portfolio as compared to the current methodology*

Figure 2

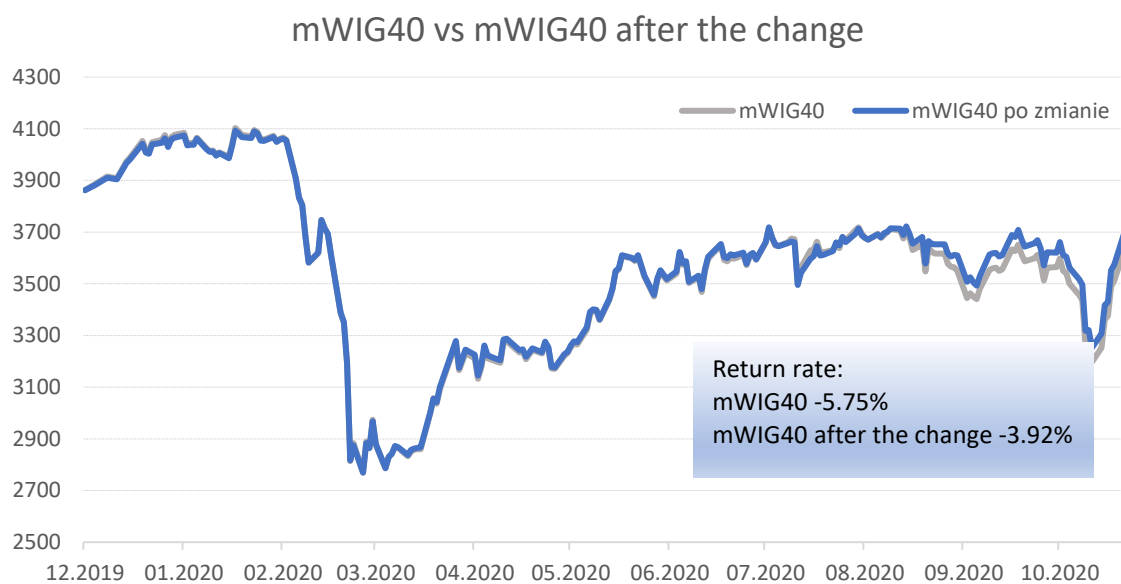


Figure 3

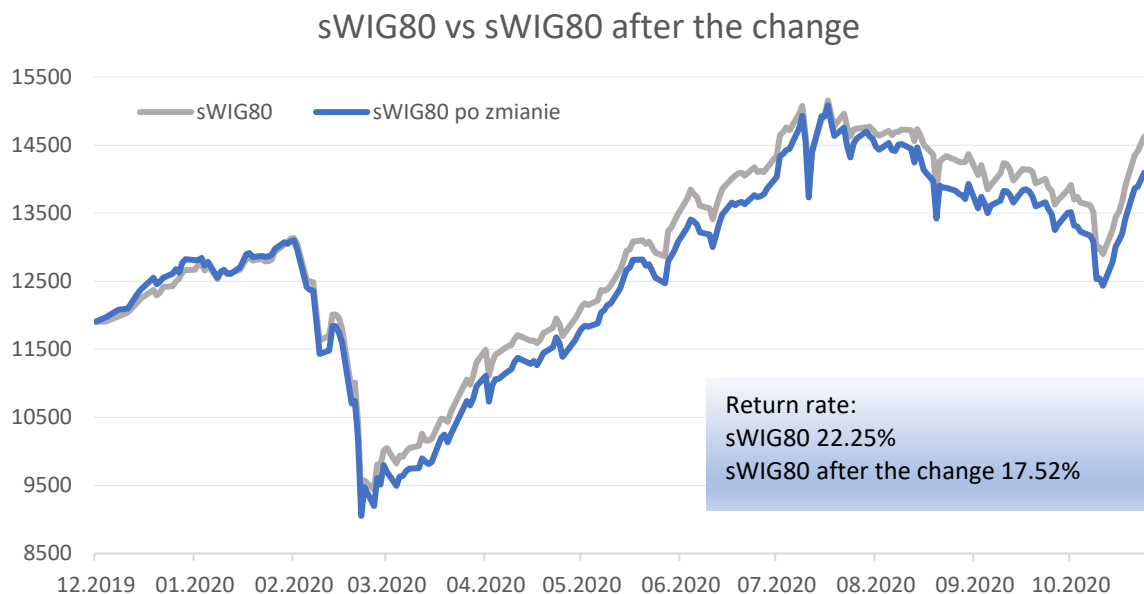
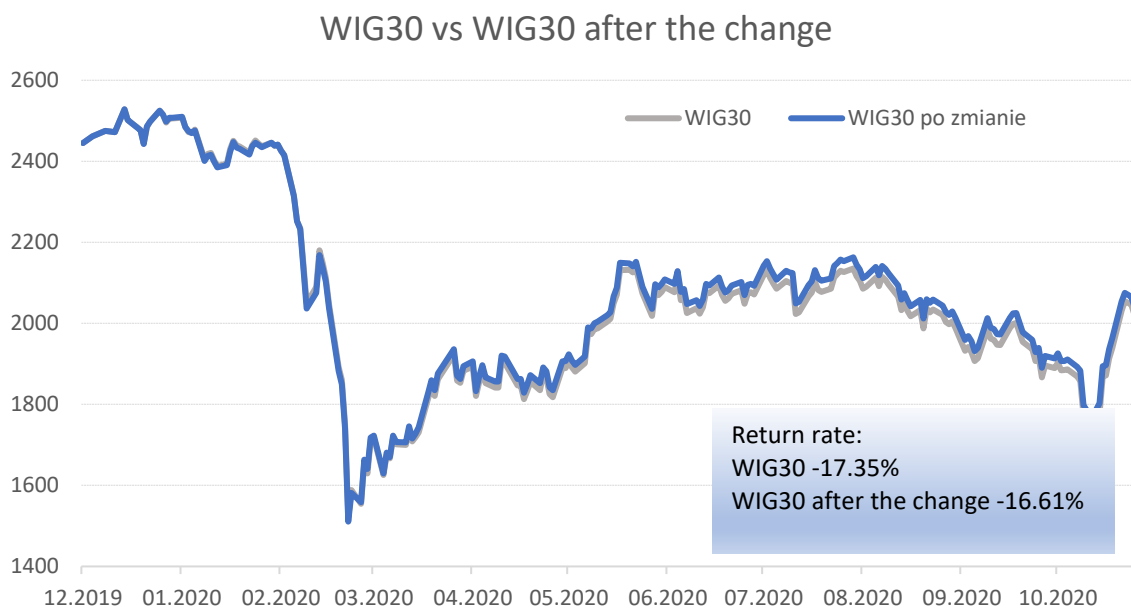


Figure 4



2. Adjustment of the scoring method of the WIG20, mWIG40, sWIG80, and WIG30 rankings

In connection with the introduction of a liquidity criterion (as per section 1 above) in addition to the total turnover in company shares in the last twelve months, the Administrator is considering changes to the scoring of index participants in order to "underpin" the criterion related to the size of the company in the ranking (as measured by market capitalisation or free-float share capitalisation). According to the current methodology, companies whose market capitalisation is in the last quartile of companies in the descending order of market capitalisation are not eligible to participate in the existing rankings. The Administrator is proposing additional rules in order to "underpin" the role of company capitalisation in the rankings by introducing new weights of turnover and capitalisation, impacting the score and the position of each company in the ranking.

Option 1 (currently applicable)

According to the current methodology, a company's score in the ranking is determined according to the formula below:

$$R(i) = 0.6 * sT(i) + 0.4 * sC(i), \text{ where:}$$

$R(i)$ – ranking points scored by the Company "i"

$sT(i)$ – percentage of the traded volume of shares of the Company "i" in the total traded volume of shares of the Companies participating in the Ranking

$sC(i)$ – percentage of the value of free float shares of the Company "i" in the value of free float shares of the Companies participating in the Ranking

A WIG20 portfolio and reserve list have been created as an example according to the formula above. A company's position in the index portfolio and on the reserve list corresponds to its position in the ranking. The companies with the highest and the lowest capitalisation of free-float shares have been highlighted in the ranking.

