

Market consultation on methodology changes to headline DAX Selection indices

Supporting material

Frankfurt am Main, 05.10.2020

Content

1.1 Qualification Criteria

Proposal 1.1.1: Replacement of requirement of listing on Prime Standard with requirement of listing on Regulated Market of Frankfurt Stock Exchange

Proposal 1.1.2: Replacement of turnover ranking in the Selection process with requirement of minimum liquidity coverage

Proposal 1.1.3: Introduction of requirement of audited annual reporting with fast exit in case of non-compliance

Proposal 1.1.4: Introduction of requirement of quarterly reporting with fast exit in case of non-compliance

Proposal 1.1.5: Introduction of requirement that Audit Committee in supervisory board exists and is staffed

Proposal 1.1.6: Introduction of exclusion of involvement with controversial weapons

Proposal 1.1.7: Introduction of profitability requirement

1.2 Selection and Weighting Criteria

Proposal 1.2.1: Abolishment of ranking by turnover

Proposal 1.2.2: Addition of Regular review of DAX index in March

Proposal 3.0 : Increase number of constituents for DAX from 30 to 40 and reduce for MDAX from 60 to 50

Proposal 1.1.1: Replacement of requirement of listing on Prime Standard with requirement of listing on Regulated Market of Frankfurt Stock Exchange

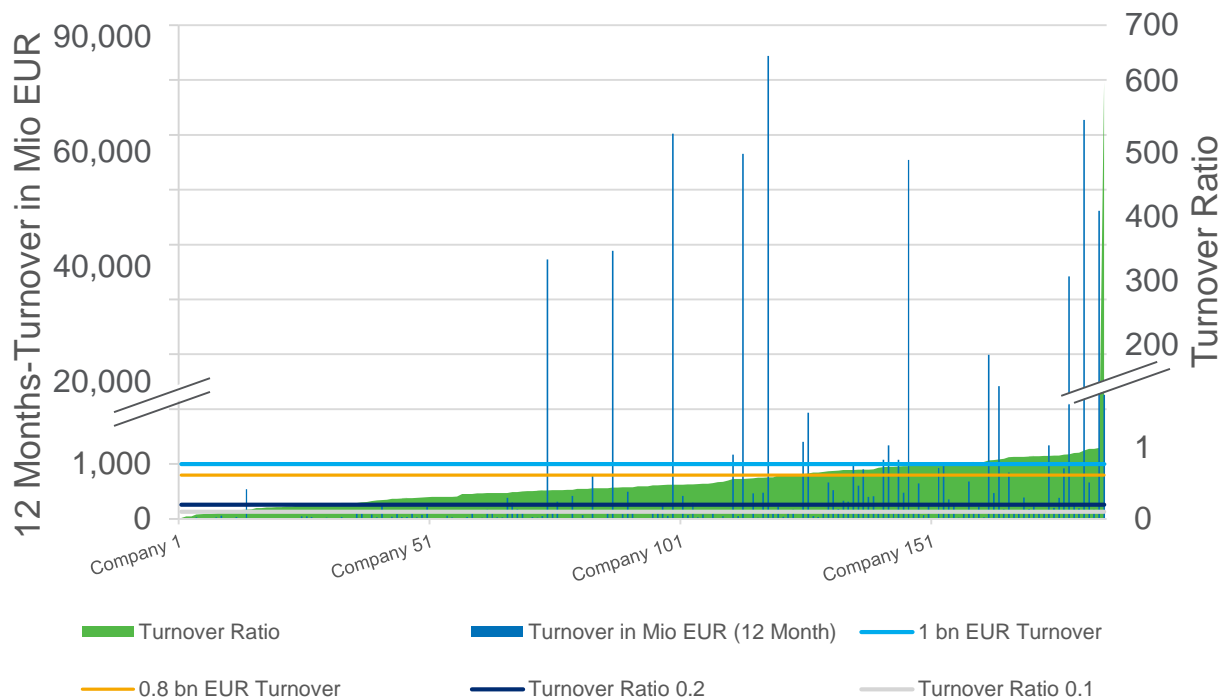
Number of additional constituents in Index Universe

Kriterium	General Standard	Prime Standard	Total
Total	150	302 [311] ¹⁾	452
of which:			
listed on Xetra	68	302 [311] ¹⁾	370
continuously traded	23	301 [310] ¹⁾	324
of which:			
insolvent	(1)	(3)	(4)
FF<10%	(4)	(13)	(17)
other Basic criteria not met	(0)	(4)	(4)
Eligible for Ranking	18	281	299

