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CAMBRIDGE ASSOCIATES LLC

GLOBAL MARKET COMMENT

GLOBAL ETFs ARE THRIVING, BUT ARE THEY COST-EFFECTIVE?

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Global ETFs Are Thriving, But Are They Cost-Effective?

Exchange-traded funds (ETFs) have grown spectacularly in recent years. Investors can currently choose from a lavish menu of 318 ETFs with \$248 billion in assets under management, up from 202 ETFs in 2001 with \$105 billion in assets. Average daily trading volume has grown from about 80 million shares to 233 million over the same period. There are 148 U.S.-listed ETFs with about \$180.5 billion under management, Europe offers 109 ETFs with \$26.5 billion under management, and Japan, 15 ETFs with \$25.6 billion (Tables A and B).¹

The types of funds have multiplied just as rapidly, and their sheer quantity and variety significantly outnumber traditional index funds, underscoring their superior versatility. There are ETFs based on equities of developed markets, developing markets, regional indices, individual countries, styles, sectors, as well as fixed income ETFs, HOLDRS, and BLDRs² (Table C). There are also a host of ETF-like products whose structure varies, sometimes significantly, from formal ETFs. In coming years, investors should expect even more ETFs—not only those that expand and deepen options for investing in global equities, but also innovative and alternative vehicles such as leveraged ETFs, hedge funds, property funds, private equity funds, and structured products.

As discussed in more detail in our September 2001 report, *Exchange-Traded Funds: Versatility at a Price*, ETFs are like turbo-charged index funds. Like index funds, they are diversified baskets of securities that track the performance of indices or baskets of securities, but unlike index funds, they are traded as individual stocks on major stock exchanges, are priced and traded during the day, offer minimal premium or discounts to net asset value, and are exempt from the uptick rule.

However, while the cost structure of ETFs may be competitive with that of actively managed mutual funds, it is generally unfavorable relative to traditional index mutual funds or commingled index fund accounts, because commissions and management fees tend to be lower for traditional index funds. Expense ratios vary significantly depending primarily on the liquidity of the underlying stocks, with expense ratios and bid/ask spreads low enough for the most popular U.S. large-cap equity ETFs to make them cost competitive with traditional index funds in some cases. U.S. large-cap equities are the exception, not the rule, as annual total expense ratios vary considerably: 10 basis points (bps) for the popular SPDR S&P Depositary Receipts and 20 bps for Nasdaq 100 Index, while developed market iShares average 59 bps; regional European funds, 47 bps; emerging markets iShares ETFs, 74 bps; and 30 bps for many BLDRS.³ These costs may fall as trading volume expands in the future; for example, Barclay's recently cut the iShares annual fees by 25 bps across-the-board, and in Europe in 2002 AXA reduced its management fees by over 50% for some of its ETFs. It seems unlikely that costs for less-liquid markets will approach those of developed countries and regions.

¹ Japanese-listed ETFs currently include domestic securities only.

² HOLDRS are static custom portfolios of large-cap stocks, and BLDRS are based on indices of liquid ADRs.

³ iShares are based on MSCI and S&P indices.

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> Although on a strict cost-comparison basis, ETFs are not preferable to index funds, but their versatility provides investors with additional approaches to equitize cash, diversify portfolios, and control risk. For example, ETFs may provide a more cost effective way of implementing a more efficiently structured passive exposure to global equities. We have argued for many years that the efficiency of global portfolios that use a market capitalization structure is less than optimal. An "optimal" portfolio in risk-return space is derived from expected returns, expected standard deviation of returns, and expected correlations among the returns; a country's market capitalization is irrelevant to this calculation, except to the extent it influences these factors. In fact, the weighting of each country or region should at least be partly determined by the estimated correlation of its returns with those of the investor's domestic equity market. This means that a global equity investor's optimal allocations to the largest countries should generally be significantly less than otherwise dictated by their relative market-cap weighting, and that the policy portfolio benchmark should therefore be something other than a cap-weighted index. In practice, active managers tend to underweight the largest countries in global or international benchmarks, though their bets are usually limited by the business risk of varying too much from the cap-weighted benchmarks against which their performance is measured. Furthermore, for investors who choose to index their global equity exposure, market-cap weighted index funds are the standard.⁴

