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# Israel Exposure Tilt

For Professional Investor Use Only

# Overview

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Aperio Group has partnered with BlueStar Indexes® to develop an option that will tilt an Aperio portfolio toward companies with exposure to Israel.

Companies are scored based on their level of involvement in Israel, reflecting a universe that includes:

1. Israeli companies,\*
2. Non-Israeli companies with deep business ties and foreign direct investment, and
3. Non-Israeli companies with less significant business relationships.

This hierarchy of scores is used to calculate a weighted-average score for a benchmark index and any potential portfolio. The portfolio is optimized to target the desired tilt toward this weighted-average score while replicating the risk characteristics of the benchmark as closely as possible.

Our Israel Exposure Tilt can be used in combination with other Aperio strategies, exclusions, and/or tilts.

\*As defined by BlueStar.

# BlueStar Pro-Israel Universe

BlueStar assigns an Israel Exposure Score to the companies within the Aperio investable universe.<sup>+</sup>

Score	Criteria
100	<b>Israeli</b> Companies*
75	Global Companies with a <b>Major</b> Presence in/Impact on Israel
50	Global Companies with a <b>Material</b> Presence in/Impact on Israel
0	Companies with No/Insignificant Involvement in Israel

<sup>+</sup>Meets Aperio's liquidity and capitalization requirements.

\*As defined by BlueStar.

# BlueStar Methodology

Score	Term	Qualification
100	"Israeli"	<p>BlueStar takes an inclusionary view of what qualifies as an Israeli company, with a global perspective. To be considered an Israeli company, BlueStar requires that it meet at least one criteria from Group A and one criteria from Group B, or at least one criteria from Group A and two criteria from Group C.</p> <p><b>Group A</b></p> <ul style="list-style-type: none"> <li>• At least 20% of the company's employees or of its long-lived assets are located in Israel.</li> <li>• It has a major R&amp;D center in Israel.</li> </ul> <p><b>Group B</b></p> <ul style="list-style-type: none"> <li>• It is listed on the Tel Aviv Stock Exchange (TASE).</li> <li>• Its tax status is in Israel or it is incorporated in Israel.</li> <li>• It is headquartered in Israel or has a dual-headquarter location in Israel.</li> </ul> <p><b>Group C</b></p> <ul style="list-style-type: none"> <li>• A majority of its board of directors or at least two executive officers are domiciled in Israel.</li> <li>• Its business results would be materially altered without its Israeli assets. These assets may include but are not limited to: intellectual and human capital, or licenses to Israeli technology that materially affect revenue or R&amp;D.</li> <li>• A subsidiary or non-Israeli operating branch would otherwise be considered Israeli.</li> </ul>
75	"Major" Global	<p><b>At least one criteria:</b> Company's annual reports: a) identify Israel as a stand-alone geography when measuring long-lived assets, employees, or revenue; b) specifically describe an R&amp;D or manufacturing facility in Israel as "meaningful" or in a similar fashion; c) list the Israeli shekel as an important currency impacting financial statement translation; note the company is otherwise known to have an important R&amp;D or manufacturing facility in Israel; advise that the company has entered into a joint venture or partnership with an Israeli company for Israel-based R&amp;D, product development, or local/regional distribution.</p>
50	"Material" Global	<p><b>At least one criteria:</b> Company is known to have operating activities in Israel; has multiple retail locations in Israel; employs 50 or more people in Israel (even if their sole function is sales or distribution); supports Israel's capital markets or facilitates Israeli companies' ability to raise capital abroad; has made a material financial investment in Israel or in Israeli companies.</p>

# Israel Exposure Score: Sector & Region

Aperio World ADR Universe: Sector Company Count						
	Global			Domestic		
<b>Israel Exposure Score</b>	<b>50</b>	<b>75</b>	<b>100</b>	<b>50</b>	<b>75</b>	<b>100</b>
Communication Services	14	14	0	7	11	0
Consumer Discretionary	26	19	0	21	6	0
Consumer Staples	10	3	0	7	1	0
Energy	2	3	1	0	3	1
Financials	26	6	0	11	4	0
Health Care	28	14	5	24	10	3
Industrials	27	22	1	14	18	0
Information Technology	42	57	15	33	48	8
Materials	2	4	1	2	2	0
Real Estate	2	0	0	2	0	0
Utilities	0	0	1	0	0	1