WIG20 - portfolio

COMPANY	TURNOVER VALUE (PLN)	FREE FLOAT MARKET CAP (PLN)
AAA	26 090 110 266,30	27 518 677 594,20
BBB	22 856 460 223,32	18 875 637 843,23
CCC	22 213 407 728,29	15 516 169 591,12
DDD	15 670 033 527,01	18 319 876 430,00
EEE	16 896 956 328,98	15 940 974 885,00
FFF	17 581 885 312,20	9 298 746 271,92
GGG	8 283 356 674,20	11 290 104 000,00
HHH	6 227 428 183,79	8 607 176 892,60
III	5 024 277 734,00	9 233 086 005,00
JJJ	7 409 585 213,42	2 193 362 651,40
KKK	6 312 145 274,17	3 716 192 790,18
LLL	3 607 274 056,62	7 835 083 479,08
MMM	5 026 962 252,38	5 226 855 355,36
NNN	4 814 433 914,40	5 067 469 230,60
OOO	4 783 763 755,98	4 800 173 573,20
PPP	2 986 818 591,49	4 790 445 352,00
RRR	4 840 572 470,47	794 804 415,40
SSS	4 152 441 544,84	1 283 645 836,04
TTT	2 921 559 331,50	2 623 586 376,22
UUU	2 064 223 348,90	2 529 530 072,00

WIG20 - reserve list

COMPANY	TURNOVER VALUE (PLN)	FREE FLOAT MARKET CAP (PLN)
AXX	3 328 330 944,64	754 572 071,40
BXX	1 295 994 103,06	4 050 569 925,00
CXX	2 534 043 277,79	1 457 861 023,45
DXX	2 024 612 853,00	1 998 202 625,00
EXX	1 879 407 927,10	2 224 968 850,00
FXX	1 940 411 343,24	1 789 400 624,03
GXX	2 100 038 879,03	1 142 503 404,00

Option 2 (new proposal)

Simulation of the WIG20 portfolio and reserve list for a ranking whose scores are based on the new weights: **0.4 for turnover** and **0.6 for capitalisation**:

$$R(i) = 0.4 * sT(i) + 0.6 * sC(i) \quad , \text{ where:}$$

$R(i)$ – ranking points scored by the Company “i”

$sT(i)$ – percentage of the traded volume of shares of the Company “i” in the total traded volume of shares of the Companies participating in the Ranking

$sC(i)$ – percentage of the value of free float shares of the Company “i” in the value of free float shares of the Companies participating in the Ranking

WIG20 - portfolio

COMPANY	TURNOVER VALUE (PLN)	FREE FLOAT MARKET CAP (PLN)
AAA	26 090 110 266,30	27 518 677 594,20
BBB	22 856 460 223,32	18 875 637 843,23
CCC	22 213 407 728,29	15 516 169 591,12
DDD	15 670 033 527,01	18 319 876 430,00
EEE	16 896 956 328,98	15 940 974 885,00
FFF	17 581 885 312,20	9 298 746 271,92
GGG	8 283 356 674,20	11 290 104 000,00
HHH	6 227 428 183,79	8 607 176 892,60
III	5 024 277 734,00	9 233 086 005,00
LLL	3 607 274 056,62	7 835 083 479,08
MMM	5 026 962 252,38	5 226 855 355,36
NNN	4 814 433 914,40	5 067 469 230,60
KKK	6 312 145 274,17	3 716 192 790,18
OOO	4 783 763 755,98	4 800 173 573,20
JJJ	7 409 585 213,42	2 193 362 651,40
PPP	2 986 818 591,49	4 790 445 352,00
TTT	2 921 559 331,50	2 623 586 376,22
RRR	4 840 572 470,47	794 804 415,40
SSS	4 152 441 544,84	1 283 645 836,04
UUU	2 064 223 348,90	2 529 530 072,00

WIG20 - reserve list

COMPANY	TURNOVER VALUE (PLN)	FREE FLOAT MARKET CAP (PLN)
BXX	1 295 994 103,06	4 050 569 925,00
EXX	1 879 407 927,10	2 224 968 850,00
DXX	2 024 612 853,00	1 998 202 625,00
HXX	634 399 079,60	2 991 184 340,00
CXX	2 534 043 277,79	1 457 861 023,45
FXX	1 940 411 343,24	1 789 400 624,03
AXX	3 328 330 944,64	754 572 071,40