1. Total number of companies considering only the most liquid share class, in square brackets the number of companies considering all share classes

Proposal 1.1.2 Replacement of turnover ranking in the Selection process with requirement of minimum liquidity coverage

Impact on current index universe



> Initial Screening:

- > A company must have an annual turnover rate of at least 0.2 or an absolute annual turnover of EUR 1bn.
- > 20 of the 281 companies on the ranking list do not fulfil criterion, none of them is a current index component

> On-going maintenance:

- > a company must have an annual turnover rate of at least 0.1 or an absolute annual turnover of EUR 0.8bn.
- > 8 companies in the ranking list do not fulfil the criterion, none of them is a current index component

Proposal 1.1.3: Introduction of requirement of audited annual reporting with fast exit in case of non-compliance

Extract from German Governance Code¹

F2: The consolidated financial statements and the group management report shall be made publicly accessible within 90 days from the end of the financial year, while mandatory interim financial information shall be made publicly accessible within 45 days from the end of the reporting period.

1. <https://www.dcgk.de/en/code.html>

Proposal 1.1.4: Introduction of requirement of quarterly reporting with fast exit in case of non-compliance

Extract from German Governance Code¹

F2: The consolidated financial statements and the group management report shall be made publicly accessible within 90 days from the end of the financial year, while mandatory interim financial information shall be made publicly accessible within 45 days from the end of the reporting period.

1. <https://www.dcgk.de/en/code.html>

Proposal 1.1.5: Introduction of requirement that Audit Committee in supervisory board exists and is staffed

Extract from German Governance Code¹ /1

C10: The Chair of the Supervisory Board, the Chair of the Audit Committee, as well as the Chair of the committee that addresses Management Board remuneration, shall be independent from the company and the Management Board. The Chair of the Audit Committee shall also be independent from the controlling shareholder.

D3: The Supervisory Board shall establish an Audit Committee that – provided no other committee or the plenary meeting of the Supervisory Board has been entrusted with this work – addresses in particular the review of the accounting, the monitoring of the accounting process, the effectiveness of the internal control system, the risk management system, the internal audit system, the audit of the financial statements and compliance. The accounting particularly comprises the consolidated financial statements and the group management report (including CSR reporting), interim financial information and the single entity financial statements in accordance with the German Commercial Code (Handelsgesetzbuch – “HGB”).

D4: The Chair of the Audit Committee shall have specific knowledge and experience in applying accounting principles and internal control procedures, shall be independent. The Chair of the Supervisory Board shall not chair the Audit Committee.

1. <https://www.dcgk.de/en/code.html>

Proposal 1.1.5: Introduction of requirement that Audit Committee in supervisory board exists and is staffed

Extract from German Governance Code¹ /2

D9: The Supervisory Board, or the Audit Committee, shall arrange for the external auditors to inform it, without undue delay, about all findings and issues of importance for its tasks which come to the knowledge of the external auditors during the performance of the audit.

D10: The Supervisory Board, or the Audit Committee, shall arrange for the external auditors to inform it and note in the audit report if, during the performance of the audit, the external auditors identify any facts that indicate an inaccuracy in the Declaration of Compliance regarding the recommendations of the Code issued by the Management Board and Supervisory Board.

D11: The Audit Committee shall conduct an evaluation of the quality of the audit on a regular basis.

F2: The consolidated financial statements and the group management report shall be made publicly accessible within 90 days from the end of the financial year, while mandatory interim financial information shall be made publicly accessible within 45 days from the end of the reporting period.

1. <https://www.dcgk.de/en/code.html>

Proposal 1.1.5: Introduction of requirement that Audit Committee in supervisory board exists and is staffed

Affected companies currently in selection indices

Index	Companies without audit committee
DAX	1
MDAX	2
SDAX	11

Proposal 1.1.6: Introduction of exclusion of involvement with controversial weapons