> Tables D through G compare the historical risk-return trade-off of cap-weighted indices against more optimal global equity portfolios that are equal-weighted by country and by region.⁵ (This exercise does not consider trading costs involved with rebalancing.) Since 1979 for developed markets and 1988 for emerging markets, regional and country equal-weighted indices have had higher risk-adjusted returns over the full period and rolling five-year periods than traditional cap-weighted indices. It is particularly striking that in both US\$ and local currency, the "country" equal-weighted indices offer substantially superior risk-return ratios, with the sole exception of emerging markets in local currency. However, over shorter periods, the relative efficiency of these three alternative weighting constructs varied considerably (Tables F and G).

In sum, ETFs allow investors to customize portfolios according to their own needs. While ETFs may provide a more cost effective way to obtain passive exposure to more optimally weighted global equity portfolios than were previously available, they remain more expensive than traditional index funds. Therefore, investors must weigh the expected increase in risk-adjusted returns of pursuing such a strategy against the expected increase in implementation costs. Over time, we expect ETFs' cost premium to continue to shrink as these markets further deepen and broaden.

⁴ GDP-weighted benchmarks became quite popular in the 1990s as a way of decreasing the significant exposure to Japanese equity markets, but the significant drop in Japan's index weighting has since muted enthusiasm for them and they are now rarely discussed.

⁵ As of September 30, 2004, the cap-weighted MSCI World Index has the following market-cap weightings: U.K., 10.9%; Europe ex U.K., 18.7%; Japan, 9.5%; Pacific ex Japan, 3.5%; and North America, 57.4%. The "regional" equal-weighted index allocates 20% weight to each region (while maintaining the cap-weighted structure for the underlying country composition of each region). In the "country" equal-weighted indices, the average market-cap per country is simply the total market-cap weight of the index divided by the number of constituent countries (23 countries in MSCI World, 21 in EAFE, and 26 in Emerging Markets). The cap-weighted MSCI Emerging Markets included Asia, 52.1%; Latin America, 18.9%; Africa, 15.5%; and Europe and Middle East, 13.5%.

Number of ETFs - 350 300 250 200 150 - 100 50 \$247,962 0 2004318 2004 \$212,016 2003 282 2003 \$74,337 \$104,800 \$141,621 2002 280 2002 2001202 2001 Number of ETFs 200092 2000\$39,605 1999 33 1999 Assets \$17,596 1993-2004 1998 31 1998 \$8,234 1997 $\frac{1}{2}$ 1997 \$5,258 1996 $\frac{1}{2}$ 1996 \$2,302 1995 1995 \$1,121 Source: Morgan Stanley Strategy Reports. 1994 ς 1994 \$811 1993 ς 1993 Assets (US\$ mm) Number of ETFs \$300,000 \$50,000 \$0 \$250,000 \$200,000 \$150,000 \$100,000 Assets in millions of US\$

Notes: Data include both global and domestic ETFs. Data for 2004 are through September 30.

GROWTH OF GLOBAL EXCHANGE-TRADED FUNDS

Table B

GLOBAL LISTINGS OF EXCHANGE-TRADED FUNDS

ETFs Country/Region	Number of Primary <u>ETF Listings</u>	Total <u>ETF Listings</u>	Assets Under Management (US\$ billions)	Number of <u>Managers</u>	Number of Exchanges (official listings)
United States	148	148	\$180.46	7	4
Europe	109	178	\$26.45	14	11
Japan	15	15	\$25.59	4	2
Canada	16	16	\$6.20	2	1
Korea	4	4	\$0.43	2	2
Australia	4	4	\$0.54	2	1
South Africa	4	4	\$0.98	2	1
Hong Kong	4	6	\$5.02	3	1
India	5	5	\$0.03	3	2
Israel	7	7	\$0.61	2	1
Singapore	1	6	\$0.27	1	1
Taiwan	1	1	\$1.38	1	1
ETF Total	318	394	\$247.96	43	28
HOLDRS	17	17	\$6.76	1	
ETFs & HOLDRS Total	335	411	\$254.72	44	28

As of September 30, 2004

Source: Morgan Stanley Strategy Reports.

