

**Achievement of Market-Friendly Initiatives and Results Program
(AMIR 2.0 Program)**

Funded By U.S. Agency for International Development

**Exchange Traded Funds (ETFs) as
A Means of Gaining International
Diversification for the Social Security
Investment Commission**

Final Report

**Deliverable for FMD Component, Work Plan Activity No. 638.02
Consultancy Agreement No. 278-C-00-02-00210-00**

September 2003

This report was prepared by Dr. Ronald E. Copley, in collaboration with Chemonics International Inc., prime contractor to the U.S. Agency for International Development for the AMIR Program in Jordan.

Data Page

Name of Component: Financial Markets Development

Author: Ronald E. Copley

Practice Area: Financial Sector

Service Offering: Pension Fund Reform

List of Key Words Contained in Report:

- Exchange Traded Funds
- Index
- International Diversification
- Mutual Funds
- Unit Investment Trust
- Liquidity
- Foreign Markets
- Sector Exposure
- Efficiency
- Standard & Poor's Depository Receipt
- QQQ
- Diamonds
- iShares
- Holding Company Depository Receipt

Abstract

Exchange Traded Funds (ETFs) offer several advantages to the SSIC for the purpose of achieving international diversification. Similar to mutual funds in some respects, ETFs are index funds that provide a cost efficient means of achieving exposure to a particular asset class, sector, country, or region of the world. Because they trade like stocks, ETFs are liquid although that liquidity depends on the liquidity of the underlying securities. They are also flexible vehicles that provide the international manager a variety of opportunities for implementing various strategies such as a “completeness” strategy or a temporary investment strategy that minimizes benchmark risk while the manager decides which specific stocks to buy. ETFs also provide an efficient means of gaining international exposure while the SSIC is searching for an active manager. Currently, equity ETFs are the largest but fixed income funds have become increasingly popular in recent years. Arbitrage pressures in the marketplace keep ETFs trading without a significant premium or discount relative to the value of the underlying securities making up the index. The marketplace offers a large selection of ETFs that trade on several global exchanges.

Table of Contents

<u>I. Definition</u>	3
<u>II. How Exchange-Traded Funds Work</u>	5
<u>III. Advantages of ETFs for the SSIC</u>	7
<u>IV. Applications of ETFs</u>	9
<u>V. Overview of available ETFs</u>	10
<u>VI. Summary and Conclusion</u>	13
<u>Appendix</u>	14

Executive Summary

The purpose of this paper has been to explain how the SSIC may incorporate Exchange-Traded Funds (ETFs) into its investment mix in order to gain international diversification. ETFs are clearly gaining popularity: showing an increase in trading volume, asset growth and product offerings¹.

The advantages and characteristics of ETFs make them a useful tool that I recommend the SSIC consider for expanding its asset allocation into the international markets. In addition to diversification, ETRs are a cost-effective alternative to traditional mutual funds. They can be particularly useful for a portfolio in transition or can be used as a temporary investment vehicle for excess cash. If, for example, the fund wishes to increase its international exposure to 5% using an active investment strategy, it can take a while to hire the correct manager. In the meantime, fund can put the additional allocation in EAFE iShares until the manager is selected².

The choices available in today's ETF market provide the investor with many creative solutions and offer them unprecedented versatility in optimizing their portfolio.

¹ Berniker, Mark, "Exchange Traded Funds", Institutional Investor (November 2002), page 1.

² Feinberg, Phyllis, "International ETFs offer cost-efficient investment for excess cash". Pensions & Investments (Volume 30, Issue 18), page 18.

I. Definition

According to the United States Securities Exchange commission (SEC), an exchange-traded fund (ETF) is “a type of investment company whose investment objective is to achieve the same return as a particular market index. An ETF is similar to an index fund in that it will primarily invest in the securities of companies that are included in a selected market index. An ETF will invest in either all of the securities or a representative sample of the securities included in the index.”³ In other words, an ETF is like an open-ended index fund that is listed on and traded on an exchange.

ETF vs. Mutual Fund/Unit Investment Trust:

Although ETFs are legally classified as either open-ended companies or Unit Investment Trusts (UITs), they differ from traditional open-end companies and UITs in the following respects:⁴

- ETF sponsors (issuers) do not sell individual shares directly to individual investors but issue the ETFs in large blocks (blocks of 50,000 shares, for example) to distributors, who are institutional investors. These large blocks are known as Creation Units (see Diagram 1 below).
- Distributors do not purchase Creation Units with cash. Instead, they buy Creation Units with a basket of securities that generally mirrors the ETF’s portfolio. The basket of securities is often purchased via program trading.
- After purchasing a Creation Unit, the distributor splits it up and sells the shares to either individual investors or other institutions. This permits distribution of individual ETF shares instead of Creation Units.
- Distributors who want to liquidate their Creation Units can sell them back to the sponsor who redeems the units by giving the distributor the securities that comprise the portfolio instead of cash. So, for example, an ETF invested in the stocks contained in the Dow Jones Industrial Average (DJIA) would give a redeeming distributor the actual securities that constitute the DJIA instead of cash.

Diagram of ETF Process.

³ <http://www.sec.gov/answers/etf.htm>.

⁴ Ibid.

Table 1 compares the characteristics of ETFs, traditional mutual funds and individual stocks.