3. Change of the selection method of dual-listed companies for mWIG40 and sWIG80

The GPW Main Market lists companies which are dual-listed (i.e. listed on more than one market) and have a high capitalisation but relatively low turnover. As a result, companies which are considered blue chips on the home market would at best be eligible for sWIG80 or mWIG40 on the Polish market. To eliminate this atypical occurrence (where large caps are bundled together with small and mid-caps), the existing methodology imposes market capitalisation thresholds. Companies which exceed the threshold are eliminated from mWIG40 (market capitalisation exceeding EUR 1 billion) and sWIG80 (market capitalisation exceeding EUR 100 million). However, due to the rigid elimination principles, in some cases, dual-listed companies which enjoy strong investor interest are excluded from mWIG40 and sWIG80 once they exceed the capitalisation threshold.

The Administrator is proposing a new principle of selection of dual-listed companies for mWIG40 and sWIG80 based on the companies' median market value. Transparent to market participants and in keeping with current market conditions, this principle will eliminate large-cap dual-listed companies from the portfolios of indices dedicated to smaller companies while enabling liquid companies on the GPW Main Market to participate in mWIG40 or sWIG80.

Option 1 (currently applicable)

Index participants cannot include companies established outside of Poland which are dual-listed on the regulated market and other markets, whose market capitalisation as at the ranking date exceeds:

- EUR 1 billion for mWIG40,
- EUR 100 million for sWIG80.

Option 2 (new proposal)

mWIG40 and sWIG80 participants cannot include companies established outside of Poland which are dual-listed on the regulated market and other markets, whose market capitalisation as at the ranking date exceeds the median market capitalisation of companies participating in WIG20.

The table below presents a ranking constructed for the quarterly index correction in September 2020, when the median market capitalisation of WIG20 companies was **PLN 13,678.98 million**.

Table 1*

ISIN	Company	Market cap (in million PLN)
ES0113900J37	SANTANDER	133 426,84
IT0005239360	UNICREDIT	79 187,88
CZ0005112300	CEZ	41 532,81
DE000TLX1005	TALANX	39 436,43
HU0000153937	MOL	18 600,96
SI0031102120	KRKA	13019,00
AT0000A21KS2	IIAAV	7742,85
ES0105375002	AMREST	4402,06
BG11SOSOB18	SOPHARMA	2156,77
LU0122624777	ORCOGROUP	1786,42
SK1120010287	TATRY	1039,62
BG1100114062	EUROHOLD	809,85
GB00B1YKG049	PROVIDENT	729,67
LT0000127466	AUGA	682,25
AT0000827209	WARIMPEX	282,96
EE3100001751	SILVANO	245,52
FR0000060873	MBWS	241,37
AU000000PDZ2	PRAIRIE	175,98
DE000A13SX89	FENGHUA	175,97
JE00BF4N9R98	SERINUS	86,62
LT0000131872	NOVATURAS	61,28
HU0000089198	ESTAR	24,91
NL0011882741	PLAZACNTR	12,48
DE000A2E3772	SLEEPZAG	9,33

**companies in blue would not be selected for mWIG40 and sWIG80*

Option 3 (new proposal)

mWIG40 participants cannot include companies established outside of Poland which are dual-listed on the regulated market and other markets, whose market capitalisation as at the ranking date exceeds the median market capitalisation of companies participating in WIG20.

sWIG80 participants cannot include companies established outside of Poland which are dual-listed on the regulated market and other markets, whose market capitalisation as at the ranking date exceeds the median market capitalisation of companies participating in mWIG40.

The tables below present rankings in Option 3. Both tables present rankings constructed for the quarterly index correction in September 2020, when the median market capitalisation of WIG20 companies was **PLN 13,678.98 million** and the median market capitalisation of mWIG40 was **PLN 2,459.52 million**.