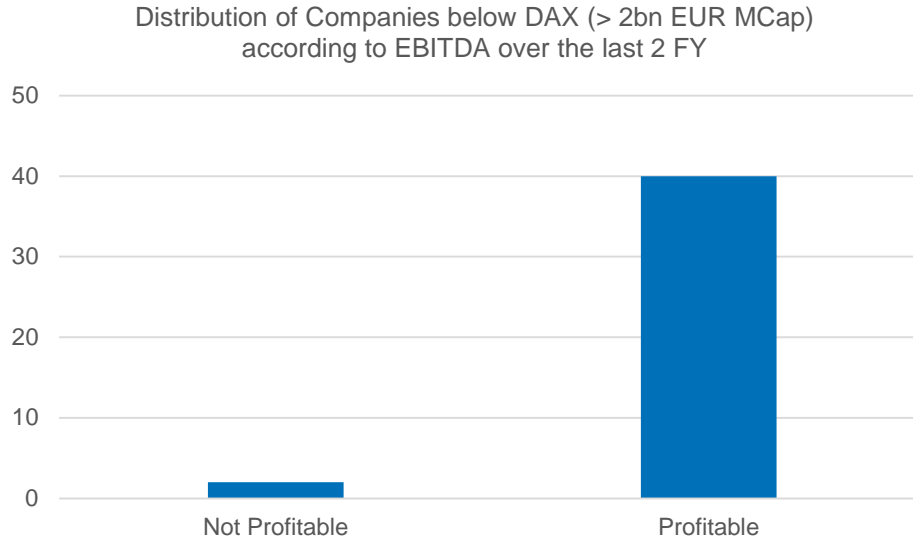
Exclusions from Selection Indices in terms of number of companies

- > Currently there is one company in the DAX Selection Indices that would be excluded if a product screening on controversial weapons was introduced.
 - > Disclaimer: Current Research Provider does not cover all 463 companies from regulated market at FWB. If coverage increases in the future, more companies might need to be excluded if the rule is implemented.

Index	Companies with Controversial Weapons Involvement
DAX	-
MDAX	1
SDAX	-

Proposal 1.1.7: Introduction of profitability requirement

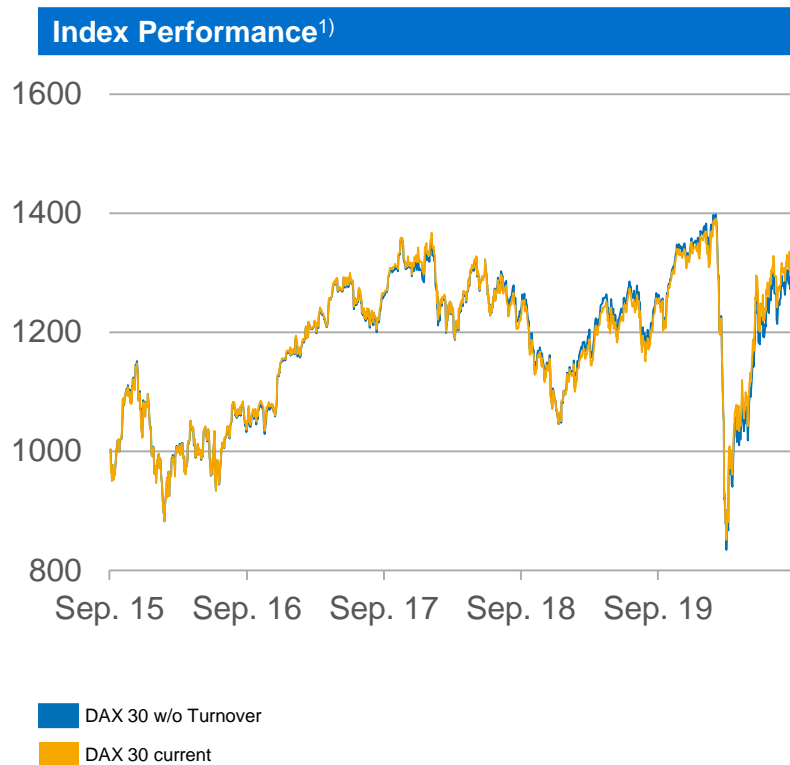
Impact on potential DAX candidates



- > Among the companies not part of DAX and with a market capitalization larger than 2 bn EUR, 2 of those show negative profitability during the last two years.
- > Those companies would not be considered as additions for DAX index, even if they were big enough in terms of size.