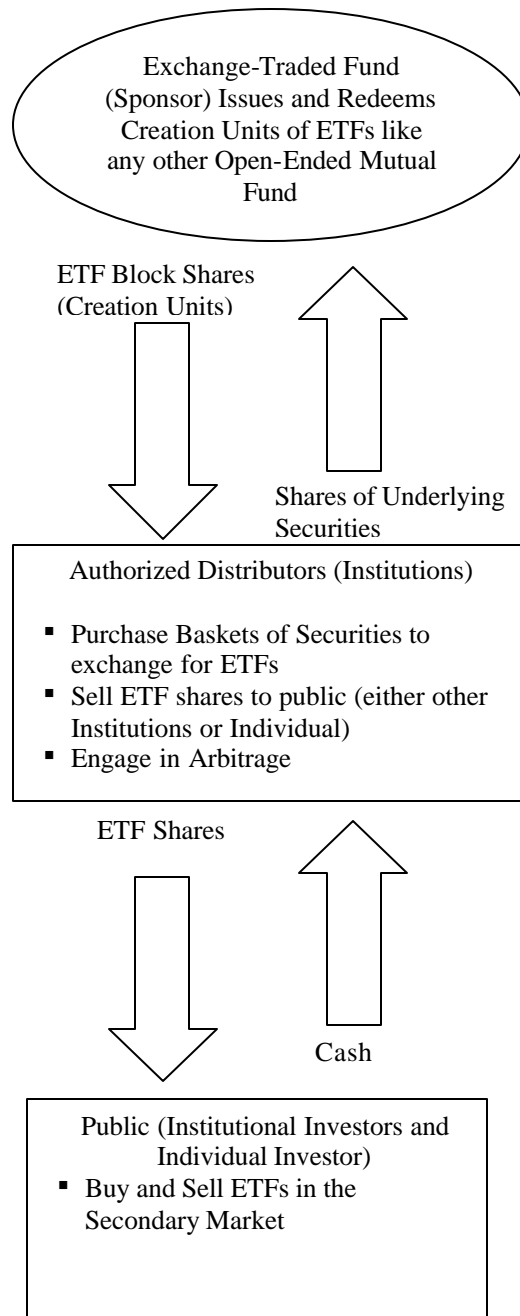


Table 1.⁵

⁵ Bansal, Vipoul K. and Somani, Archana, "Exchange Traded Funds: Challenge to Traditional Mutual Funds", Review of Business (Fall 2002), Vol. 23 Issue 3, p42.

Comparison of ETFs, Traditional Mutual Funds and Individual Stocks			
Attribute	ETF	Index Mutual Fund	Individual Stocks
Diversification	Yes	Yes	No
Traded throughout the day	Yes	No	Yes
Can be bought on margin	Yes	No	Yes
Can be sold short	Yes	No	Yes
Tracks an index or sector	Yes	Yes	No
Tax efficient due to low turnover	Yes	Possibly	No
Low expense ratio	Yes	Possibly	No
Trade at any brokerage firm	Yes	No	Yes

II. How Exchange-Traded Funds Work⁶

Unlike traditional mutual fund distributors, ETF sponsors do not sell ETF shares to the public for cash. Instead, ETF sponsors deal directly with institutional investors who either hold the creation units in their own portfolios or break-up the creation units and offer the ETF shares to other institutional investors or individual investors just as they would any other listed security. Sponsors redeem creation units from institutional investors in reverse from how sold.

Sponsors continually issue and redeem ETFs for several reasons: (1) institutional investors' desire to realign their portfolios or to take advantage of arbitrage opportunities, and (2) supply and demand coming from individual investors. Arbitrage occurs when the price of the ETF does not closely match the value of the basket of underlying securities. If the value of the underlying securities on the open market is higher than the price of the ETF, institutional investors will trade a lower-priced creation unit back to the ETF sponsor in exchange for the higher priced securities. Conversely, if the price of the underlying securities is lower than the ETF, the institutional investor will trade back to the ETF the lower-priced securities in exchange for a creation unit. This arbitrage mechanism eliminates the problem of premiums or discounts associated with closed-end mutual funds.

There are three main structures of ETFs⁷:

⁶ http://www.indexfunds.com/PFarticles/20000224_etfwhite_adv_veh_JN.htm.

i. Exchange-Traded Open-End Index Mutual funds

These represent a uniquely flexible mechanism for allowing an investor to gain risk exposure at precisely the level desired at exactly the moment needed. An example of this kind of ETF is iShares.

ii. Exchange-Traded Unit Investment Trust

These are created as trusts that hold all stocks within a designated index and are designed to provide results that correspond generally to that particular index. Examples are SPDRs, QQQs and DIAMONDS (see explanation below).

iii. Exchange-Traded Grantor

These are defined as trust-issued receipts that represent the investor's beneficial ownership of a specified group of stocks. An example would be Holding Company Depository Receipts (HLDRs).

Table 2 provides further comparisons between these forms of ETFs.

Table 2.⁸

THE THREE MAIN STRUCTURES OF ETFs			
	Exchange-Traded Open-End Index Mutual Fund	Exchange-Traded Unit Investment Trust	Exchange-Traded Grantor
Types Available	iShares, Select Sector SPDRs, street TRACKS	QQQs, DIAMONDS, S&P 500SPDRs, S&P 400SPDRs	HLDRs
Registered Investment Company	Yes	Yes	No

⁷ Bansal, Vipoul K. and Somani, Archana, "Exchange Traded Funds: Challenge to Traditional Mutual Funds", Review of Business (Fall 2002), Vol. 23 Issue 3, p42.

⁸ Bansal, Vipoul K. and Somani, Archana, "Exchange Traded Funds: Challenge to Traditional Mutual Funds", Review of Business (Fall 2002), Vol. 23 Issue 3, p41.

Reinvest Dividends	Yes	No	No
Voting Rights	Yes	No	No
Tax Issues	Distributes capital gains and dividends	Distributes capital gains and dividends	Similar to owning underlying stock
Creation/Redemption Level	Minimum 50,000 ETF shares	Minimum 50,000 ETF shares	100-share lot minimum
Purchase and Sales Level	No minimum	No minimum	100-share minimum
Index/Replication	May optimize index	Must fully replicate index	Cap-weighted basket

III. Advantages of ETFs for the SSIC

Sections I and II shed light on some of the general advantages of ETFs. This section explores the benefits of using ETFs as part of the SSIC portfolio. Specific benefits include the following:⁹

- a. **ETFs Trade Like Stocks:** ETFs trade like individual stocks. They can be bought or sold online anytime throughout the trading day on many global exchanges. ETFs can be bought on margin, sold short, or traded with limit orders. In some cases there are exchange-traded options on ETF units.
- b. **Liquidity:** ETF markets can typically absorb peak volumes that exceed by many times their average daily trading volume, without seeing dramatic price swings. This can happen because when there is excess demand for an ETF, dealers can simply buy baskets and subscribe for additional blocks of units to meet the demand. The same process works in reverse when there is an excess of sellers over buyers. Although this liquidity is not unlimited, it is a derived liquidity that is a function of the liquidity of the stocks included in the underlying index. If the shares in the underlying index are liquid, the ETF will be liquid as well – independent of the average daily trading volumes in the fund.
- c. **Tracking:** Due to the open-ended, in-kind creation/redemption process (see Section II), ETFs trade during the day at prices that closely reflect their “fair” value or Net Asset Value (NAV) per unit. This is a key difference between ETFs and traditional closed-end funds, which often trade at significant, and prolonged, premiums or discounts to fair value. So, an ETF’s market price tracks the NAV per unit. But how well does the NAV per unit, in turn, track the returns of the benchmark index? Like all index funds, ETFs attempt to ensure benchmark tracking by mirroring the holdings and weightings of the index. In achieving this objective, ETFs enjoy several advantages over traditional index mutual funds:
 - ETFs have lower management expense ratios (MERS) than do traditional index mutual funds (see Low Costs below), and lower costs mean better tracking.