Aperio World ADR Universe: Region Company Count			
<b>Israel Exposure Score</b>	<b>50</b>	<b>75</b>	<b>100</b>
United States	121	103	13
Developed Markets	52	31	11
Emerging Markets	6	8	0

# Israel Exposure Tilt Portfolio Characteristics

	MSCI ACWI <sup>1</sup>	Aperio Global SMA: All Cash	Aperio SMA with Israel Exposure Tilt
Forecast Tracking Error (%)	0.00	0.44	0.67
Forecast Beta	1.00	1.00	1.00
Forecast Volatility (%)	13.08	13.09	13.11
Number of Stocks	2,756	500	500
Dividend Yield (%)	2.75	2.76	2.61
<b>Israel Exposure Score</b>	25	27	50 <sup>2</sup>

## Notes on portfolio construction:

The optimizer+ determines the lowest possible tracking error given a beta of 1.00 and a Israel Exposure Score of 50, as well as the number of holdings.

A sample portfolio identical to the index. Note that the tracking error is 0.00%.

A sample Aperio Global SMA portfolio with no SRI constraints. Note the incremental tracking error of not holding the full universe of securities.

A sample Israel Exposure Tilt. Note the additional incremental tracking error versus the other two scenarios.

<sup>1</sup>The MSCI ACWI is provided as an example of an index which Aperio has selected, after consultation with the client, as the most appropriate measurement index for portfolio performance. Aperio refers to this selection as a portfolio's "comparison index/benchmark."

<sup>2</sup>The weighted-average Israel Exposure Score above, 50, is specific to the MSCI ACWI and may adjust slightly per comparison index.

+Details on Aperio's optimizer can be found in the disclosure under the heading "Optimizer."

# Top Holdings: Israel Exposure Tilt Applied to the Russell 3000<sup>®</sup> Index

Portfolio w/ Israel Exposure Tilt (Table 1)		
Name	Weight w/ Israel Exposure Tilt	Score
MICROSOFT CORP	3.05%	75
APPLE INC	2.92%	75
AMAZON.COM INC	2.70%	75
BERKSHIRE HATHAWAY INC	2.48%	75
JPMORGAN CHASE & CO	2.17%	50
JOHNSON & JOHNSON	1.66%	75
FACEBOOK INC	1.61%	75
PROCTER & GAMBLE CO	1.50%	75
ALPHABET INC	1.44%	75
HOME DEPOT INC	1.34%	50
PFIZER INC	1.34%	75
ALPHABET INC	1.30%	75
COCA-COLA CO	1.13%	50
VERIZON COMMUNICATIONS IN	1.12%	75
AT&T INC	1.06%	75
CITIGROUP INC	1.05%	50
DOWDUPONT INC	1.02%	75
PEPSICO INC	1.02%	50
MEDTRONIC PLC	1.01%	75
CHUBB LTD	0.99%	50

Total US Market (Table 2)		
Name	Weight	Score
MICROSOFT CORP	2.90%	75
APPLE INC	2.90%	75
AMAZON.COM INC	2.56%	75
BERKSHIRE HATHAWAY INC	1.46%	75
FACEBOOK INC	1.45%	75
JOHNSON & JOHNSON	1.31%	75
JPMORGAN CHASE & CO	1.26%	50
ALPHABET INC	1.25%	75
ALPHABET INC	1.23%	75
EXXON MOBIL CORPORATION	1.14%	0
BANK OF AMERICA CORPORATI	0.96%	0
UNITEDHEALTH GROUP INC	0.95%	0
PFIZER INC	0.90%	75
PROCTER & GAMBLE CO	0.88%	75
VISA INC	0.87%	50
VERIZON COMMUNICATIONS IN	0.84%	75
AT&T INC	0.80%	75
CHEVRON CORP	0.80%	0
INTEL CORP	0.79%	75
CISCO SYSTEMS INC	0.79%	75

Companies with Israel Exposure Scores of 0 do not appear in top holdings of this Israel Exposure Tilt sample (Table 1). They do appear in the non-tilted portfolio (Table 2). A zero score company may still appear, but at a lesser weight.