Proposal 1.2.1: Abolishment of ranking by turnover

Impact on DAX



Risk and Return¹⁾

	DAX 30 w/o Turnover	DAX 30
Return (overall)	5.7%	6.1%
1 year Return	3.4%	6.3%
3 year Return	1.4%	1.9%
1 year Volatility	32.5%	31.9%
3 year Volatility	22.4%	22.0%
Max Drawdown	-40.3%	-38.8%
Sharpe Ratio (overall) ²⁾	0.39	0.41

- > **Model Description:** The back test assumes that the following rules were initially implemented in September 2015 instead of 2018 for the sake of comparability:
- > Extension of MDAX from 50 to 60 and SDAX from 50 to 70 components³⁾
 - > Remove separation of TECH and CLASSIC for MDAX and SDAX³⁾
 - > Removal of Selection by Rank Turnover and solely select by Rank Market Cap using current buffers for Fast and Regular Entry and Exit rules per index.

1) STOXX data as of Sep 15th, 2020. Annualized return and volatility figures are used if not indicated differently

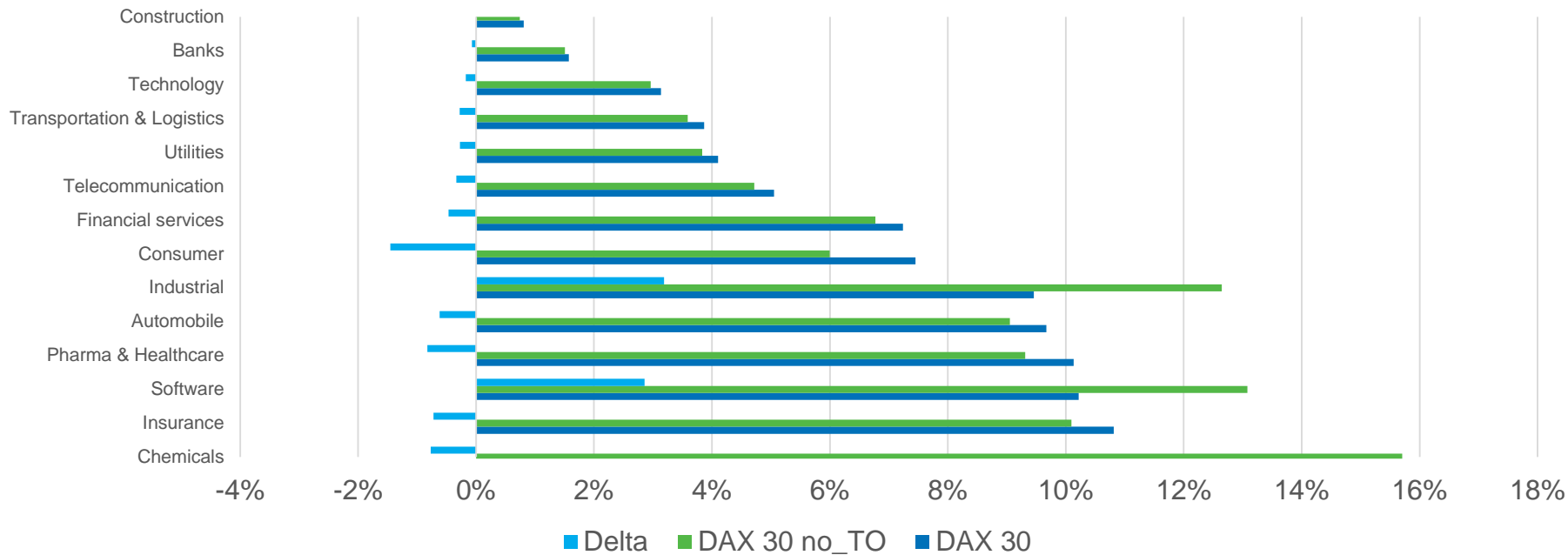
2) EONIA rate is used as a risk-free rate to calculate the Sharpe Ratio

3) This change was originally implemented in September 2018

Proposal 1.2.1: Abolishment of ranking by turnover

Impact on DAX

Changes in Sector Allocation DAX 30 vs. DAX 30 w/o Turnover



Proposal 1.2.1: Abolishment of ranking by turnover

Impact on MDAX

Index Performance¹⁾



■ MDAX 60 w/o Turnover
 ■ MDAX 60 current

Risk and Return¹⁾

	MDAX 60 w/o Turnover	MDAX 60
Return (overall)	9.1%	7.0%
1 year Return	9.1%	4.2%
3 year Return	7.8%	4.5%
1 year Volatility	25.8%	27.5%
3 year Volatility	18.8%	19.9%
Max Drawdown	-36.4%	-39.1%
Sharpe Ratio (overall) ²⁾	60.0%	0.47