- ETFs suffer less “cash drag” because they redeem “in kind” rather than for cash. Therefore, they do not need to hold excess cash in order to meet redemptions. Traditional mutual funds that redeem for cash hold varying amounts of cash that is not otherwise required by their investment objectives for this purpose.
- d. **Low Costs:** Perhaps the biggest advantage of ETFs is their low cost.
- First, as a result of their liquidity, the cost of trading ETFs (bid/ask spreads, market impact) is typically low, especially given the broad market exposures to which they grant access.
 - In addition, fees for ETFs tend to be much lower than fees for comparable, traditional index mutual funds. A key factor behind the lower fees for ETFs is the fact that an ETF uses an exchange, and its related clearing services, to distribute units. As a result, its costs of servicing individual unit holders are much lower than those of traditional mutual funds. These savings are passed on to the investors.
 - ETFs can also offer cost advantages over cash baskets (holding all securities in an index). For example, it may not be cost effective, or even practical, for an investor to trade all of the individual stocks in an index for a relatively short-term exposure, or where the dollar amount is relatively small – especially where the underlying index includes a very large number of companies (e.g. the Russell 3000 Index). As well, in the case of cash baskets, the holder will incur the costs of managing changes in the basket due to index adjustments. In the case of ETFs, the ETF manager (sponsor) handles the index adjustments.
- e. **Precision and Flexibility:** ETFs are precise and flexible tools. The near boundless variety of ETFs allows investors to match more closely the returns of the tool that they are using for cash management, asset allocation, hedging, or other purposes, with the return of their benchmark index. ETFs can also be traded efficiently in very small amounts, affording a good fit between the size of exposure. By contrast, futures contracts and cash baskets typically can only be traded effectively in large notional amounts.
- f. **Tax Efficiency. (Note: While taxes do not directly affect the SSIC, taxes do play an important role in how ETFs trade in the market. It is, therefore, important that the SSIC understand the tax aspect of ETFs.)**
- Investors in mutual funds are familiar with year-end distributions of capital gains. In some cases the distribution comes as an unpleasant surprise. Unit values might have declined, but investors can still be taxed on gains triggered inside the fund. ETFs also distribute any gains that they have realized during the year. ETFs can trigger gains when they dispose of shares, either due to an adjustment of the underlying index or when there is a redemption. However, ETFs are less likely to trigger gains because they typically have less portfolio turnover than actively managed funds.

⁹ http://www.iunits.com/english/institution/institutional_paper.pdf.

- ETF units are generally bought and sold on the exchange, and this insulates the ETF from redemptions of fund units that could cause a traditional index fund to trigger gains.
- In the case of an index adjustment, when the value of the stock being removed from the index is less than the value of the stock being added to the index, a traditional index mutual fund will need to sell a portion of the index in order to fund the purchase – potentially triggering capital gains as a result. ETFs avoid this problem by issuing additional units to the dealers who transact for the fund in order to finance the purchase.
- Although ETFs trade like stocks and feature very low MERS, they are in fact mutual fund trusts, like conventional mutual funds. This means that unrealized gains on ETFs held by financial institutions will not be subject to capital gains tax based on marking to market requirements under the Income Tax Act. As a result ETFs offer these institutions a very tax efficient and, given the wide choice of ETFs available, very flexible alternative to a direct holding of shares.

IV. Applications of ETFs

This section explores some of the applications and issues that are relevant to the SSIC in designing strategies using ETFs:¹⁰

- Gaining diversified exposure to foreign markets:** ETFs represent a convenient method for increasing exposure to the international equity markets. The SSIC may, for example, use ETFs as an alternative to futures for managing cash flows. Using ETFs would be particularly attractive if the SSIC has an active strategy of selecting individual foreign stocks with the objective of outperforming the MSCI EAFE Index. But if the SSIC manager cannot find any attractive Japanese stocks to purchase, the manager may want to buy an MSCI Japan iShare to reduce the underweighting created by not being invested in Japan.
- Equitizing Cash:** An SSIC international manager with idle cash may want to put the cash to work in a product tied to the fund's benchmark or to certain favored sectors. If, for example, the manager has the Russell 1000 Growth Index as the benchmark, he could invest excess cash in iShares tied to that benchmark. The iShare could be a temporary investment that minimizes cash drag or benchmark risk while the manager decides which stocks to buy or waits until a stock reaches the price target for purchase.
- Managing cash flows :** If the SSIC manager sees regular inflows and outflows of cash, he may be attracted to the ETFs because of their high liquidity and the opportunity to purchase a slice of a specific index. Investing or raising cash by moving in or out of individual stock positions can leave a manager with tracking risk relative to the benchmark. An ETF that is correlated with the manager's benchmark is extremely helpful in managing cash flows by allowing for relatively small holdings in ETFs until the position accumulates to an amount large enough to purchase an individual stock.