Note: "Primary Listing" refers to the exchange where the fund started trading, while "total listing" includes exchanges where the ETF is cross-listed.

Table C

GLOBAL EXCHANGE-TRADED FUNDS

ETF Name ETFs Listed in U.S. ¹	Assets Under Management <u>(US\$ approx)</u>	Average Daily US\$ <u>Volume</u>	Annual Total Expense <u>Ratio (bps)</u>
BLDRS Asia 50 ADR Index	\$21,917,000	\$90,298	30.0
BLDRS Developed Markets 100 ADR Index	\$17,850,000	\$84,907	30.0
BLDRS Emerging Markets 50 ADR Index	\$14,402,000	\$156,838	30.0
BLDRS Europe 100 ADR Index	\$9,018,000	\$28,677	30.0
iShares MSCI EAFE	\$9,378,612,000	\$61,916,442	35.0
iShares MSCI Pacific ex Japan	\$688,086,000	\$4,472,959	50.0
iShares MSCI Australia	\$182,952,000	\$929,353	59.0
iShares MSCI Austria	\$60,418,000	\$569,795	59.0
iShares MSCI Belgium	\$24,757,200	\$513,315	59.0
iShares MSCI Brazil	\$228,598,500	\$7,019,455	74.0
iShares MSCI Canada	\$351,396,000	\$679,804	59.0
iShares MSCI EMF	\$2,071,520,000	\$34,033,704	75.0
iShares MSCI EMU	\$335,394,000	\$1,553,061	59.0
iShares MSCI France	\$63,450,000	\$189,927	59.0
iShares MSCI Germany	\$104,016,000	\$1,301,067	59.0
iShares MSCI Hong Kong	\$462,870,000	\$5,297,087	59.0
iShares MSCI Italy	\$28,863,000	\$199,369	59.0
iShares MSCI Japan	\$5,784,594,000	\$37,152,952	59.0
iShares MSCI Malaysia	\$228,825,000	\$2,329,661	59.0
iShares MSCI Mexico	\$166,050,000	\$3,617,738	59.0
iShares MSCI Netherlands	\$28,890,000	\$3,017,738 \$82,898	59.0
iShares MSCI Singapore	\$180,995,000	\$1,258,735	59.0
iShares MSCI South Africa	\$100,781,000	\$697,014	74.0
iShares MSCI South Korea	\$347,912,000	\$7,791,345	74.0
iShares MSCI Spain	\$45,249,750	\$151,407	59.0
iShares MSCI Sweden	\$29,914,500	\$213,118	59.0
iShares MSCI Sweden	\$41,195,000	\$198,560	59.0
iShares MSCI Taiwan	\$393,354,000	\$5,848,982	74.0
iShares MSCI United Kingdom	\$474,208,000	\$3,411,374	59.0
iShares S&P Europe 350 Index	\$853,111,500	\$4,409,624	60.0
iShares S&P Global 100	\$189,442,500	\$463,710	40.0
iShares S&P/TOPIX 150	\$87,759,000	\$262,441	50.0
iShares S&P Latin America 40	\$106,048,000	\$1,355,757	50.0
iShares S&P Global Energy Sector	\$223,488,000		65.0
iShares S&P Global Financials Sector		\$2,854,012	65.0
iShares S&P Global Healthcare Sector	\$32,802,000	\$316,688 \$525,224	65.0
iShares S&P Global Technology Sector	\$141,764,000 \$25,172,500	,	65.0
6,	\$25,173,500 \$20,745,000	\$212,602 \$115,711	
iShares S&P Global Telecommunications Sector StreeTRACKS DI Global Titana	\$20,745,000 \$81,243,000	\$115,711 \$274.021	65.0 54.0
StreeTRACKS DJ Global Titans	\$81,243,000	\$374,921 \$1,540,505	54.0
StreeTRACKS Dow Jones EuroStoxx 50	\$93,390,000	\$1,549,595	35.0
StreeTRACKS Dow Jones Stoxx 50	\$24,930,000	\$174,178	35.0

