

Efficiency Issues in Accessing and Hedging International Exposure

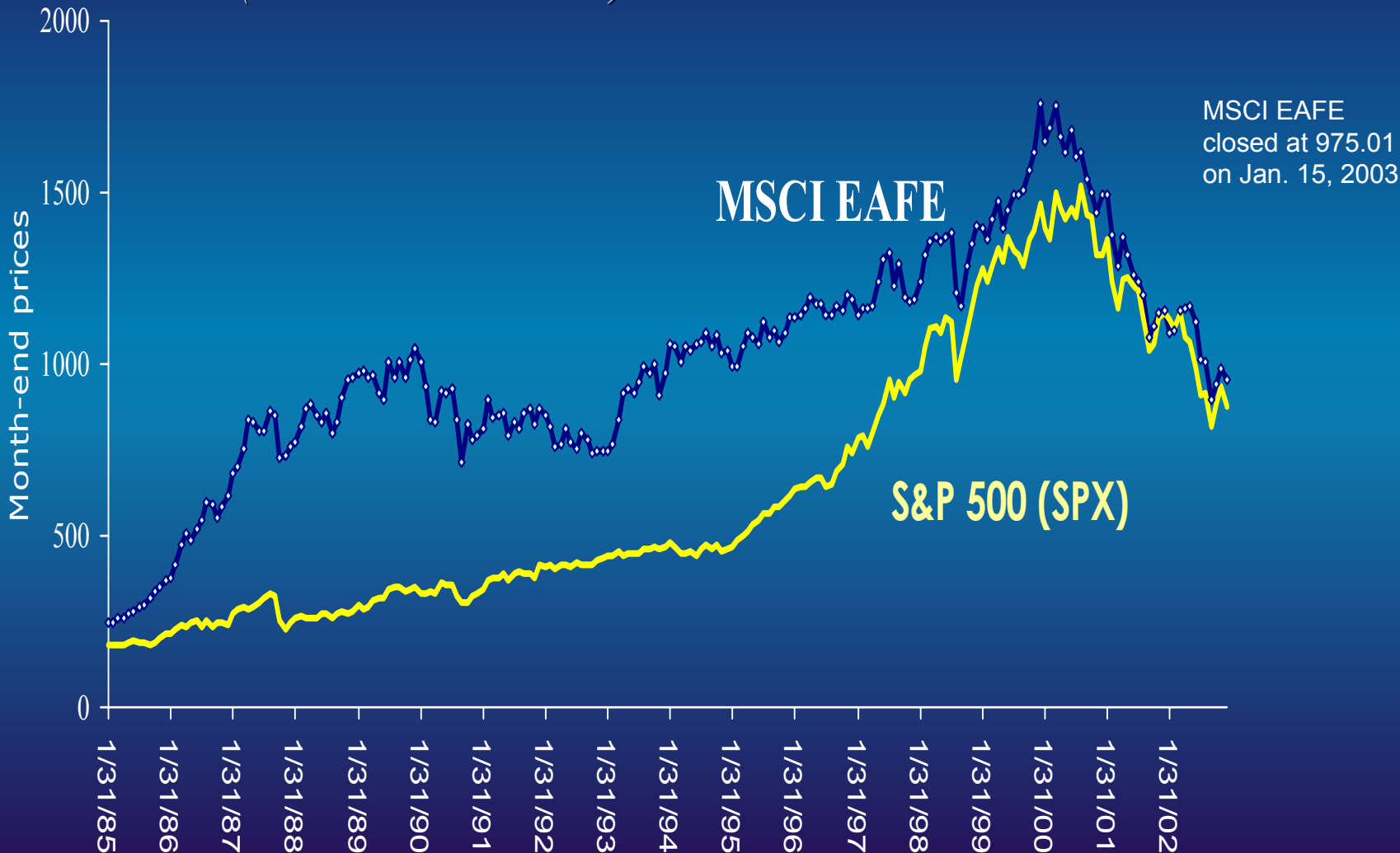
**For Meeting of QWAFEFW Chicago
at the CBOE on January 16, 2003**