- d. **Diversifying sector exposure:** If the SSIC manager is not sure about which particular stock to buy but likes the overall sector, investing in shares tied to an index or basket of stocks provides diversified exposure to a volatile sector and reduces the risk associated with an event of specific stock news. Typically, the volatility or risk associated with an index is lower than the volatility or risk of an individual index component.
- e. **Filling gaps or taking active views on sectors:** ETFs tied to a sector or industry may be used to fill gaps in a portfolio on a tactical basis. Such strategies could be used to reduce an over- or under-weighting relative to a benchmark. Alternatively, the manager may want to take an active view on outperforming a particular sector or industry by using an ETF based on an appropriate index to complement or substitute for stock holdings in that sector or industry.
- f. **Shorting or hedging index exposure:** The manager who has a negative view on a market segment or specific sector may want to establish a short position to capitalize on that view. ETFs may also be sold short against long stock holdings in a portfolio as a hedge against a decline in the market or specific sector.
- g. **Using completion strategies:** A manager may want to use a completion strategy as a way of reducing the impact of gaps between a strategic benchmark and the manager's aggregate benchmark while maintaining any advantage from an active strategy. These gaps can be in style, size, or sector tilt weights. Portfolios are often structured to "complete" the difference between their target benchmark and their manager's benchmark. These completion portfolios may change as relative values of styles, sectors, or industries shift with market conditions, or if the manager mix is modified.
- h. **Managing concentrated portfolios more efficiently:** Some investment strategies concentrate holdings in a small number of stocks each held in large size positions. Investors can occasionally find themselves heavily invested in stocks that are coming under selling pressure because these stocks are correlated with other stocks in the industry that have had disappointing earnings or other negative news. Shorting ETFs based on that industry as a temporary hedge can be an alternative to reducing these concentrated stock holdings. The trading costs from the market impact of selling an ETF may be lower than the cost of liquidating a large holding in a specific name as a result of the greater liquidity and lower volatility of the diversified ETF product.

V. Overview of available ETFs

Since their inception in the early 1980's, ETFs have become a very popular investment vehicle. ETFs are now available worldwide and boast assets under management of over US\$140 billion. Table 3 shows a listing of ETFs available around the world as of December 31st, 2002.

¹⁰ Hill, Joanne M. and Mueller, Barbara, "The Appeal of ETFs",

Table 3¹¹

OVERVIEW OF ETFs AROUND THE WORLD					
Country/No. of Managers	Number of primary ETF listings	Assets under management (US\$bn)	Average daily volume shares (mn)	Average daily volume(\$bn)	Total ETF listings
United States (4)	113	102.28	123	5.9	113
Europe (12)	118	10.69	8	0.258	192
Japan (4)	18	21	2	0.033	16
Canada (3)	16	2.88	2	0.038	16
Korea	4	0.314	4	0.026	4
Australia (1)	3	0.226	n/a	0.004	3
South Africa (1)	3	0.554	n/a	n/a	3
Hong Kong (2)	2	3.09	3	0.004	4
India (1)	1	0.002	n/a	n/a	1
Israel (1)	1	0.342	n/a	n/a	1
Singapore (1)	1	0.184	n/a	0.001	6
ETF total (21)	280	141.62	143	6.3	361
Data as of December 31, 2002. Source: Morgan Stanley Research					

ETFs can be divided into two main categories: (i) equity index ETFs; and (ii) fixed-income ETFs. By far the two biggest players in the ETF market are State Street Global Advisors and Barclays Global Investors. The following are some examples of popular ETF's available in the market:

i. Equity Index ETFs:

- Standard & Poor's Depository Receipt or SPDR (SPY):** this is by far the largest ETF available in the market and is issued by State Street Global Advisors. As its name suggests, the SPY mirrors all the holdings in the S&P 500 index. When you buy the SPY, you are in fact buying a stake in every one of the 500 companies that make up the S&P 500 index. The SPY boasts assets of more than US\$43 billion and is more than double the second largest ETF, and represents a third of all assets in U.S. traded ETFs¹². Due to the success of the SPY, State Street produced nine offshoots from the SPY, called Select Sector SPDRs. Collectively, these nine Select Sector Indexes make up all the companies of the S&P 500. Specifically,

http://www.institutionalinvestor.com/iioChannel/institutionaltrading/appeal_of_etcs2.pdf.

¹¹ Donovan, Brooke, "Next Step for ETFs", International Money Marketing, Jan 2003, p23.

¹² Berniker, Mark, "Exchange Traded Funds", Institutional Investor November 2002, page 2.

they comprise the Consumer Discretionary, Consumer Staples, Energy, Financial, Health Care, Industrial, Materials, Technology, and Utilities sectors.

- **Nasdaq-100 Tracking Stock (QQQ):** the QQQ represents ownership in the Nasdaq-100 Trust, a unit investment trust established to accumulate and hold a portfolio of the equity securities that comprise the Nasdaq-100 Index. It is the leading ETF in trading volume and has over US\$18 billion in assets.
- **DIAMONDS (DIA):** DIAMONDS are designed to provide investment results that correspond generally to the performance of the Dow Jones Industrial Average (DJIA), and provide investors with an instantly diversified portfolio of the blue-chip DJIA component stocks¹³. DIAMONDS are sponsored by State Street.
- **iShares:** these are ETFs advised and marketed by Barclays Global Investors. iShares are popular because they offer investors a flexible mechanism in gaining exposure to a particular area of the market. iShares are structured as open-ended mutual funds and include more than 50 different index funds. Each is designed to closely track:
 - **A Specific Index** – examples are iShares S&P MidCap 400, iShares Russell 3000 , iShares Dow Jones Industrial, etc.
 - **A Specific Industry/Sector** – examples are iShares Goldman Sachs Semiconductor, iShares S&P Global Healthcare, iShares Dow Jones US Energy, etc.
 - **A Style of Investing** – examples are iShares Russell 1000 Growth, iShares S&P SmallCap 600 BARRA Value, etc.
 - **A Specific Country/Region** – examples are iShares Morgan Stanley Capital International (MSCI)-Malaysia, iShares MSCI-European Monetary Union (EMU) Index, iShares MSCI-Europe Australia Asia Far East Index, etc.

In addition to variety and versatility, iShares offer investors the added benefit of low management and/or sponsor fees and a lack of sales loads. iShares are bought and sold on many exchanges throughout the world.

- **Holding Company Depository Receipt or HLDR:** these are issued by Merrill Lynch. HLDRs are structured to mirror a specific industry or sector. This provides the investor with a diversified exposure to a particular industry or sector. Examples are Merrill Lynch Biotech HLDRs, Merrill Lynch B2B Internet HLDRs, Merrill Lynch Utilities HLDRs etc.