	Assets Under	Average Daily	Annual Total
	Management	US\$	Expense
ETF Name	<u>(US\$ approx)</u>	<u>Volume</u>	<u>Ratio (bps)</u>
ETFs Listed in Australia			• • •
streetTRACKS S&P/ASX 200	\$314,865,749	\$312,959	28.6
streetTRACKS S&P/ASX 50	\$10,757,761	\$14,167	28.6
streetTRACKS S&P/ASX 200 Property	\$108,030,518	\$223,344	40.0
Gold Bullion Fund	\$108,944,944	\$668,305	24.0
ETFs Listed in Hong Kong			
Tracker Fund of Hong Kong (TraHK)	\$3,817,532,539	\$5,802,514	10.0
Hang Seng H-Share Index	\$237,901,346	\$2,177,719	35.0
Hang Seng Index ETF	\$853,586,285	\$4,567,490	
iShares MSCI China Tracker	\$113,195,954	\$514,210	99.0
iShares MSCI South Korea	\$347,912,000	\$0	74.0
iShares MSCI Taiwan	\$393,354,000	\$0	74.0
ETFs Listed in Singapore			
streetTRACKS STRAITS TIMES	\$267,355,482	\$85,876	28.0
S&P 500 SPDR	\$45,715,784,400	\$0	10.0
iShares S&P 500	\$9,860,760,000	\$0	9.0
DIAMONDS	\$7,459,905,480	\$0	18.0
iShares MSCI-Singapore	\$180,995,000	\$0	59.0
iShares DJ US Technology	\$322,425,000	\$0	60.0
ETFs Listed in South Korea			
Kodex 200	\$271,181,143	\$7,610,951	67.0
Kodex Q	\$51,892,173	\$3,843	67.0
KOSPI 200	\$87,238,790	\$96,844	67.0
Kodex KODI	\$16,887,616	\$802	52.0
	• • • • • • • • •	• • •	
ETFs Listed in Taiwan			
Polaris Taiwan Top 50 Tracker	\$1,380,049,435	\$7,818,849	32.0
ETFs Listed in Japan			
iShares Nikkei 225	\$18,249,807	\$1,825	22.0
Topix Core 30	\$15,173,756	\$1,761	22.0
Topix Electrical Appliances	\$14,330,138	\$4,548	22.0
Topix Transportation Equipment	\$16,714,944	\$412	22.0
Topix Banking	\$23,728,475	\$3,722	22.0
ETF TOPIX	\$2,869,857,140	\$764,654	22.0
Topix Core 30	\$31,214,503	\$14,203	22.0
Topix Electrical Appliances	\$28,216,657	\$13,037	22.0
Topix Transportation Equipment	\$16,475,260	\$820	22.0
Topix Banking	\$57,496,624	\$273,915	22.0