Table 1*

ISIN	Company	Market cap (in million PLN)
ES0113900J37	SANTANDER	133 426,84
IT0005239360	UNICREDIT	79 187,88
CZ0005112300	CEZ	41 532,81
DE000TLX1005	TALANX	39 436,43
HU0000153937	MOL	18 600,96
SI0031102120	KRKA	13019,00
AT0000A21KS2	IIAAV	7742,85
ES0105375002	AMREST	4402,06
BG11SOSOB18	SOPHARMA	2156,77
LU0122624777	ORCOGROUP	1786,42
SK1120010287	TATRY	1039,62
BG1100114062	EUROHOLD	809,85
GB00B1YKG049	PROVIDENT	729,67
LT0000127466	AUGA	682,25
AT0000827209	WARIMPEX	282,96
EE3100001751	SILVANO	245,52
FR0000060873	MBWS	241,37
AU000000PDZ2	PRAIRIE	175,98
DE000A13SX89	FENGHUA	175,97
JE00BF4N9R98	SERINUS	86,62
LT0000131872	NOVATURAS	61,28
HU0000089198	ESTAR	24,91
NL0011882741	PLAZACNTR	12,48
DE000A2E3772	SLEEPZAG	9,33

Table 2**

ISIN	Company	Market cap (in million PLN)
ES0113900J37	SANTANDER	133 426,84
IT0005239360	UNICREDIT	79 187,88
CZ0005112300	CEZ	41 532,81
DE000TLX1005	TALANX	39 436,43
HU0000153937	MOL	18 600,96
SI0031102120	KRKA	13 019,00
AT0000A21KS2	IIAAV	7 742,85
ES0105375002	AMREST	4 402,06
BG11SOSOB18	SOPHARMA	2 156,77
LU0122624777	ORCOGROUP	1 786,42
SK1120010287	TATRY	1 039,62
BG1100114062	EUROHOLD	809,85
GB00B1YKG049	PROVIDENT	729,67
LT0000127466	AUGA	682,25
AT0000827209	WARIMPEX	282,96
EE3100001751	SILVANO	245,52
FR0000060873	MBWS	241,37
AU000000PDZ2	PRAIRIE	175,98
DE000A13SX89	FENGHUA	175,97
JE00BF4N9R98	SERINUS	86,62
LT0000131872	NOVATURAS	61,28
HU0000089198	ESTAR	24,91
NL0011882741	PLAZACNTR	12,48
DE000A2E3772	SLEEPZAG	9,33

*companies in blue would not be selected for mWIG40

**companies in blue would not be selected for sWIG80

Furthermore, in each option, dual-listed companies would undergo verification based on the aforementioned turnover criterion (MTR) in order to be selected for an index.

4. Analysis results and consultations

The results of the analysis have been presented to the Oversight Committee of Capital Market Benchmarks at its meeting on 2 December 2020. In view of the test results, the Committee acknowledged that the change of the methodology introducing the turnover ratio as an additional selection criterion for WIG20, mWIG40, sWIG80, and WIG30, the changes to the weights of turnover and free-float share capitalisation for the purposes of scoring, and changes of the selection of dual-listed companies for the small and mid-cap indices constitute a significant change of the WIG20, mWIG40, sWIG80, and WIG30 index methodology.

In connection with the opinion of the Committee and the results of the analysis, we have decided to open public consultations.

IV. CHANGE OF METHODOLOGY CONSULTATION FRAMEWORK

Feedback in consultations concerning the change of the WIG20, mWIG40, sWIG80, and WIG30 methodology based on questions presented in the questionnaire may be provided at indeksy@gpwbenchmark.pl no later than 8 January 2021.

The Administrator will publish the results of the consultation on its website, including additional consultations' details, where applicable. The Administrator will inform on its decision regarding the change of the methodology and on effective date of the implementation of the proposed changes in the GPW Indices' methodology.

V. QUESTIONNAIRE

1. Are you in favour of the change of the methodology introducing the turnover ratio (MTR) as an additional selection criterion for WIG20, mWIG40, sWIG80, and WIG30?

- ☐ Yes
- ☐ No
- ☐ I have no opinion

Remarks

2. What is your opinion about the change of the methodology introducing new weights used in scoring to reinforce the role of company capitalisation in the ranking bearing in mind the proposed implementation of the turnover ratio as a criterion for qualifying companies to indexes?

- ☐ I prefer to keep Option 1 (currently applicable)
- ☐ I prefer to introduce Option 2 (new proposal)
- ☐ I have no opinion

Remarks

3. What is your opinion about the change of the methodology introducing new principles of selection of dual-listed companies for mWIG40 and sWIG80?

- ☐ I prefer to keep Option 1 (currently applicable)
- ☐ I prefer to introduce Option 2 (new proposal)
- ☐ I prefer to introduce Option 3 (new proposal)
- ☐ I have no opinion

Remarks