Prepared by Matthew Moran of CBOE

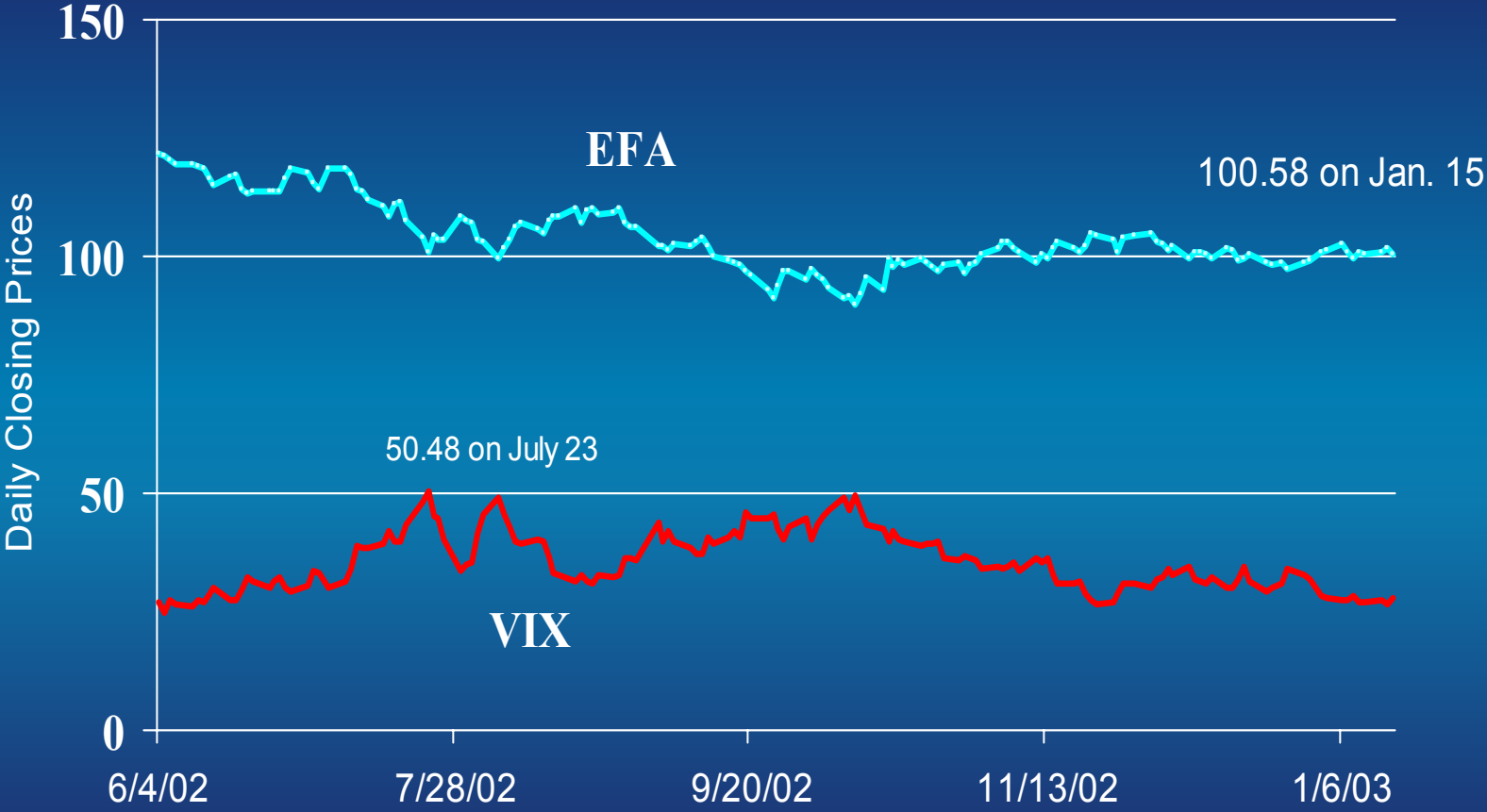
**(this is an introduction to comments by
Josh Ortego of Susquehanna Investment Group)**

MSCI EAFE and S&P 500 (SPX)

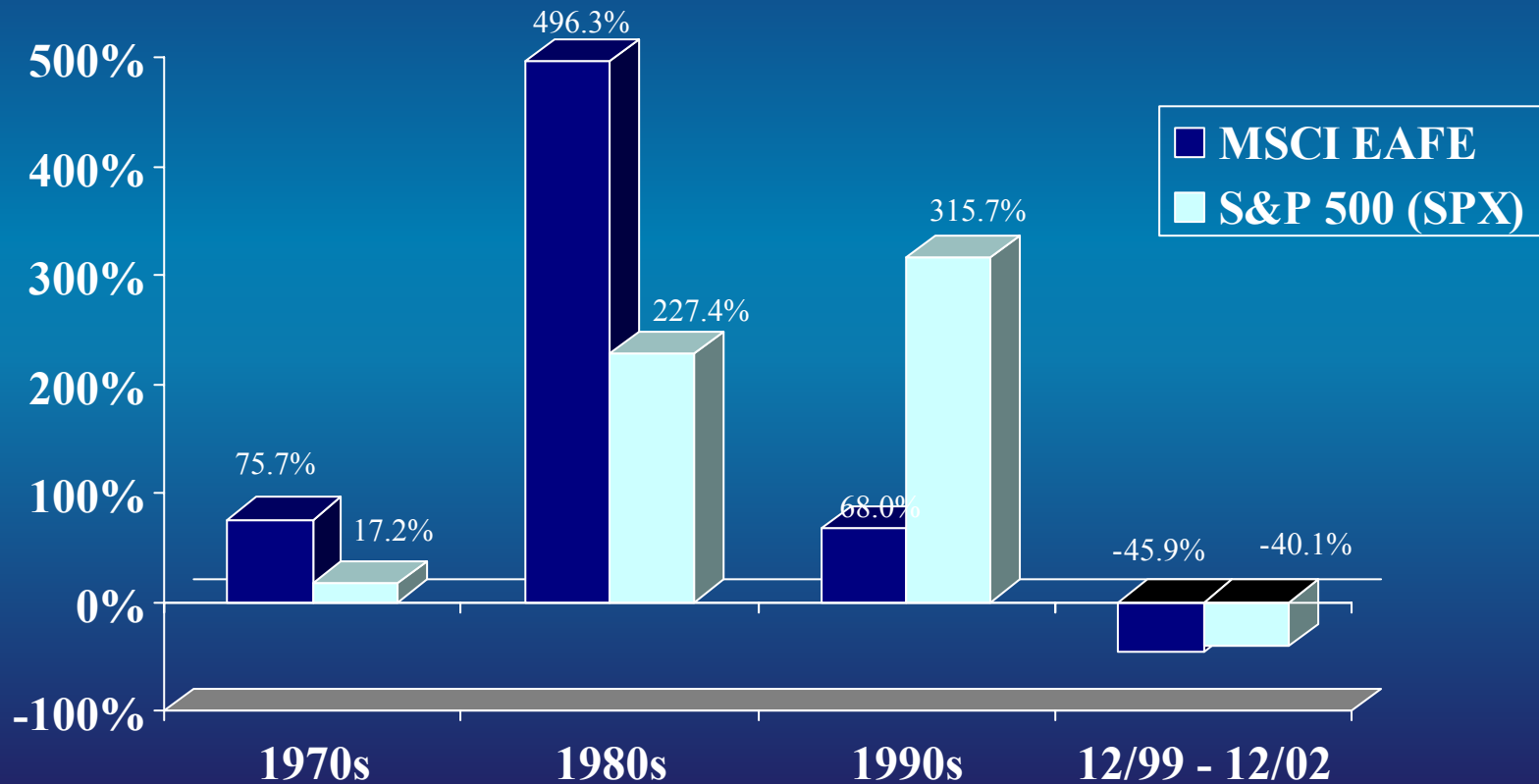
(Jan. 1985 – Dec. 2002)