		Average	Annual
	Assets Under	Daily	Total
	Management	US\$	Expense
ETF Name	<u>(US\$ approx)</u>	<u>Volume</u>	<u>Ratio (bps)</u>
OSE NIKKEI 225 ETF	\$5,075,425,871 \$0,702,500,168	\$21,830,871 \$42,256,221	22.0
TSE TOPIX ETF	\$9,793,590,168	\$43,356,321	22.0
ETF- NIKKEI 225	\$1,642,226,362	\$1,234,058	22.0 22.5
LISTED INDEX FUND 225 LISTED INDEX FUND TOPIX	\$1,766,129,129 \$4,217,441,510	\$8,415,531 \$2,058,512	22.5 11.0
LISTED INDEX FUND TOPIX	\$4,217,441,519	\$2,958,513	11.0
ETFs Listed in Europe			
streetTRACKS MSCI Pan-Euro Index Fund	\$731,560,136	\$764,972	50.0
streetTRACKS MSCI Europe Consumer Discretionary	\$18,723,642	\$43,158	50.0
streetTRACKS MSCI Europe Consumer Staples	\$28,043,180	\$36,007	50.0
streetTRACKS MSCI Europe Energy	\$75,706,637	\$456,912	50.0
streetTRACKS MSCI Europe Financials	\$33,532,430	\$79,751	50.0
streetTRACKS MSCI Europe Healthcare	\$45,426,221	\$74,783	50.0
streetTRACKS MSCI Europe Industrials	\$47,716,932	\$13,870	50.0
streetTRACKS MSCI Europe Info Tech	\$9,264,820	\$51,142	50.0
streetTRACKS MSCI Europe Materials	\$16,166,800	\$7,437	50.0
streetTRACKS MSCI Europe Telecom	\$28,622,698	\$96,622	50.0
streetTRACKS MSCI Europe Utilities	\$14,609,191	\$36,406	50.0
streetTRACKS AEX Index Fund	\$160,875,205	\$1,082,588	30.0
UNICO i-tracker MSCI World	\$150,767,224	\$687,189	55.0
UNICO i-tracker MSCI Europe	\$69,822,805	\$7,583	60.0
NASDAQ 100 - Total	\$162,148,030	\$4,351,567	20.0
CAC 40 Master Unit	\$2,321,655,948	\$13,488,039	30.0
S&P/MIB Master Unit	\$119,021,685	\$1,442,900	35.0
DJ Euro STOXX 50 Master Unit - Total	\$2,886,594,576	\$10,581,827	35.0
FTSEurofirst 80 Master Unit	\$313,361,035	\$631,487	35.0
MSCI US Tech Master Unit - Total	\$31,199,437	\$113,340	50.0
DJIA Master Unit - Total	\$255,062,360	\$585,786	50.0
Dow Jones Global Titans 50 Master Unit	\$26,637,912	\$98,201,050	40.0
BEL 20 Master Unit	\$35,169,008	\$92,283	50.0
EuroMTS Global Master Unit	\$130,839,156	\$37,793,634	17.0
EuroMTS 3-5Y Master Unit: MTB FP	\$127,630,668	\$8,918,979	17.0
EuroMTS 10-15Y Master Unit: MTE FP	\$65,543,938	\$2,117,719	17.0
SPDR Europe 350 - Total	\$513,737,378	\$448,104	35.0
SPDR Euro - Total	\$411,855,448	\$261,409	35.0
EasyETF ASPI Eurozone	\$17,325,835	\$2,326	60.0
EasyETF EuroStoxx Autos	\$9,815,113	\$11,970	45.0
EasyETF EuroStoxx Banks	\$59,011,432	\$17,703	45.0
EasyETF EuroStoxx Construction	\$7,494,928	\$61,977	45.0
EasyETF EuroStoxx Energy	\$56,415,118	\$25,682	45.0
EasyETF EuroStoxx Healthcare	\$35,980,631	\$25,002	45.0
EasyETF EuroStoxx Insurance	\$43,282,864	\$143,718	45.0
EasyETF EuroStoxx Media	\$20,298,338	\$37,137	45.0
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	A secto Un don	Average	Annual
	Assets Under	Daily	Total E
ETE Nome	Management	US\$ Volumo	Expense Batia (hps)
<u>ETF Name</u> EasyETF EuroStoxx Technology	<u>(US\$ approx)</u> \$11,855,438	<u>Volume</u> \$39,518	<u>Ratio (bps)</u> 45.0