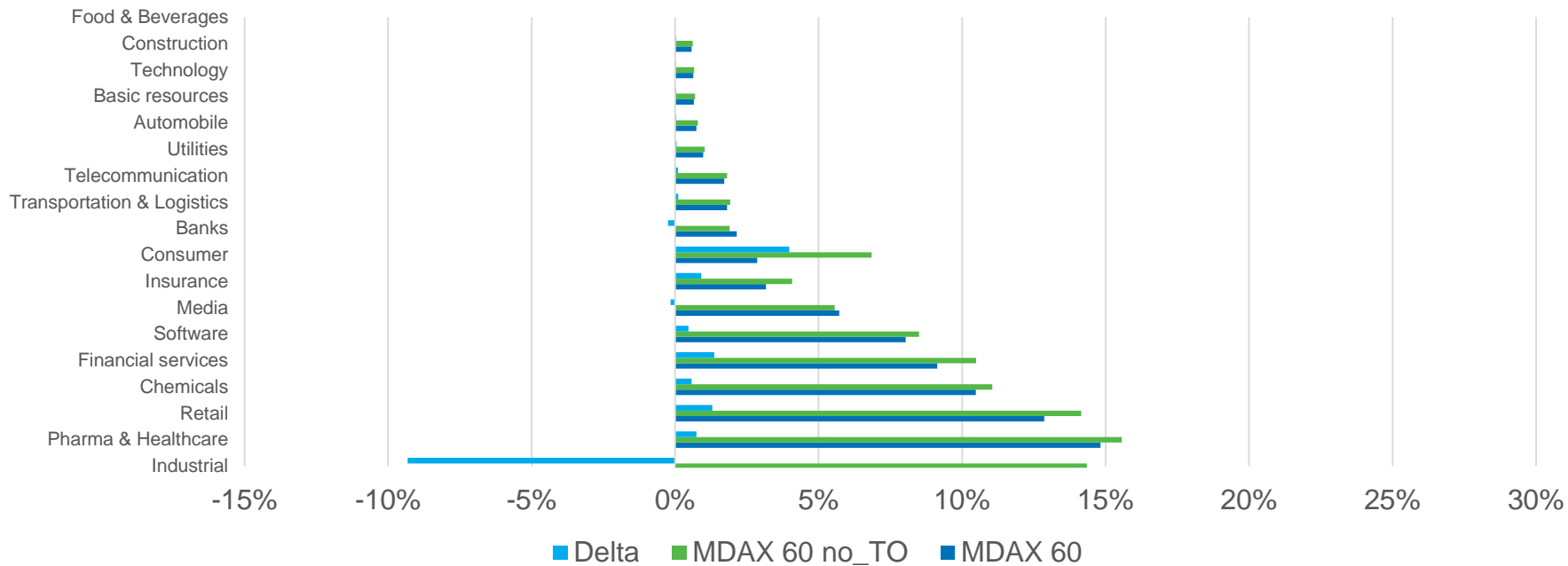
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 - > Remove separation of TECH and CLASSIC for MDAX and SDAX³⁾
 - > Removal of Selection by Rank Turnover and solely select by Rank Market Cap using current buffers for Fast and Regular Entry and Exit rules per index.

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Proposal 1.2.1: Abolishment of ranking by turnover

Impact on DAX

Changes in Sector Allocation MDAX 60 vs. MDAX 60 w/o Turnover



Proposal 1.2.1: Abolishment of ranking by turnover

Impact on SDAX

Index Performance¹⁾



■ SDAX 70 w/o Turnover
 ■ SDAX 70 current

Risk and Return¹⁾

	SDAX 70 w/o Turnover	SDAX 70
Return (overall)	8.9%	10.6%
1 year Return	5.5%	9.2%
3 year return	-0.2%	3.8%
1 year Volatility	28.6%	28.6%
3 year Volatility	20.7%	20.9%
Max Drawdown	-39.1%	-39.1%
Sharpe Ratio (overall) ²⁾	0.56	0.64