EFA and VIX Prices Since June 2002



Price Changes Per Decade



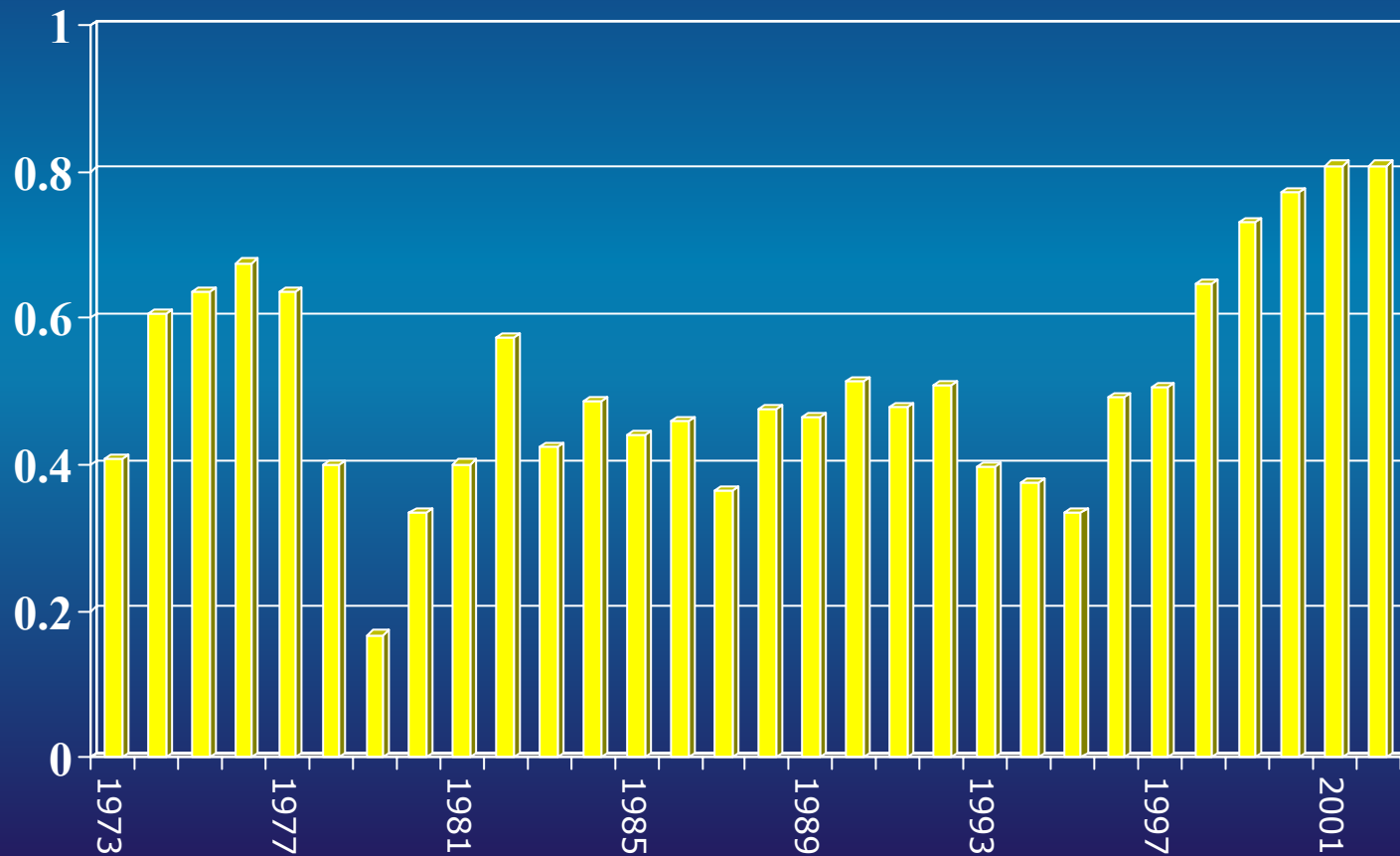
Index Performance Over 33 Years

(31 Dec 1969 – 31 Dec. 2002)