EasyETF EuroStoxx Telecomm	\$17,193,205	\$99,721	45.0
EasyETF EuroStoxx Teleconnin EasyETF EuroStoxx Utilities	\$29,240,518	\$67,619	45.0
EasyETF Euro STOXX 50	\$68,980,005	\$344,812	45.0
EasyETF STOXX 50 Europe	\$22,800,946	\$9,821	45.0
EasyETF Global Titans 50	\$19,071,290	\$13,266	45.0
eb.rexx® Government Germany Ex	\$403,395,697	\$497,322	15.0
eb.rexx® Government Germany 1.5-2.5EX	\$140,927,239	\$1,227,348	15.0
eb.rexx® Government Germany 2.5-5.5EX	\$533,810,947	\$131,628	15.0
eb.rexx Government Germany 5.5-10.5EX	\$49,493,415	\$196,277	15.0
IndEXchange DAX EX	\$1,648,432,341	\$46,043,239	50.0
IndEXchange MDAX Ex	\$57,321,168	\$512,991	50.0
IndEXchange TecDAX EX	\$123,954,947	\$511,506	50.0
IndEXchange DJ EuroSTOXX 50 Ex - Total	\$2,114,168,401	\$25,839,147	40.0
IndEXchange DJ STOXX 50 Ex - Total	\$287,807,417	\$3,703,143	50.0
IndEXchange DJ Euro STOXX Banks Ex	\$34,721,809	\$1,085,744	50.0
IndEXchange DJ EuroSTOXX Healthcare Ex	\$9,911,654	\$121,457	50.0
IndEXchange DJ Euro STOXX Technology Ex	\$31,162,962	\$826,062	50.0
IndEXchange DJ Euro STOXX Telecommunications Ex	\$45,840,041	\$256,772	50.0
IndEXchange DJ STOXX 600 Automobiles & Parts Ex	\$21,123,989	\$58,909	50.0
IndEXchange DJ STOXX 600 Basic Resources Ex	\$32,931,772	\$191,916	50.0
IndEXchange DJ STOXX 600 Banks Ex	\$83,419,121	\$1,255,521	50.0
IndEXchange DJ STOXX 600 Chemicals Ex	\$19,249,038	\$207,665	50.0
IndEXchange DJ STOXX 600 Construction & Materials Ex	\$12,943,911	\$217,156	50.0
IndEXchange DJ STOXX 600 Travel & Leisure Ex	\$10,852,201	\$26,189	50.0
IndEXchange DJ STOXX 600 Oil & Gas Ex	\$74,929,922	\$657,401	50.0
IndEXchange DJ STOXX 600 Financial Services Ex	\$6,727,379	\$172,523	50.0
IndEXchange DJ STOXX 600 Food & Beverage Ex	\$44,803,426	\$55,907	50.0
IndEXchange DJ STOXX 600 Healthcare Ex	\$55,218,078	\$308,750	50.0
IndEXchange DJ STOXX 600 Industrial Goods & Services Ex	\$35,172,490	\$82,001	50.0
IndEXchange DJ STOXX 600 Insurance Ex	\$79,564,844	\$239,952 \$200,415	50.0
IndEXchange DJ STOXX 600 Media Ex	\$27,008,231	\$298,415	50.0
IndEXchange DJ STOXX 600 Personal & Household Goods Ex	\$18,790,721	\$28,099	50.0
IndEXchange DJ STOXX 600 Retail Ex	\$11,449,489	\$188,310	50.0
IndEXchange DJ STOXX 600 Technology Ex	\$39,717,288	\$360,211	50.0
IndEXchange DJ STOXX 600 Telecommunications Ex	\$86,980,493 \$28,752,425	\$97,594 \$72,620	50.0
IndEXchange DJ STOXX 600 Utilities Ex	\$28,753,425 \$25,458,182	\$73,629 \$526,917	50.0
IndEXchange FTSE 100 EX	\$25,458,183 \$25,110,812	,	50.0
IndEXchange DJ Global Titans Ex IndEXahanga Day, Japas Industrial Avarage EX	\$25,119,812 \$07,782,062	\$19,212	50.0
IndEXchange Dow Jones Industrial Average EX IndEXchange SMI Ex - Total	\$97,782,962 \$36,062,037	\$1,015 \$198,220	50.0 50.0
iShares DJ EuroSTOXX 50 - Total	\$2,709,646,463	\$198,220	25.0
iShares DJ STOXX 50 - Total	\$632,773,526	\$3,702,402 \$1,848,304	25.0 35.0
	\$0 <i>52</i> ,77 <i>5</i> ,520	\$1,0 + 0,30 4	33.0