¹³ Bansal, Vipoul K. and Somani, Archana, “Exchange Traded Funds: Challenge to Traditional Mutual Funds”, Review of Business (Fall 2002), Vol. 23 Issue 3, p42.

ii. Fixed Income ETFs:

- **iShares GS InvesTop™ Corporate Bond Fund:** assets of over US\$2 billion and has Barclays Global Investors as its advisor and is based on Goldman Sachs \$InvesTop Corporate Bond Index.
- **iShares Lehman Treasury Bond Funds:** there are three ETFs under this family, covering: (i) 1 – 3 year bonds; (ii) 7 – 10 year bonds; and (iii) 20+ year bonds. These funds are designed to mirror the price and yield of the corresponding Lehman Treasury Bond Index.
- **iBoxx:** this product is a joint venture comprising ABN AMRO, Barclays Capital, BNP Paribas, Deutsche bank, Dresdner Kleinwort Wasserstein, Morgan Stanley, and UBS Warburg. This fixed income ETF family is designed to provide investors with a liquid and transparent benchmark of European bonds.

Currently, equity index ETFs dominate the market. However, fixed-income ETFs, introduced in the United Kingdom and continental Europe about three years ago, are growing at a faster rate than the more established equity index ETFs, especially in Europe. The Appendix presents a sample of the various ETRs currently available in the open market.

VI. Summary and Conclusion

The purpose of this paper has been to explain how the SSIC may incorporate Exchange-Traded Funds (ETFs) into its investment mix in order to gain international diversification. ETFs are clearly gaining popularity: showing an increase in trading volume, asset growth and product offerings¹⁴.

The advantages and characteristics of ETFs make them a useful tool that I recommend the SSIC consider for expanding its asset allocation into the international markets. In addition to diversification, ETRs are a cost-effective alternative to traditional mutual funds. They can be particularly useful for a portfolio in transition or can be used as a temporary investment vehicle for excess cash. If, for example, the fund wishes to increase its international exposure to 5% using an active investment strategy, it can take a while to hire the correct manager. In the meantime, fund can put the additional allocation in EAFE iShares until the manager is selected¹⁵.

The choices available in today's ETF market provide the investor with many creative solutions and offer them unprecedented versatility in optimizing their portfolio.

Ronald E. Copley, Phd, CFA

September 15, 2003

¹⁴ Berniker, Mark, "Exchange Traded Funds", Institutional Investor (November 2002), page 1.

¹⁵ Feinberg, Phyllis, "International ETFs offer cost-efficient investment for excess cash". Pensions & Investments (Volume 30, Issue 18), page 18.

Appendix

Country	Name	Issuer	Symbol	Index
US	NASDAQ-100 Index Tracking Stock	NIPS Inc	QQQ	NASDAQ 100 Trust
US	DIAMONDS Trust Series I	PDR Services LLC	DIA	Dow Jones Industrial Average
US	MidCap SPDR Trust Series I	PDR Services LLC	MDY	S&P Midcap 400
US	SPDR Trust Series I	PDR Services LLC	SPY	S&P 500
US	FORTUNE 500 Index Tracking Stock	State Street	FFF	Fortune 500
US	iShares Dow Jones U.S. Total Market Index Fund	Barclays Global Investors	IYY	Over 60 index funds
US	iShares S&P Global 100 Index Fund	Barclays Global Investors	IOO	Broad Index, Not Specific
US	iShares S&P MidCap 400/BARRA Growth	Barclays Global Investors	IJK	S&P MidCap 400/BARRA Growth Index
US	iShares S&P MidCap 400 Index Fund	Barclays Global Investors	IJH	S&P MidCap 400 Index
US	iShares S&P MidCap 400/BARRA Value	Barclays Global Investors	IJJ	S&P MidCap 400/BARRA Value Index
US	iShares S&P SmallCap 600 Index Fund	Barclays Global Investors	IJR	S&P SmallCap 600 Index
US	iShares S&P 500 Index Fund	Barclays Global Investors	IVV	S&P 500 Index
US	iShares S&P 500/BARRA Value Index Fund	Barclays Global Investors	IVE	S&P 500/BARRA Value Index
US	iShares S&P 500/BARRA Growth Index Fund	Barclays Global Investors	IVW	S&P 500/BARRA Growth Index
US	iShares Russell 1000 Growth Index Fund	Barclays Global Investors	IWF	Russell 1000 Growth Index
US	iShares Russell 1000 Index Fund	Barclays Global Investors	IWB	Russell 1000 Index
US	iShares Russell 1000 Value Index Fund	Barclays Global Investors	IWD	Russell 1000 Value Index
US	iShares Russell 2000 Growth Index Fund	Barclays Global Investors	IWO	Russell 2000 Growth Index
US	iShares Russell 2000 Index Fund	Barclays Global Investors	IWM	Russell 2000 Index
US	iShares Russell 2000 Value Index Fund	Barclays Global Investors	IWN	Russell 2000 Value Index
US	iShares Russell 3000 Growth Index Fund	Barclays Global Investors	IWZ	Russell 3000 Growth Index
US	iShares Russell 3000 Index Fund	Barclays Global Investors	IWV	Russell 3000 Index
US	iShares Russell 3000 Value Index Fund	Barclays Global Investors	IWW	Russell 3000 Value Index
US	iShares Small Cap 600/BARRA Growth Index Fund	Barclays Global Investors	IJT	S&P SmallCap 600/BARRA Growth Index