	<u>S&P 500</u> <u>(SPX)</u>	<u>MSCI</u> <u>EAFE</u>	<u>Dow 30</u> <u>(DJX)</u>
<u>Annualized</u> <u>Returns</u>	7.94%	7.07%	8.08%
<u>Annualized Standard</u> <u>Deviation of Returns</u>	15.8%	16.9%	15.8%
<u>Correlation to S&P</u> <u>500 Monthly Returns</u>	1.00	0.54	0.95

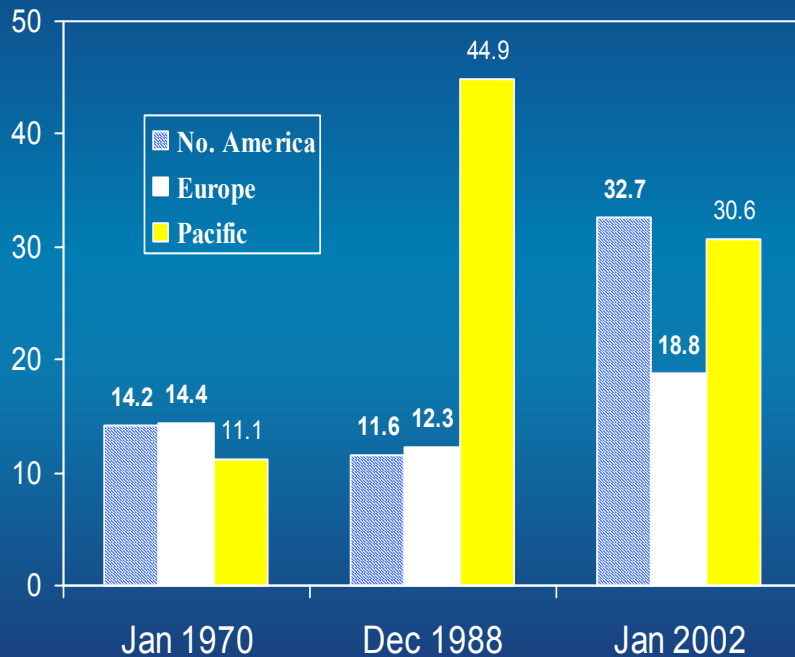
The above indexes are not total return indexes and do not include dividends or taxes. Past performance is not a guarantee of future returns.

Correlation of Monthly Returns of MSCI EAFE and S&P 500 (for previous 36 months) 1973 - 2002