	Assets Under	Average Daily	Annual Total
	Management	US\$	Expense
ETF Name	<u>(US\$ approx)</u>	<u>Volume</u>	<u>Ratio (bps)</u>
iShares S&P 500 - Total	\$935,950,050	\$3,082,830	40.0
iShares FTSE 100 Index Fund - Total	\$1,321,393,521	\$13,161,576	40.0
iShares FTSE 250 Index Fund	\$136,316,070	\$978,068	40.0
iShares FTSE EuroTop 100 - Total	\$67,085,753	\$60,361	55.0
iShares FTSE Euro 100 - Total	\$197,493,142	\$712,400	55.0
iShares iBoxx € Liquid Corporates - Total	\$427,980,587	\$2,073,320	20.0
iBoxx Sterling Corp Bond	\$1,989,302	\$2,067,775	20.0
iShares GS \$InvesTops Corporate Bond Fund	\$140,400,000	\$845,640	20.0
Fresco SMI	\$147,402,115	\$1,160,783	35.0
FRESCO DJ Germany Titans 30	\$14,307,618	\$61,352	50.0
Fresco DJ UK Titans 50 - Total	\$8,736,306	\$36,798	50.0
Fresco Euro Stoxx 50 - Total	\$179,756,098	\$958,749	50.0
Fresco Euro Stoxx 50 Bees shares		\$0	29.0
Fresco DJ US Large Cap - Total	\$50,538,545	\$120,513	50.0
Fresco DJ Industrial Average - Total	\$137,605,843	\$236,091	55.0
Fresco DJ US Technology - Total	\$27,378,306	\$114,196	60.0
Fresco DJ Japan Titans 100 - Total	\$288,008,612	\$1,143,072	70.0
Beta1 MSCI Euro	\$177,237,250	\$2,085,235	62.0
Beta1 Ethical Index Euro	\$13,203,612	\$23,012	92.0
Beta1 MSCI Pan Euro	\$28,149,197	\$2,083,143	
XMTCH on SMI - Total	\$1,787,162,446	\$14,326,297	35.0
XMTCH (Lux) on MSCI Euro	\$344,162,480	\$3,747,800	40.0
XMTCH (Lux) on DJ Banks Titans	\$6,775,000	\$1,631	50.0
XMTCH (Lux) on DJ Healthcare Titans	\$5,575,000	\$6,175	50.0
XMTCH (Lux) on DJ Technology Titans	\$8,850,500	\$115,029	50.0
XMTCH Swiss Bond Index Domestic Government 3 - 7	\$79,858,485	\$10,248,222	15.0
XMTCH on Swiss Bond Index Domestic Government 7+	\$4,186,043	\$6,459,178	15.0
XACT OMX	\$288,908,427	\$3,789,044	30.0
XACT SBX	\$520,345,083	\$2,670,135	30.0
HEX25 Index Share	\$113,569,283	\$3,174,858	25.0
TrackinDex DJ Stoxx Sustainability	\$41,758,844	\$436,541	40.0
Dia monds	\$9,413,188,444	\$2,674	18.0
ETFs Listed in Canada			
TD S&P/TSX Composite Index	\$134,485,137	\$27,751	25.0
TD S&P/TSX Composite Index TD S&P/TSX Capped Composite Index	\$68,635,196	\$3,499	25.0
TD Select Canadian Value Index Fund	\$22,089,180	\$21,795	55.0
TD Select Canadian Growth Index Fund	\$13,790,694	\$1,659	55.0
iUnits S&P/TSX 60 Index Fund	\$4,324,734,935	\$51,007,086	17.0
iUnits S&P/TSX Copped 60 Index Fund	\$4,524,754,955 \$253,189,203	\$389,121	17.0
iUnits S&P/TSX Capped of Index Fund	\$97,340,468	\$607,832	55.0
iUnits S&P/TSX Canadian Energy Index Fund	\$159,899,326	\$1,824,488	55.0
iUnits S&P/TSX Canadian Financials Index Fund	\$117,982,212	\$562,909	55.0
	ØII/,702,212	\$502,707	55.0