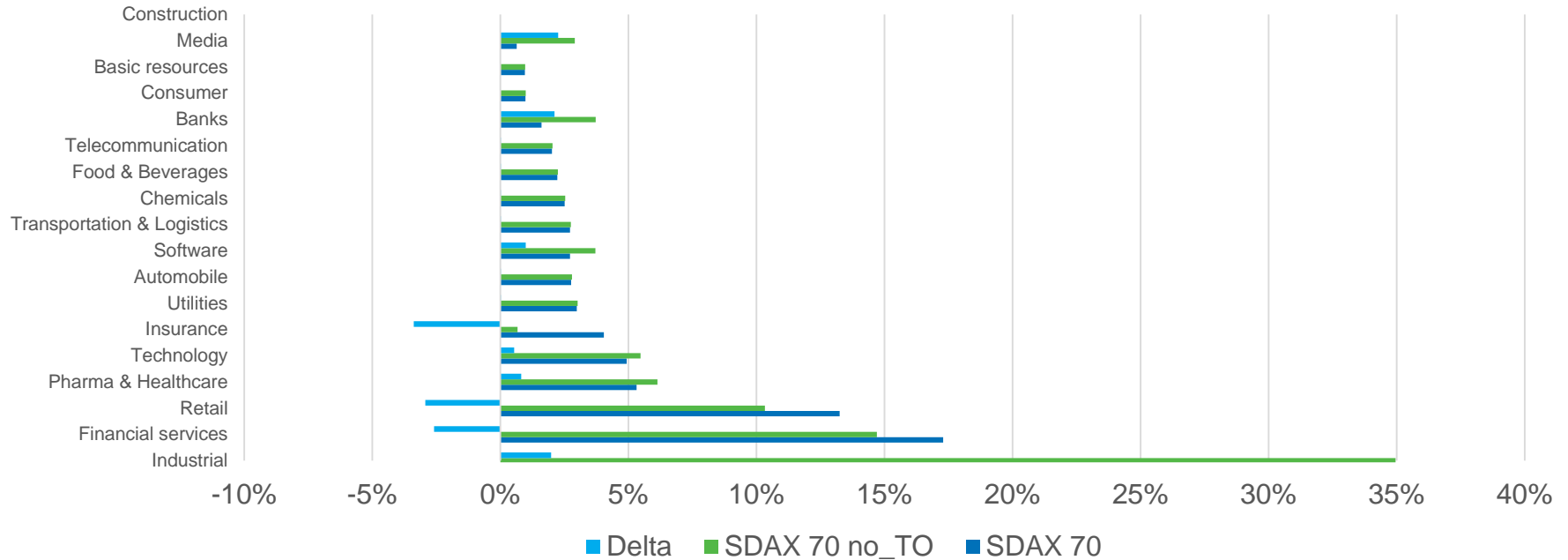
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 - > Extension of MDAX from 50 to 60 and SDAX from 50 to 70 components³⁾
 - > Remove separation of TECH and CLASSIC for MDAX and SDAX³⁾
 - > Removal of Selection by Rank Turnover and solely select by Rank Market Cap using current buffers for Fast and Regular Entry and Exit rules per index.

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 3) This change was originally implemented in September 2018

Proposal 1.2.1: Abolishment of ranking by turnover

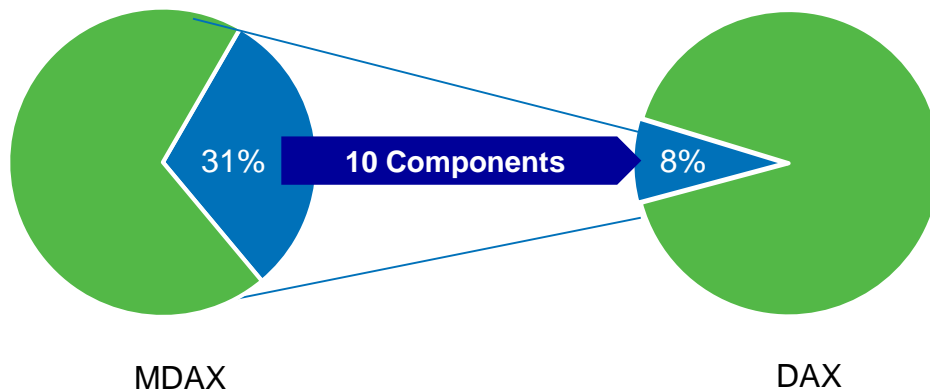
Impact on DAX

Changes in Sector Allocation SDAX 70 vs. SDAX 70 w/o Turnover



Proposal 3: Increase number of constituents for DAX from 30 to 40 and reduce for MDAX from 60 to 50