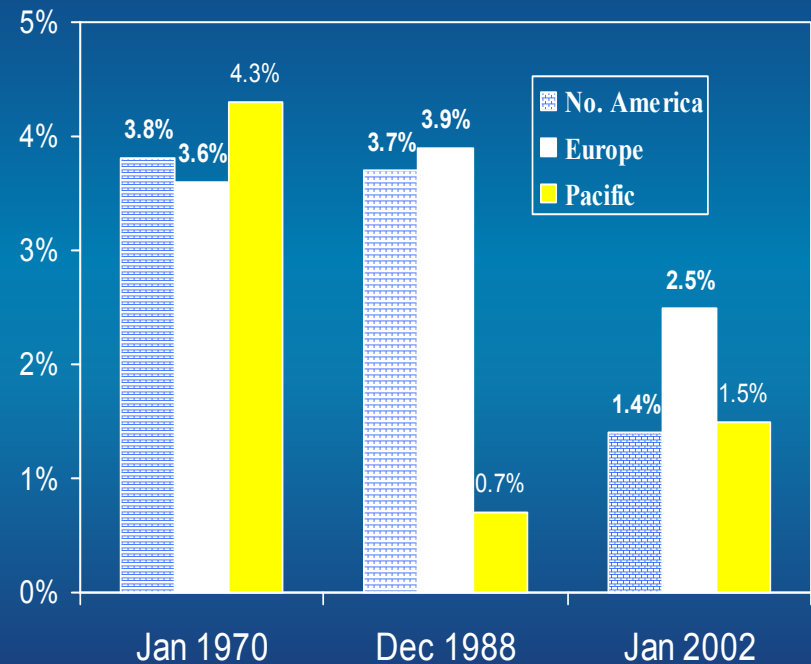


Valuations and Dividend Yields for Different Regions – 1970, 1988 & 2002

Price/Earnings



Dividend Yields

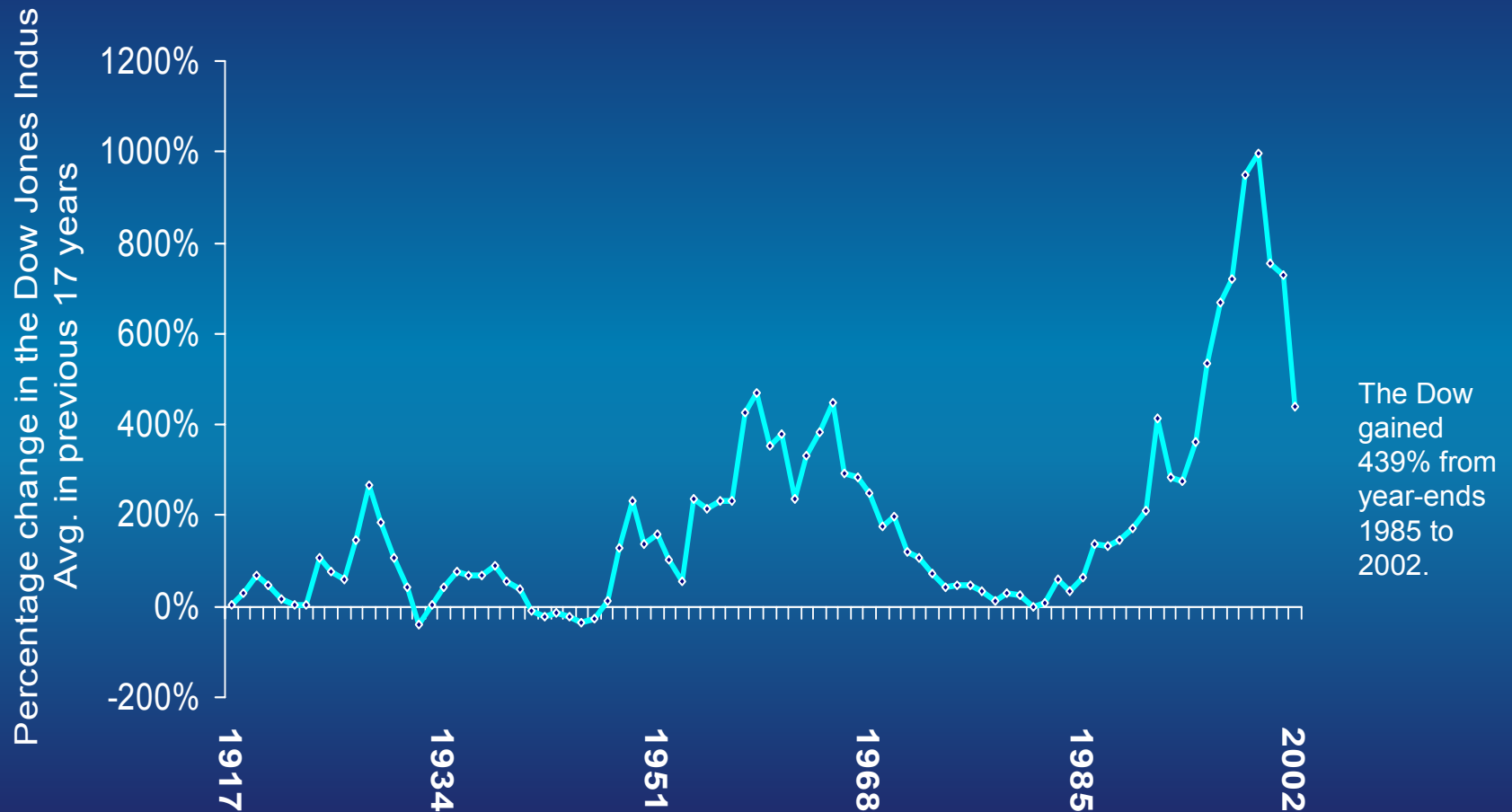


Source: Diane Garnick, Global Investment Strategist, State Street Global Advisors.

Caution: In light of the fact that different regions have different accounting standards and practices, one should be careful in use of price/earnings ratios for worldwide comparisons.

Cycles for U.S. Stocks

The chart below shows the % change in the DJIA for the previous 17 years.