The tables above reflect a sampling list of securities in a hypothetical Aperio Group portfolio with an Israel Exposure Tilt and the Russell 3000 Index as of 01/31/2019. The securities do not represent current holdings in an Aperio portfolio and were selected based on securities within the data provider's universe in order to give examples of what an Israel Exposure Tilt applied to the Russell 3000 might produce in top holdings within an Aperio portfolio. This information is provided for illustrative purposes only and should not be considered investment advice or a recommendation to buy or sell the securities listed. Please refer to the end of this presentation for additional important disclosures.

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# Appendix



# Example Companies

"Israeli"	"Major"	"Material"
Score of 100	Score of 75	Score of 50
<p><b>Amdocs</b></p> <ul style="list-style-type: none"> <li>• At least 20% of Amdocs' long-lived assets are in Israel.</li> <li>• At least 20% of its employees are based in Israel.</li> <li>• It has a major R&amp;D center in Israel.</li> <li>• At least two of its executive officers are based in Israel.</li> <li>• Business results would be materially altered without its Israel-based assets.</li> <li>• The company was founded in Israel.</li> </ul>	<p><b>Nestle</b></p> <ul style="list-style-type: none"> <li>• Nestle owns 100% of Osem, one of Israel's largest food manufacturers and distributors, with a 75-year lineage. Osem also produces and distributes a wide range of Nestle-branded products in Israel.</li> </ul>	<p><b>Coca-Cola</b></p> <ul style="list-style-type: none"> <li>• Coca-Cola's full range of brands are sold in Israel.</li> <li>• Coca-Cola owns local distribution in Israel.</li> </ul>
<p><b>Check Point Software Technologies</b></p> <ul style="list-style-type: none"> <li>• At least 20% of Check Point's long-lived assets are in Israel.</li> <li>• The company is incorporated in Israel.</li> <li>• It is headquartered in Israel.</li> <li>• It has a major R&amp;D center in Israel.</li> <li>• At least two of its executive officers are based in Israel.</li> <li>• Business results would be materially altered without its Israel-based assets.</li> <li>• The company was founded in Israel.</li> </ul>	<p><b>Microsoft</b></p> <ul style="list-style-type: none"> <li>• Microsoft has major R&amp;D facilities and a large technology incubator in Israel. It has also completed several key acquisitions in Israel and integrated the teams into its operations.</li> </ul>	

# Israel Exposure Scored Example Companies

As of 03/29/2019, 336 companies within Aperio's investable universe receive an Israel Exposure Score.

Score of 100	<b>23 Israeli Companies<sup>+</sup></b> <ul style="list-style-type: none"> <li>• Amdocs</li> <li>• Check Point Software</li> <li>• Elbit Systems</li> <li>• Ormat Technologies</li> <li>• Teva Pharmaceutical</li> </ul>
Score of 75	<b>136 Global Companies with a Major Presence in Israel</b> <ul style="list-style-type: none"> <li>• Apple</li> <li>• Microsoft</li> <li>• Nielsen Holdings</li> <li>• Noble Energy</li> <li>• Singapore Technologies</li> </ul>
Score of 50	<b>177 Global Companies with a Material Presence in Israel</b> <ul style="list-style-type: none"> <li>• Bristol Myers Squibb</li> <li>• Deutsche Bank</li> <li>• Estee Lauder</li> <li>• Under Armour</li> <li>• United Continental</li> </ul>

<sup>+</sup> As defined by BlueStar Indexes. This number is carved from the 123 in the BlueStar Israel Global Index<sup>®</sup> (as of 03/31/2019), but only 23 are part of Aperio's investable universe due to size, liquidity, and American depository receipt (ADR) availability.

# Hypothetical Global Scenario: Full Risk Factor Detail

	MSCI ACWI	Aperio Global Israel Exposure Tilt Portfolio
Israel Exposure Score	25	50
Forecast Tracking Error (%)	0.00	0.67
Forecast Beta	1.00	1.00
Forecast Volatility (%)	13.08	13.11
Number of Stocks	2,756	500
Dividend Yield (%)	2.75	2.61
Weighted Avg. Market Cap	\$129B	\$142B
Price to Book	2.19	2.22
Price to Earnings (TTM)	16.45	16.99
<b>Sector Exposures (%)</b>		
Communication Services	9.09	9.88
Consumer Discretionary	10.61	11.67
Consumer Staples	8.20	7.97
Energy	6.32	5.53
Financials	17.26	15.87
Health Care	11.80	12.08
Industrials	10.43	10.14
Information Technology	14.84	17.04
Materials	4.93	4.43
Real Estate	3.25	2.74
Utilities	3.26	2.63