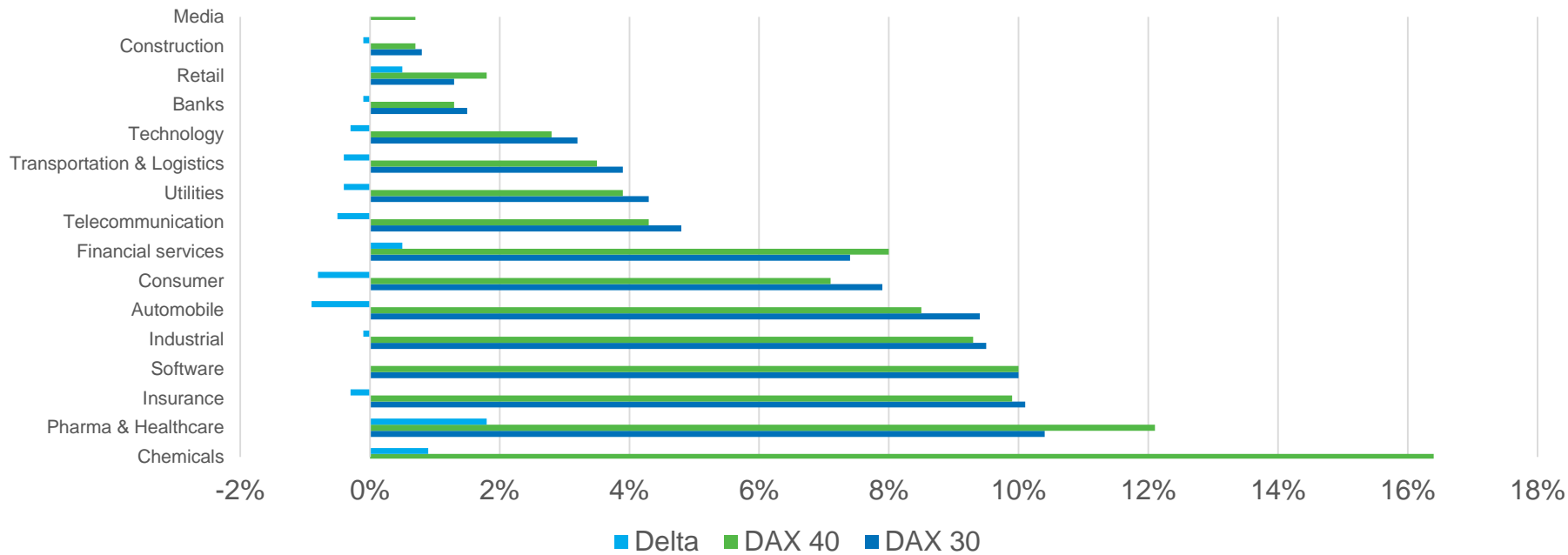
Impact on market cap in DAX and MDAX



Proposal 3: Increase number of constituents for DAX from 30 to 40 and reduce for MDAX from 60 to 50

Impact on DAX

Changes in Sector Allocation DAX 30 vs. DAX 40



Proposal 3: Increase number of constituents for DAX from 30 to 40 and reduce for MDAX from 60 to 50

Impact on DAX

Index Performance¹⁾



■ DAX 40
 ■ DAX 30 (Current)

Risk and Return¹⁾

	DAX 40	DAX 30 (Current)
Return (overall)	6.1%	6.1%
1 year Return	6.4%	6.3%
3 year Return	2.1%	1.9%
1 year Volatility	31.5%	31.9%
3 year Volatility	21.8%	22.0%
Max Drawdown	-38.8%	-38.8%
Sharpe Ratio (overall) ²⁾	0.41	0.41

- > **Model Description:** The back test assumes that the following rules were initially implemented in September 2015 instead of 2018 for the sake of comparability:
- > Extension of MDAX from 50 to 60 and SDAX from 50 to 70 components³⁾
 - > Remove separation of TECH and CLASSIC for MDAX and SDAX³⁾
 - > Buffers for selection in DAX 40 are set to:
 - > Fast Exit 60/60, Fast Entry: 33/33, Regular Exit: 53/53, Regular Entry: 40/40
 - > Counter: 47/47