ETFs Appeal to Diverse Market Participants

Institutional investors

Market Intermediaries

Hedge Funds

Financial Advisors

Individual Investors

**Access to market exposure
(tactical/strategic)**

Risk management

Transition management

Arbitrage

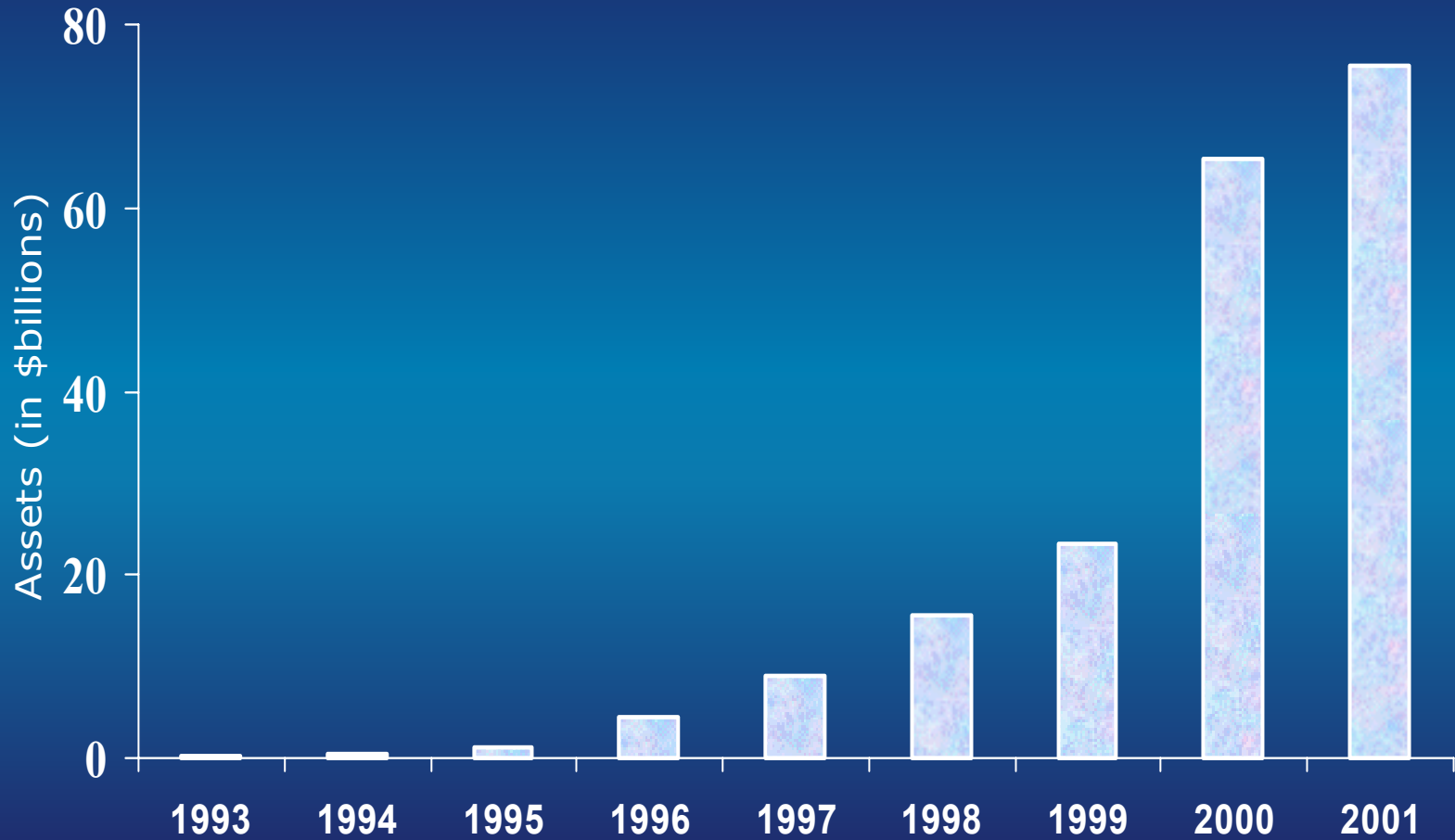
Tax efficiency

Leading ETFs

as of November 2002

<u>Symbol</u>	<u>Fund Name</u>	<u>Assets (\$millions)</u>	<u>Average Daily Volume in Nov. 2002</u>
SPY	S&P 500 SPDR	\$43,714	40,971,264
QQQ	NASDAQ-100 Shares	\$20,478	83,700,186
MDY	S&P 400 MidCap SPDR	\$5,180	1,681,735
DIA	Diamonds Trust, Series I	\$4,845	8,974,370
IVV	iShares Trust - S&P 500 Indx Fnd	\$4,347	559,260
IWM	iShares Trust - Russell 2000 Indx	\$2,170	1,386,845
EFA	iShares MSCI EAFE Index Fund	\$2,109	385,090
LQD	iShares GS \$ InvesTop Bond Fund	\$1,778	213,480