# Hypothetical Domestic Scenario: Full Risk Factor Detail

	Russell 3000	Aperio Total US Market Israel Exposure Tilt Portfolio
Israel Exposure Score	31	55
Forecast Tracking Error (%)	0.00	0.66
Forecast Beta	1.00	1.00
Forecast Volatility (%)	13.34	13.39
Number of Stocks	3,000	450
Dividend Yield (%)	2.11	1.98
Weighted Avg. Market Cap	\$163B	\$176B
Price to Book	3.05	3.04
Price to Earnings (TTM)	20.33	21.52
<b>Sector Exposures (%)</b>		
Communication Services	9.28	9.67
Consumer Discretionary	10.42	11.13
Consumer Staples	6.45	5.96
Energy	5.10	4.96
Financials	13.90	13.08
Health Care	14.68	14.91
Industrials	10.20	9.88
Information Technology	19.79	21.08
Materials	2.99	2.59
Real Estate	4.02	3.76
Utilities	3.18	2.98

# Hypothetical International Scenario: Full Risk Factor Detail

	MSCI EAFE	Aperio Foreign Developed ex Canada Israel Exposure Tilt Portfolio
Israel Exposure Score	17	30
Forecast Tracking Error (%)	0.00	0.79
Forecast Beta	1.00	1.00
Forecast Volatility (%)	12.83	12.86
Number of Stocks	921	250
Dividend Yield (%)	3.66	3.53
Weighted Avg. Market Cap	\$56B	\$65B
Price to Book	1.54	1.57
Price to Earnings (TTM)	13.95	13.94
<b>Sector Exposures (%)</b>		
Communication Services	5.53	6.73
Consumer Discretionary	11.30	11.80
Consumer Staples	11.37	12.43
Energy	5.90	6.28
Financials	19.33	19.19
Health Care	11.01	12.12
Industrials	14.37	12.96
Information Technology	6.09	7.67
Materials	7.48	6.76
Real Estate	3.84	1.09
Utilities	3.77	2.96

# Annual Score Updates & Rebalance

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- BlueStar updates the scores annually. Changes during the year will not be immediately reflected in the portfolio. Aperio does not override its third-party ESG vendors.
- Portfolios are rebalanced to the new score annually. Trade-offs among tracking error, values, and taxes (when applicable) are reviewed on each rebalance.

# Disclosure

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The information contained within this presentation was carefully compiled from sources Aperio believes to be reliable, but we cannot guarantee accuracy. We provide this information with the understanding that we are not engaged in rendering legal, accounting, or tax services. In particular, none of the examples should be considered advice tailored to the needs of any specific investor. We recommend that all investors seek out the services of competent professionals in any of the aforementioned areas.

With respect to the description of any investment strategies, simulations, or investment recommendations, we cannot provide any assurances that they will perform as expected and as described in our materials. Past performance is not indicative of future results. Every investment program has the potential for loss as well as gain.

Due to the complexity of tax law, not every single taxpayer will face the situations described herein exactly as calculated or stated, i.e., the examples and calculations are intended to be representative of some but not all taxpayers. Since each investor's situation may be different in terms of income tax, estate tax, and asset allocation, there may be situations in which the recommendations would not apply. Please discuss any individual situation with tax and investment advisors first before proceeding. Taxpayers paying lower tax rates than those assumed or without taxable income would earn smaller tax benefits from tax-advantaged indexing or even none at all compared to those described.

## Sources of Research

**Mandatory Disclosure:** In certain cases, companies must comply with regulatory requirements for the disclosure of information. This kind of information can range from financial information to information the US Environmental Protection Agency requires company facilities to disclose. The advantage of this information is that it is comprehensive across the universe of companies. Unfortunately, in many issue areas, no mandatory disclosure applies.

**Voluntary Disclosure:** Much of the information available is voluntarily disclosed by companies, often in corporate sustainability reports or in sustainability or responsibility sections of their websites. This information can be more difficult to incorporate into evaluations and ratings. First, since it is voluntary, many companies disclose information only about some issue areas. Second, even when information is disclosed, the definitions and structure of what is disclosed may be different from company to company. NOTE: For data elements involving disclosure, a company will receive a score of 1 for each issue area where it has not provided any data. Aperio's methodology weights disclosure and the associated transparency as an important criterion in its ESG evaluation, and companies that do not disclose data are scored more poorly than the worst-performing-but-disclosing company in that issue area.