1) STOXX data as of Sep 15th, 2020. Annualized return and volatility figures are used if not indicated differently

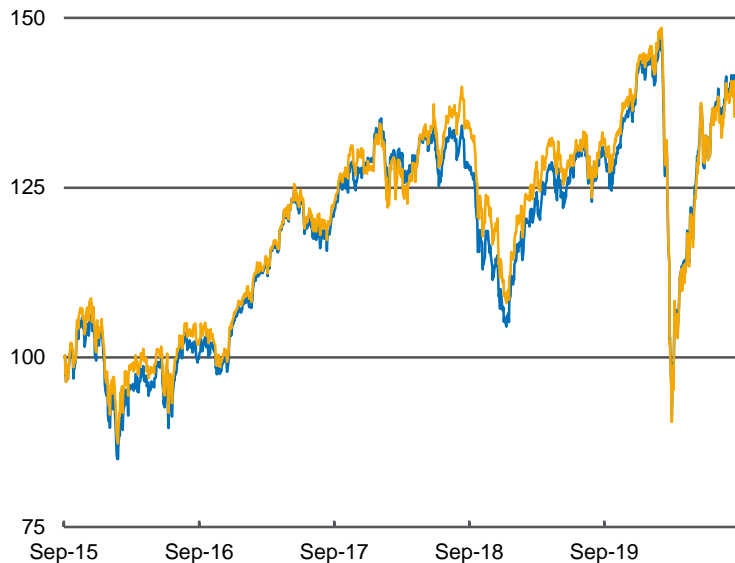
2) EONIA rate is used as a risk-free rate to calculate the Sharpe Ratio

3) This change was originally implemented in September 2018

Proposal 3: Increase number of constituent for DAX from 30 to 40 and reduce for MDAX from 60 to 50

Impact on MDAX

Index Performance¹⁾



■ MDAX 50
■ MDAX 60 (Current)

Risk and Return¹⁾

	MDAX 50	MDAX 60 (Current)
Return (overall)	7.1%	7.0%
1 year Return	6.4%	4.2%
3 year Return	5.1%	4.5%
1 year Volatility	26.9%	27.5%
3 year Volatility	19.4%	19.9%
Max Drawdown	-37.8%	-39.1%
Sharpe Ratio (overall) ²⁾	0.48	0.47

> **Model Description:** The back test assumes that the following rules were initially implemented in September 2015 instead of 2018 for the sake of comparability:

- > Extension of MDAX from 50 to 60 and SDAX from 50 to 70 components³⁾
- > Remove separation of TECH and CLASSIC for MDAX and SDAX³⁾
- > Buffers for selection in MDAX 50 are set to:
 - > Fast Exit 110/110, Fast Entry: 83/83, Regular Exit: 103/103, Regular Entry: 90/90
 - > Counter: 97/97

1) STOXX data as of Sep 15th, 2020. Annualized return and volatility figures are used if not indicated differently

2) EONIA rate is used as a risk-free rate to calculate the Sharpe Ratio

3) This change was originally implemented in September 2018

Proposal 3: Increase number of constituents for DAX from 30 to 40 and reduce for MDAX from 60 to 50

Impact on SDAX

Index Performance¹⁾



■ SDAX 70
■ SDAX 70 (Current)

Risk and Return¹⁾

	SDAX 70	SDAX 70 (Current)
Return (overall)	10.5%	10.6%
1 year Return	8.5%	9.2%
3 year Return	3.7%	3.8%
1 year Volatility	28.7%	28.6%
3 year Volatility	21.2%	20.9%
Max Drawdown	-39.3%	-39.1%
Sharpe Ratio (overall) ²⁾	0.64	0.64

> **Model Description:** The back test assumes that the following rules were initially implemented in September 2015 instead of 2018 for the sake of comparability:

- > Extension of MDAX from 50 to 60 and SDAX from 50 to 70 components³⁾
- > Remove separation of TECH and CLASSIC for MDAX and SDAX³⁾
- > Buffers for selection in SDAX 70 are set to:
 - > Fast Exit 180/180, Fast Entry: 153/153, Regular Exit: 173/173, Regular Entry: 160/160
 - > Counter: 167/167

1) STOXX data as of Sep 15th, 2020. Annualized return and volatility figures are used if not indicated differently

2) EONIA rate is used as a risk-free rate to calculate the Sharpe Ratio

3) This change was originally implemented in September 2018