**Exchange Traded Funds (ETFs) as a Means of Gaining International
Diversification for the SSIC**

Final Report

US	iShares Small Cap 600/BARRA Value Index Fund	Barclays Global Investors	IJS	S&P SmallCap 600/BARRA Value Index
US	streetTRACKS Dow Jones Global Titans Index Fund	State Street	DGT	Dow Jones Global Titans 50 Index
US	streetTRACKS Dow Jones U.S. Large Cap Growth Index Fund	State Street	ELG	Dow Jones U.S. Large Cap Growth Index
US	streetTRACKS Dow Jones U.S. Large Cap Value Index Fund	State Street	ELV	Dow Jones U.S. Large Cap Value Index
US	streetTRACKS Dow Jones U.S. Small Cap Growth Index Fund	State Street	DSG	Dow Jones U.S. Small Cap Growth Index
US	streetTRACKS Dow Jones U.S. Small Cap Value Index Fund	State Street	DSV	Dow Jones U.S. Small Cap Value Index
US	Vanguard Total Stock Market VIPERs	Vanguard	VTI	Wilshire 5000 Total Market Index
US	iShares Russell MidCap Growth Index Fund	Barclays Global Investors	IWP	Russell MidCap Growth Index
US	iShares Russell MidCap Index Fund	Barclays Global Investors	IWR	Russell MidCap Index
US	iShares Russell MidCap Value Index Fund	Barclays Global Investors	IWS	Russell MidCap Value Index
US	Vanguard Extended Market VIPERs	Vanguard	VXF	Wilshire 4500 Completion Index
US	Rydex ETF Trust	Rydex ETF Trust	RSP	S&P Equal Weight Index
US	FORTUNE e-50 Index Tracking Stock	State Street	FEF	FORTUNE e-50 Index
US	iShares Cohen & Steers Realty Majors Index Fund	Barclays Global Investors	ICF	Cohen & Steers Realty Majors Index
US	iShares Dow Jones U.S. Basic Materials Sector Index Fund	Barclays Global Investors	IYM	Dow Jones U.S. Basic Materials Index
US	iShares Dow Jones U.S. Consumer Cyclical Sector Index Fund	Barclays Global Investors	IYC	Dow Jones U.S. Consumer Cyclical Index
US	iShares Dow Jones U.S. Consumer Non-Cyclical Sector Index Fund	Barclays Global Investors	IYK	Dow Jones U.S. Consumer Non-Cyclical Index
US	iShares Dow Jones U.S. Energy Sector Index Fund	Barclays Global Investors	IYE	Dow Jones U.S. Energy Index

**Exchange Traded Funds (ETFs) as a Means of Gaining International
Diversification for the SSIC**

Final Report

US	iShares Dow Jones U.S. Financial Sector Index Fund	Barclays Global Investors	IYF	Dow Jones U.S. Financial Sector Index
US	iShares Dow Jones U.S. Financial Services Sector Index Fund	Barclays Global Investors	IYG	
US	iShares Dow Jones U.S. Healthcare Sector Index Fund	Barclays Global Investors	IYH	Dow Jones U.S. Healthcare Index
US	iShares Dow Jones U.S. Industrial Sector Index Fund	Barclays Global Investors	IYJ	Dow Jones U.S. Industrial Index
US	iShares Dow Jones U.S. Real Estate Index Fund	Barclays Global Investors	IYR	Dow Jones U.S. Real Estate Index
US	iShares Dow Jones U.S. Technology Sector Index Fund	Barclays Global Investors	IYW	Dow Jones U.S. Technology Index
US	iShares Dow Jones U.S. Telecommunications Sector Index Fund	Barclays Global Investors	IYZ	Dow Jones U.S. Telecommunications Index
US	iShares Dow Jones U.S. Utilities Sector Index Fund	Barclays Global Investors	IDU	Dow Jones U.S. Utilities Index
US	iShares NASDAQ Biotechnology Index Fund	Barclays Global Investors	IBB	Nasdaq Biotechnology Index
US	iShares Goldman Sachs Natural Resources Index Fund	Barclays Global Investors	IGE	Goldman, Sachs Natural Resources Index
US	Merrill Lynch B2B Internet HOLDRS	Merrill Lynch	BHH	S&P 500 B2B Internet Stocks
US	Merrill Lynch Biotech HOLDRS	Merrill Lynch	BBH	S&P 500 Biotech Stocks
US	Merrill Lynch Broadband HOLDRS	Merrill Lynch	BDH	S&P 500 Broadband Stocks
US	Merrill Lynch Internet Architecture HOLDRS	Merrill Lynch	IAH	S&P 500 Internet Architecture Stocks
US	Merrill Lynch Internet HOLDRS	Merrill Lynch	HHH	S&P 500 Internet Stocks
US	Merrill Lynch Internet Infrastructure HOLDRS	Merrill Lynch	IIH	S&P 500 Internet Infrastructure Stocks
US	Merrill Lynch Market 2000+ HOLDRS	Merrill Lynch	MKH	No Specific Index
US	Merrill Lynch Market Oil Service HOLDRS	Merrill Lynch	OIH	S&P 500 Oil Service Stocks
US	Merrill Lynch Pharmaceutical HOLDRS	Merrill Lynch	PPH	S&P 500 Pharmaceutical Stocks
US	Merrill Lynch Regional Bank HOLDRS	Merrill Lynch	RKH	S&P 500 Regional Bank Stocks

Exchange Traded Funds (ETFs) as a Means of Gaining International Diversification for the SSIC

Final Report

US	Merrill Lynch Semiconductor HOLDRS	Merrill Lynch	SMH	S&P 500 Semiconductor Stocks
US	Merrill Lynch Software HOLDRS	Merrill Lynch	SWH	S&P 500 Software Stocks
US	Merrill Lynch Telecom HOLDRS	Merrill Lynch	TTH	S&P 500 Telecommunication Stocks
US	Merrill Lynch Utilities HOLDRS	Merrill Lynch	UTH	S&P 500 Utilities Stocks
US	Merrill Lynch Wireless HOLDRS	Merrill Lynch	WMH	S&P 500 Wireless Stocks
US	Select Sector SPDR Fund - Basic Industries	State Street	XLB	Sector-based, No Specific Index
US	Select Sector SPDR Fund - Health Care	State Street	XLV	Sector-based, No Specific Index
US	Select Sector SPDR Fund - Consumer Staples	State Street	XLP	Sector-based, No Specific Index
US	Select Sector SPDR Fund - Consumer Discretionary	State Street	XLX	Sector-based, No Specific Index
US	Select Sector SPDR Fund - Energy Select Sector	State Street	XLE	Sector-based, No Specific Index
US	Select Sector SPDR Fund - Financial	State Street	XLF	Sector-based, No Specific Index
US	Select Sector SPDR Fund - Industrial	State Street	XLI	Sector-based, No Specific Index
US	Select Sector SPDR Fund - Technology	State Street	XLK	Sector-based, No Specific Index
US	Select Sector SPDR Fund - Utilities	State Street	XLU	Sector-based, No Specific Index
US	streetTRACKS Morgan Stanley Technology Index Fund	State Street	MTK	Morgan Stanley Technology Index
US	streetTRACKS Morgan Stanley Internet Index Fund	State Street	MII	Morgan Stanley Internet Index
US	iShares Goldman Sachs Technology Index Fund	Barclays Global Investors	IGM	Goldman, Sachs Technology Index
US	iShares Goldman Sachs Network Index Fund	Barclays Global Investors	IGN	Goldman, Sachs Networking Index
US	iShares Goldman Sachs Semiconductor Index Fund	Barclays Global Investors	IGW	Goldman, Sachs Semiconductor Index
US	iShares Goldman Sachs Software Index Fund	Barclays Global Investors	IGV	Goldman, Sachs Software Index
US	streetTRACKS Wilshire REIT Index Fund	State Street	RWR	Wilshire REIT