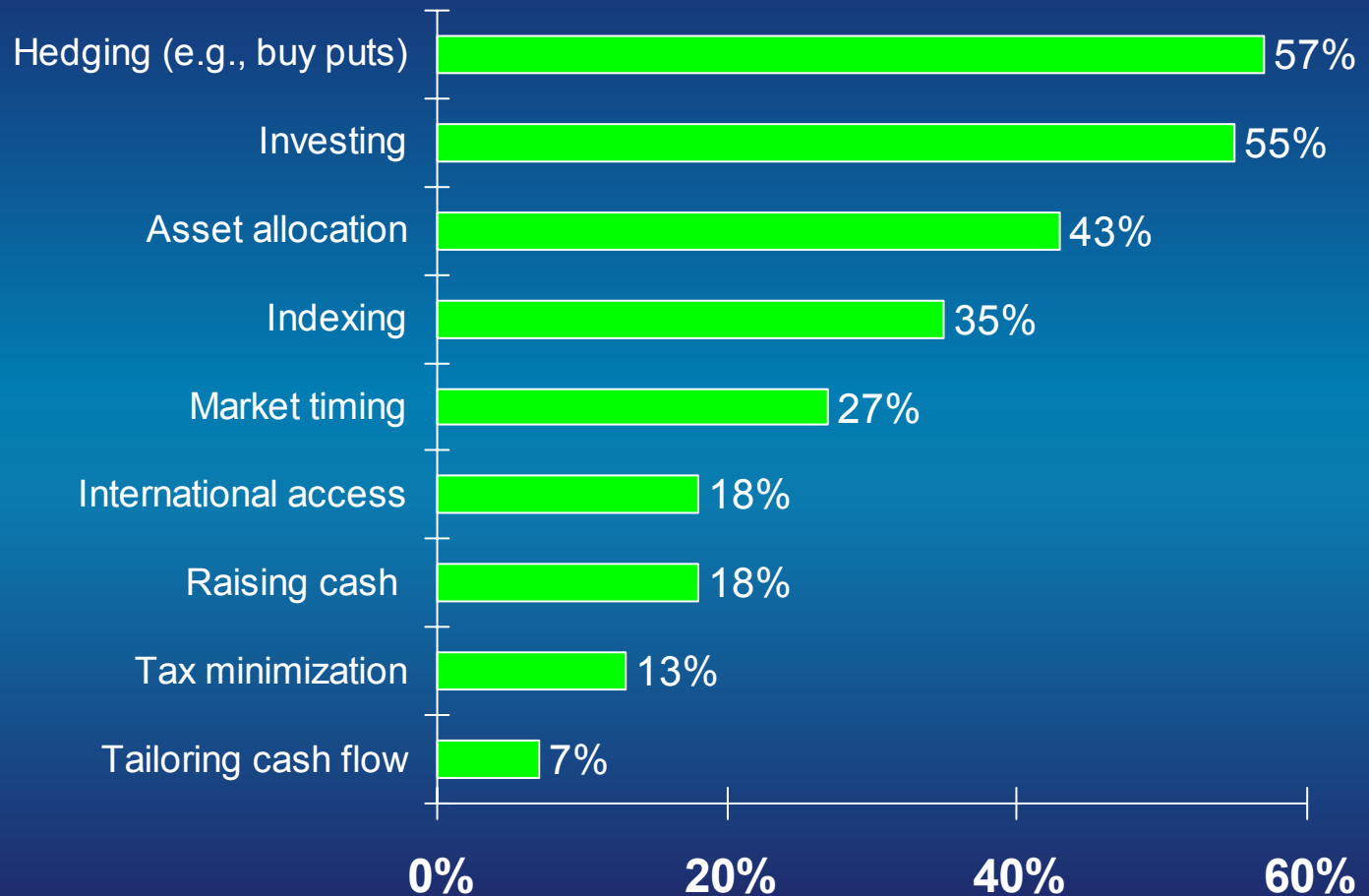
Growth in ETF Assets



EFA Options

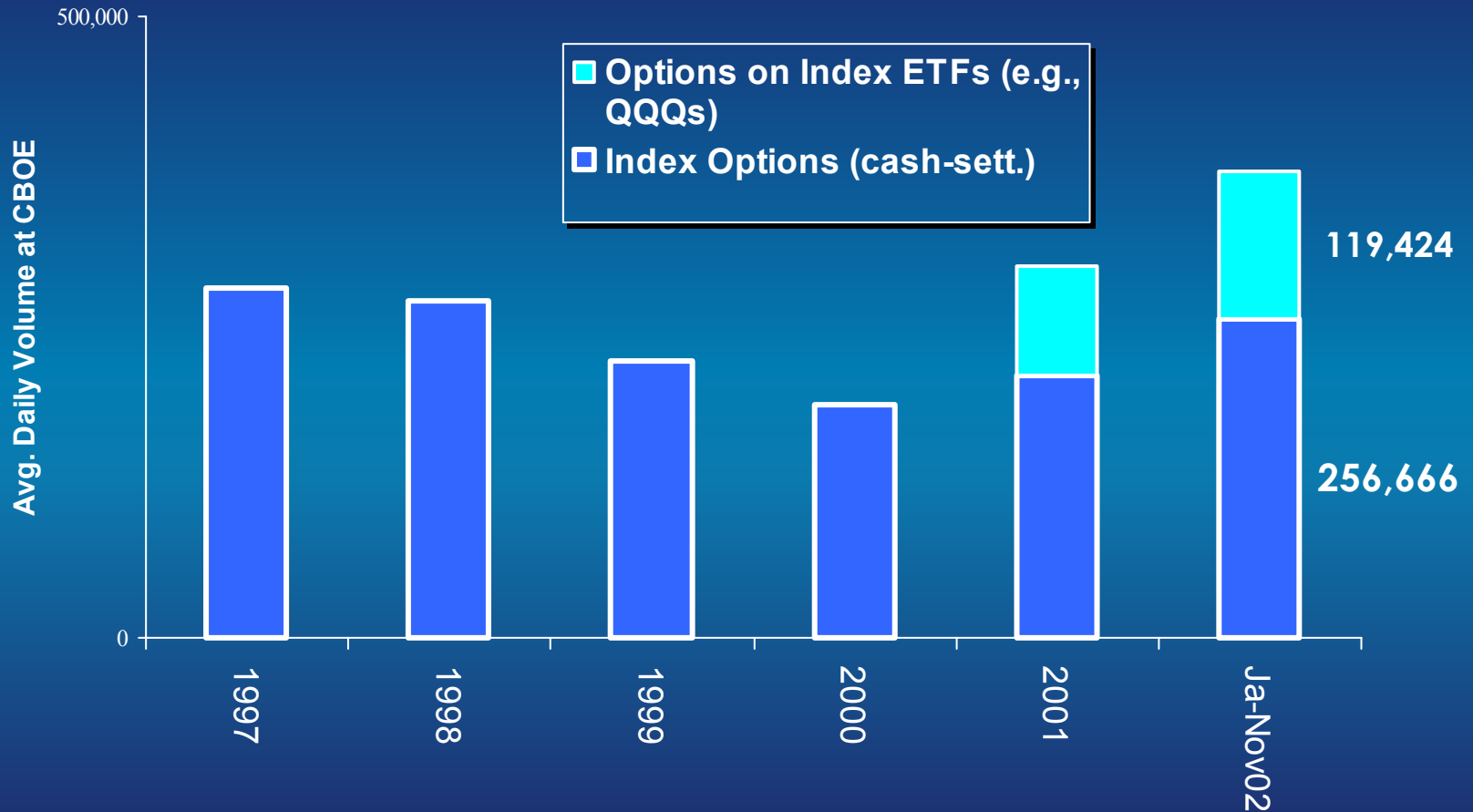
- **Underlying** - 100 shares of the iShares MSCI EAFE Exchange Traded Fund
- **Exercise Style** – American
- **Settlement of Option Exercise** – Physical delivery
- **Trading Hours** – 9:30 to 4:15 (Eastern Time)
- **DPM** – Susquehanna Inv. Group
- **Website** – www.cboe.com/efa