LISTED ETFs AROUND THE WORLD

	Assets Under Management	Average Daily US\$	Annual Total Expense
ETF Name	<u>(US\$ approx)</u>	<u>Volume</u>	<u>Ratio (bps)</u>
iUnits S&P/TSX Canadian Gold Index Fund	\$317,012,604	\$6,771,029	55.0
iUnits S&P/TSX Canadian REIT Index Fund	\$69,628,577	\$140,562	55.0
iUnits S&P/TSX Canadian Inform. Tech Index Fund	\$93,051,130	\$438,660	55.0
iUnits MSCI International Equity Index RSP	\$128,101,704	\$258,807	35.0
iUnits S&P 500 Index RSP Fund	\$149,445,612	\$368,808	30.0
iUnits Government of Canada 5 year Bond Fund	\$194,383,948	\$480,157	25.0
iUnits Government of Canada 10 year Bond Fund	\$60,577,313	\$168,340	25.0
ETFs Listed in South Africa			
SATRIX40	\$534,828,194	\$641,040	30.0
SATRIX Industrials	\$131,184,139	\$48,157	50.0
SATRIX Financials	\$155,244,579	\$75,996	59.0
NewRand	\$156,383,801	\$67,624	
	+;;	<i>+••</i> ,•_	
ETFs Listed in Israel			
TALI 25	\$58,724,041	\$1,397,445	80.0
KSM TA 100	\$187,732,536	\$988,662	100.0
KSM TEL AVIV TECHNOLOGY 15	\$44,065,714	\$221,264	100.0
KSM EuroSTOXX 50	\$117,578,125	\$97,254	50.0
KSM Banks	\$49,979,429	\$126,360	50.0
KSM DJIA	\$107,763,951	\$492,165	50.0
KSM TA Bonds	\$47,262,013	\$8,429	40.0
ETFs Listed in India	¢4,000,001	¢17.166	00.0
Nifty BeES	\$4,008,981	\$15,166	80.0
Junior BeES	\$1,144,369	\$5,851	100.0
LIQUID BENCHMARK ETF BeES	\$11,642,974	\$33,036	25.0
Sensex Spice	\$3,484,505	\$194	
S&P CNX Nifty (SUNDER)	\$12,344,195	\$169,747	48.0
HOLDRS			
Europe 2001 HOLDRS ²	\$16,927,100	\$74,266	0.0
-		-	

Source: Morgan Stanley Strategy Reports.

¹For the sake of brevity, U.S.-listed domestic ETFs are excluded.

 2 Expenses for HOLDRS consist of a custody fee of \$2 per round lot (100 shares) per quarter. However, according to the HOLDRS prospectus, the trustee will waive that portion of the fee, which exceeds the total cash dividends and other cash distributions.

Table D

RISK AND RETURN COMPARISON FOR VARIOUS DERIVATIONS OF GLOBAL EQUITY INDICES

First Quarter 1979 - Third Quarter 2004 U.S. Dollars (\$)



Sources: Cambridge Associates LLC Investment Manager Database, Morgan Stanley Capital International, and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: See Table F for specific figures. Equal-weighted returns are calculated based on data provided by MSCI. Mexico and Malaysia were not included in the historical calculation of equal-weighted returns for developed country indices. Portugal was not included in the historical calculation of equal-weighted returns for the emerging markets index. Annualized standard deviations are based on quarterly returns.

Table E

RISK AND RETURN COMPARISON FOR VARIOUS DERIVATIONS OF GLOBAL EQUITY INDICES

First Quarter 1979 - Third Quarter 2004



Sources: Cambridge Associates LLC Investment Manager Database, Morgan Stanley Capital International, and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: See Table G for specific figures. Equal-weighted returns are calculated based on data provided by MSCI. Mexico and Malaysia were not included in the historical calculation of equal-weighted returns for developed country indices. Portugal was not included in the historical calculation of equal-weighted returns for the emerging markets index. Annualized standard deviations are based on quarterly returns. CA manager median figures are in U.S. dollars.

Table F

RISK/RETURN RATIO FOR VARIOUS DERIVATIONS OF GLOBAL EQUITY INDICES



First Quarter 1979 - Third Quarter 2004 U.S. Dollars (\$)

Sources: Morgan Stanley Capital International and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Equal-weighted returns are calculated based on data provided by MSCI. Emerging markets returns begin first quarter 1992. Mexico and Malaysia were not included in the historical calculation of equal-weighted returns for developed country indices while Portugal was not included in the historical calculation for emerging markets index.

Table G

RISK/RETURN RATIO FOR VARIOUS DERIVATIONS OF GLOBAL EQUITY INDICES



First Quarter 1979 - Third Quarter 2004 Local Currency

Sources: Morgan Stanley Capital International and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Equal-weighted returns are calculated based on data provided by MSCI. Emerging markets returns begin first quarter 1992. Mexico and Malaysia were not included in the historical calculation of equal-weighted returns for developed country indices while Portugal was not included in the historical calculation for emerging markets index.