				Index
US	iShares S&P Global Energy Index Fund	Barclays Global Investors	IXC	S&P Global Energy Sector Index
US	iShares S&P Global Financial Index Fund	Barclays Global Investors	IXG	S&P Global Financial Sector Index
US	iShares S&P Global Healthcare Index Fund	Barclays Global Investors	IXJ	S&P Global Healthcare Sector Index
US	iShares S&P Global Info Technology Index Fund	Barclays Global Investors	IXN	S&P Global Information Technology Sector Index
US	iShares S&P Global Telecommunications Index Fund	Barclays Global Investors	IXP	S&P Global Telecommunications Sector Index
US	Merrill Lynch Retail HOLDERS	Merrill Lynch	RTH	S&P 500 Retail Stocks
US	iShares MSCI - EAFE	Barclays Global Investors	EFA	MSCI EAFE Index
US	iShares MSCI - Australia	Barclays Global Investors	EWA	MSCI Australia Index
US	iShares MSCI - Austria	Barclays Global Investors	EWO	MSCI Austria Index
US	iShares MSCI - Belgium	Barclays Global Investors	EWK	MSCI Belgium Index
US	iShares MSCI - Brazil	Barclays Global Investors	EWZ	MSCI Brazil Index
US	iShares MSCI - Canada	Barclays Global Investors	EWC	MSCI Canada Index
US	iShares MSCI - EMU Index Fund (European Monetary Union)	Barclays Global Investors	EZU	MSCI EMU Index
US	iShares MSCI - France	Barclays Global Investors	EWQ	MSCI France Index
US	iShares MSCI - Germany	Barclays Global Investors	EWG	MSCI Germany Index
US	iShares MSCI - Hong Kong	Barclays Global Investors	EWH	MSCI Hong Kong Index
US	iShares MSCI - Italy	Barclays Global Investors	EWI	MSCI Italy Index
US	iShares MSCI - Japan	Barclays Global Investors	EWJ	MSCI Japan Index
US	iShares MSCI - Malaysia (Free)	Barclays Global Investors	EWM	MSCI Malaysia Index
US	iShares MSCI - Mexico (Free)	Barclays Global Investors	EWV	MSCI Mexico Index
US	iShares MSCI - Netherlands	Barclays Global Investors	EWN	MSCI Netherlands Index
US	iShares MSCI - Singapore (Free)	Barclays Global Investors	EWS	MSCI Singapore Index
US	iShares MSCI - South Korea	Barclays Global Investors	EWY	MSCI South Korea Index

**Exchange Traded Funds (ETFs) as a Means of Gaining International
Diversification for the SSIC**

Final Report

US	iShares MSCI - Spain	Barclays Global Investors	EWP	MSCI Spain Index
US	iShares MSCI – Sweden	Barclays Global Investors	EWD	MSCI Sweden Index
US	iShares MSCI – Switzerland	Barclays Global Investors	EWL	MSCI Switzerland Index
US	iShares MSCI – Taiwan	Barclays Global Investors	EWT	MSCI Taiwan Index
US	iShares MSCI - United Kingdom	Barclays Global Investors	EWU	MSCI United Kingdom Index
US	iShares S&P Europe 350	Barclays Global Investors	IEV	S&P Europe 350 Index
US	iShares S&P TOPIX 150 Index Fund	Barclays Global Investors	ITF	S&P TOPIX 150 Index
US	iShares MSCI Pacific Ex-Japan Index Fund	Barclays Global Investors	EPP	MSCI Pacific ex-Japan Index
US	iShares S&P Latin America 40 Index Fund	Barclays Global Investors	ILF	S&P Latin America 40 Index
US	Merrill Lynch Europe 2001 HOLDRS	Merrill Lynch	EKH	Broad, No Specific Index
US	BLDRS Europe 100 ADR Index Fund	Nasdaq Financial Products	ADRU	The Bank of New York Europe 100 ADR Index
US	BLDRS Developed Markets 100 ADR Index Fund	Nasdaq Financial Products	ADRD	The Bank of New York Developed Markets 100 ADR Index
US	BLDRS Emerging Markets 50 ADR Index Fund	Nasdaq Financial Products	ADRE	The Bank of New York Emerging Markets 50 ADR Index
US	BLDRS Asia 50 ADR Index Fund	Nasdaq Financial Products	ADRA	The Bank of New York Asia 50 ADR Index
US	Fresco DJ EURO STOXX 50	Fresco SICAV	FEZ	Dow Jones EURO STOXX 50 SM Index
US	Fresco DJ STOXX 50	Fresco SICAV	FEU	Dow Jones STOXX 50 SM Index
UK	iShares S&P500	Barclays Global Investors	IUSA	S&P 500 Index
UK	iShares FTSE 100 (iFTSE 100)	Barclays Global Investors	ISF	FTSE 100 Index
UK	iShares FTSE TMT (iFTSE TMT)	Barclays Global Investors	ITMT	FTSE TMT Index
UK	iShares FTSE Euro 100	Barclays Global Investors	IEUR	No Specific Index
UK	iShares FTSE Eurotop 100	Barclays Global Investors	IEUT	No Specific Index
UK	iShares FTSE European Technology	Barclays Global Investors	ITEK	No Specific Index
UK	iShares FTSE European Media	Barclays Global Investors	ISEE	No Specific Index
UK	iShares FTSE European Bks	Barclays Global Investors	IBKS	No Specific Index