Reasons Institutions Use Equity Derivatives



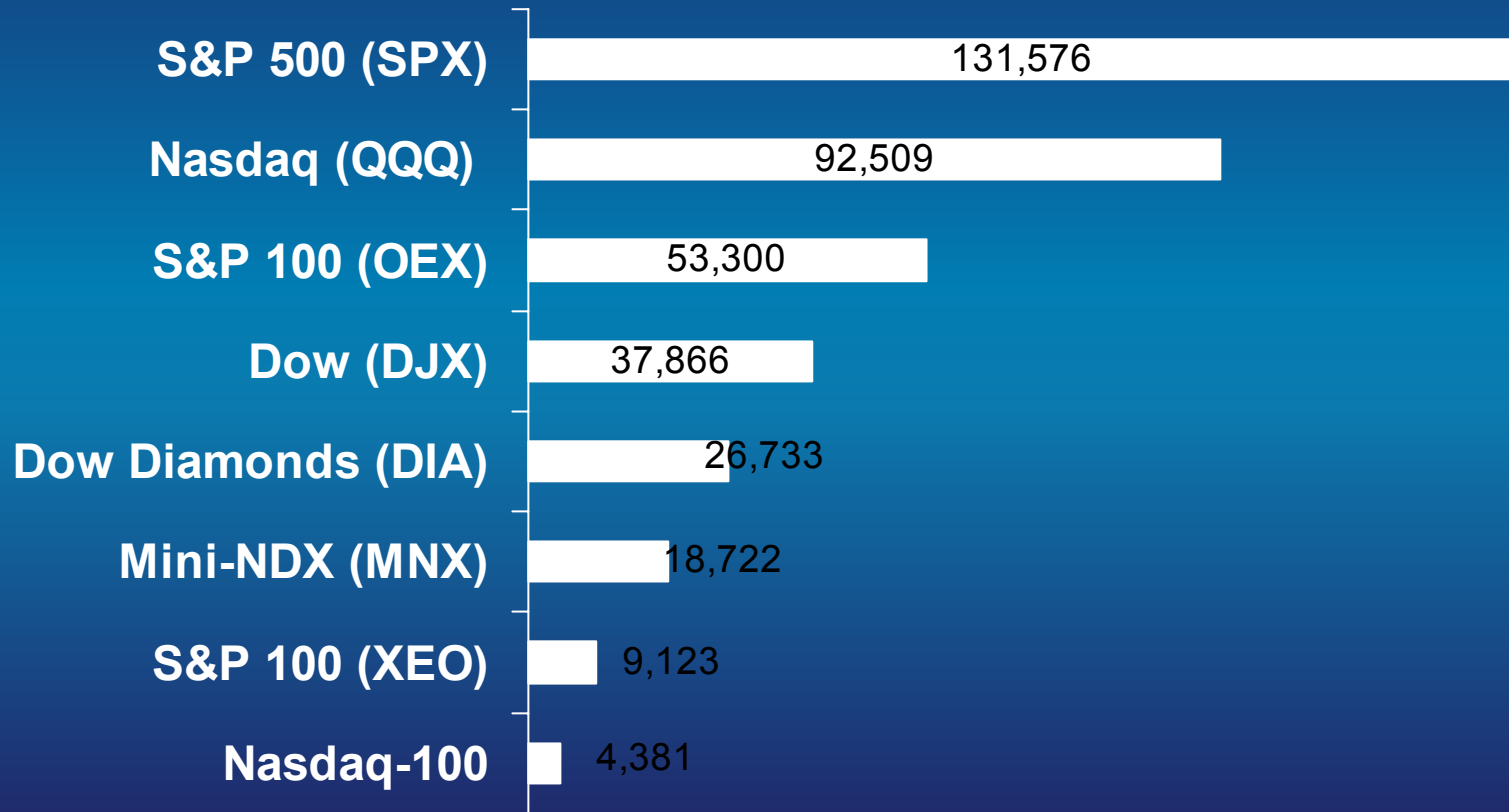
Source: 1999 survey of 118 institutions by Greenwich Associates

Index Options Volume on the CBOE



CBOE Index Options

Avg. Daily Volume in Jan. 2003 (through Jan. 15)



Gaining Exposure to MSCI EAFE

Excerpted from estimates in a Dec. 9, 2002 presentation by Maura Mimmaugh of Morgan Stanley

<u>Investment Vehicle</u>	<u>Tracking Risk (1)</u>	<u>Country Capitalization Coverage</u>	<u>RT Commissions (2) (bps)</u>	<u>Other Costs (bps)</u>	<u>Total Costs (not including bid/ask spread & mkt. impact)</u>	<u>Expiration</u>	<u>Key Features</u>
Stocks	0% - 2%	100%	18	36 (Est. of annual custody, admin., etc.)	54	None	Invest in stocks across countries with multiple settlements, local custodial relationships
iShares MSCI EAFE	0.19%	98.9%	10	35 (Annual expense ratio)	45	None	Invest in one security traded in US\$ during US market hours
Index Futures	1% - 2%	99.7%	14	1 – 15 (Est. of futures roll costs)	15 - 29	Quarterly/ monthly	Invest in up to 5 CFTC-approved index futures. Periodic roll and daily margin administration.

(1) Tracking risk is based on annualized standard deviations of 5-day historical returns. (2) Based on annual round-trip commission (\$0.10/share for iShares).

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