**Third-Party Information/Evaluation of Companies:** Other pieces of information that are available to Aperio do not fit cleanly into either of these categories or may be a hybrid of the two. For instance, there is mandatory disclosure of certain kinds of international operations, including registered subsidiaries. When this information is combined with evaluations of countries' political and civil liberties provided by a nongovernmental organization (NGO), we have a hybrid data element.

Aperio data is gathered from sources including BlueStar, ISS ESG, EIRIS Vigeo, MSCI ESG Research, Bloomberg, and industry classifications. In addition, for certain data elements, Aperio will gather data from advocacy organizations that it deems to be reasonable and credible based on feedback from the industry and those interested in the specific issue area. In these cases, the advocacy group will be identified and the investor should review to ensure that the organization's views align with the investor's views.

# Disclosure *(continued)*

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## Index Definitions

The Russell 3000® Index is an equity benchmark for US stock performance. It is a capitalization-weighted index covering the largest 3,000 publicly-traded US stocks. The index represents approximately 98% of the total market capitalization of the US stock market.

The MSCI ACWI Index is an equity benchmark for global stock performance. It is a capitalization-weighted index covering large and mid-sized companies. The index includes approximately 2,500 stocks from 23 developed market countries and 24 emerging-market countries.

The MSCI EAFE Index is an equity benchmark for international developed markets performance. It is a capitalization-weighted index covering large and mid-sized companies. The index includes approximately 900 stocks from 21 developed-market countries, excluding the US and Canada.

Aperio's strategies are not in any way connected to or sponsored, endorsed, sold, or promoted by the London Stock Exchange Group plc and its group undertakings (collectively, the "LSE Group"). All rights in the Russell indexes vest in the relevant LSE Group company. The LSE Group does not accept any liability whatsoever to any person arising out of the use of the strategies or the underlying data.

## Optimizer

The optimization process used in tax-loss harvesting by Aperio relies upon an optimization model built and designed by MSCI Barra. The model utilizes a mathematical objective function which seeks to minimize the combination of active risk (i.e., forecast tracking error), and the tax liability on realized gains, all while also meeting the conditions presented by a series of simultaneous equations, the values of which are, in part, populated by data based upon the securities being analyzed. With respect to measuring potential equity risk in the process of tax loss harvesting and portfolio analysis, Aperio also uses and relies upon MSCI Barra risk models. You should note that such use and reliance of the MSCI Barra models in the optimization and equity risk analysis presents model risk, which is defined as the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports. Model risk can lead to financial loss.

The model may have fundamental errors and may produce inaccurate outputs when viewed against the design objective and intended business uses. The mathematical calculation and quantification exercise underlying any model generally involves application of theory, choice of sample design and numerical routines, selection of inputs and estimation, and implementation in information systems. Errors can occur at any point from design through implementation. In addition, shortcuts, simplifications, or approximations used to manage complicated problems could compromise the integrity and reliability of outputs from those calculations. Finally, the quality of model outputs depends on the quality of input data and assumptions, and errors in inputs or incorrect assumptions will lead to inaccurate outputs. The model may be used incorrectly or inappropriately. Even a fundamentally sound model producing accurate outputs consistent with the design objective of the model may exhibit high model risk if it is misapplied or misused. Models by their nature are simplifications of reality, and real-world events may prove those simplifications inappropriate.



# Technical Definitions

Tracking Error	The difference between a portfolio's returns and the benchmark or index it is meant to mimic.
Beta	Measure of the volatility of a security or a portfolio in comparison to the volatility of the market as a whole.
Standard Deviation	Measure of the dispersion of possible returns from a portfolio's expected return (the market index). If the results are further from the target, there is higher deviation within the portfolio.
Dividend Yield	Weighted average of how much a portfolio pays out in dividends each year relative to weighted-average share price.
Price to Earnings	Ratio for valuing a company that measures its current share price relative to its per-share earnings.
Price to Book	Ratio used to compare a stock's market value to its book value. The book value of equity, in turn, is the value of a company's assets expressed on the balance sheet.