**Exchange Traded Funds (ETFs) as a Means of Gaining International
Diversification for the SSIC**

Final Report

UK	iShares FTSE European Oil & Gas	Barclays Global Investors	IOIL	No Specific Index
UK	iShares FTSE European Utilities	Barclays Global Investors	IUTL	No Specific Index
UK	iShares FTSE European Pharmaceuticals & Bio	Barclays Global Investors	IBIO	No Specific Index
UK	iShares FTSE European Consumer Cyclical	Barclays Global Investors	ICYC	No Specific Index
UK	iShares FTSE European Consumer Non-Cyclical	Barclays Global Investors	IUSE	No Specific Index
UK	iShares GS \$ InvesTop™ Corporate Bond	Barclays Global Investors	LQDE	Bond ETF
UK	iBoxx €Liquid Corporates	Barclays Global Investors	IBCX	Bond ETF
UK	Euro STOXX 50 LDRS	LDRS III PLC	EUE	Dow Jones EURO STOXX 50 SM Index
UK	STOXX 50 LDRS	LDRS III PLC	EUN	Dow Jones STOXX 50 SM Index
Germany	Global Autos LDRS	LDRS III PLC	LDRA	No Specific Index
Germany	Global Banks LDRS	LDRS III PLC	LDRB	No Specific Index
Germany	Global Basic Industries LDRS	LDRS III PLC	LDRI	No Specific Index
Germany	Global Cyclical LDRS	LDRS III PLC	LDRC	No Specific Index
Germany	Global Energy LDRS	LDRS III PLC	LDRE	No Specific Index
Germany	Global Financial LDRS	LDRS III PLC	LDRF	No Specific Index
Germany	Global General Industrials LDRS	LDRS III PLC	LDRG	No Specific Index
Germany	Global Media LDRS	LDRS III PLC	LDRM	No Specific Index
Germany	Global Non-Cyclical LDRS	LDRS III PLC	LDRN	No Specific Index
Germany	Global Pharmaceutical LDRS	LDRS III PLC	LDRP	No Specific Index
Germany	Global Tech LDRS	LDRS III PLC	LDRQ	No Specific Index
Germany	Global Telecom LDRS	LDRS III PLC	LDRT	No Specific Index
Germany	Global Utilities LDRS	LDRS III PLC	LDRU	No Specific Index
Germany	Fresco EURO STOXX 50	Fresco SICAV	NA	Dow Jones EURO STOXX 50 SM Index
Germany	Fresco DJ Industrial Avge	Fresco SICAV	NA	Dow Jones Industrial Index
Germany	Fresco DJ Germany Titans30	Fresco SICAV	NA	DJ Germany Titans Index
Germany	Fresco DJ Japan Titans 100	Fresco SICAV	NA	DJ Japan Titans Index
Germany	Fresco DJ UK Titans 50	Fresco SICAV	NA	DJ UK Titans 50 Index
Germany	Fresco DJ US (Large Cap)	Fresco SICAV	NA	No Specific Index
Germany	Fresco DJ US Technology	Fresco SICAV	NA	No Specific Index

Germany	Fresco Stoxx EU Banks	Fresco SICAV	NA	No Specific Index
Germany	Fresco Stoxx EU HealthCare	Fresco SICAV	NA	No Specific Index
Germany	Fresco Stoxx EU Technology	Fresco SICAV	NA	No Specific Index
Germany	Fresco Stoxx EU Telecoms	Fresco SICAV	NA	No Specific Index
Germany	Dax EX	INDEXCHANGE	NA	DAX Index
Germany	DJ Euro Stoxx 50 EX	INDEXCHANGE	NA	Dow Jones EURO STOXX 50 SM Index
Germany	DJ Euro Stoxx 50 LDRS	EEFTC	NA	Dow Jones EURO STOXX 50 SM Index
Germany	DJ Euro Stoxx Banks EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Euro Stoxx Healthcare EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Euro Stoxx Technology EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Euro Stoxx Telecommunication EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Euro Stoxx 50 Master Unit	Lyxor Asset Management SA	NA	No Specific Index
Germany	DJ Global Titans 50 EX	INDEXCHANGE Investments AG	NA	DJ Global Titans 50 Index
Germany	DJ Industrial Average EX	INDEXCHANGE Investments AG	NA	Dow Jones Industrial Index
Germany	DJ Stoxx 50 EX	INDEXCHANGE Investments AG	NA	Dow Jones STOXX 50 SM Index
Germany	DJ Stoxx 50 LDRS	EEFTC	NA	Dow Jones STOXX 50 SM Index
Germany	DJ Stoxx 600 Automobiles EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Banks EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Basic Resources EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Chemicals EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Construction EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Cyclical Goods and Services EX	INDEXCHANGE Investments AG	NA	No Specific Index

Germany	DJ Stoxx 600 Energy EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Financial EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Food and Beverage EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Healthcare EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Industrial Goods and Services	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Media EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Non-Cyclical Goods and Services EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Retail EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Technology EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Telecommunications EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	DJ Stoxx 600 Utilities EX	INDEXCHANGE Investments AG	NA	No Specific Index
Germany	FTSE 100 Index	INDEXCHANGE Investments AG	NA	FTSE 100 Index
Germany	MDAX EX	INDEXCHANGE Investments AG	NA	MDAX Index
Germany	MSCI Tech Master Unit	Lyxor Asset Management SA	NA	MSCI Tech Index
Germany	SMI EX	INDEXCHANGE Investments AG	NA	SMI Index
Germany	TecDax EX	INDEXCHANGE Investments AG	NA	TecDax Index
Germany	UNICO iTracker- MSCI Europe	UNICO Asset Management SA	NA	MSCI Europe Index
Germany	UNICO iTracker- MSCI World	UNICO Asset Management SA	NA	MSCI World Index
Germany	XMTCH on SMI	Credit Suisse Asset Management	NA	No Specific Index
Germany	eb.rexx Government Germany	INDEXCHANGE Investments AG	NA	Bond ETF
Germany	iBoxx €Liquid Corporates	Barclays Global Investors	NA	Bond ETF
Germany	iShares S&P 500	Barclays Global Investors	NA	S&P 500 Index