

Survivor-Bias Free US Mutual Fund File Guide

CENTER FOR RESEARCH IN SECURITY PRICES



Graduate School of Business

The University of Chicago

CRSP Survivor Bias Free US Mutual Fund Data Base File Guide

Data ending December 31, 1997

Covering open-ended mutual fund data from December 1961 – December 1997 for all investment objectives; equity funds, taxable and municipal bond funds, international funds and money market funds.

Daily and Monthly Records

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DATABASE GUIDES

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1997 CRSP SURVIVOR BIAS FREE MUTUAL FUND DATABASE				

1. Introduction

1.1 About CRSP

Back in 1959, Professor James Lorie fielded a call from Louis Engel a vice president at Merrill Lynch, Pierce, Fenner & Smith. The firm wanted to advertise how well people had done investing in common stocks, but Engel needed some solid data. Could the University of Chicago Graduate School of Business help?

That was the start of the Center for Research in Security Prices. Forty years ago, computer technology was in its infancy and no machine-readable data existed.

Lorie and Professor Lawrence Fisher, a colleague on the finance faculty, set out to build a database of historical and current securities data that answered Merrill Lynch's question and, since then, many, many others.

The professors compiled the first machine-readable file. It contained month-end prices and total returns on all stocks listed on the New York Stock Exchange between 1926 and 1960. Over time, CRSP added the American Stock Exchange, the NASDAQ stock exchange, and end-of-day as well as month-end prices. Now CRSP updates US stock data in two frequencies; either once a year or once a month.

In 1999, CRSP is justly considered the best provider by far of US corporate actions information. Specifically, we diligently track name changes and name identifiers, distributions of shares, cash, rights, spin-offs, mergers, liquidation payments, and buybacks. As a result, the quality of CRSP capital return, income return and total return numbers is unsurpassed.

CRSP Working Papers

From its founding, the University set for itself the highest standards of research excellence. The Graduate School of Business helped to spawn the modern revolution in finance, and research done here has been incorporated into CRSP Data Files. Among them:

Risk/Return Analysis by Harry Moskovitz The Sharpe-Lintner Capital Asset Pricing Model The Efficient Market Hypothesis Black-Scholes Option Pricing Model Small Stock Effect

Other CRSP databases cover the US Treasury market and survivor bias in the returns of US mutual funds.

The comprehensiveness and quality of CRSP data has made it the premier source for academic researchers and quantitative analysts for forty years. We have available the latest research on a wide variety of finance topics over the web.

World Wide Web: crsp.com, CRSP Working Papers

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CRSP Historical Data Products

US Stocks End-of-Day and Month-End Databases

CRSP will provide monthly or annual updates of end-of-day and month-end prices on all listed NYSE, AMEX and NASDAQ common stocks and Foreign stocks, plus basic market indices. CRSP provides the most comprehensive distribution information available, for the most accurate total return calculations.

Important facts regarding CRSP US Stock Data.

- > Annual Update: Ready in April.
- ➤ **Monthly Updates**: Ready by the 15th day of the following month.
- ➤ Daily and Month-End Data: NYSE / AMEX: High, low, bid, ask, closing prices; trading volume; shares outstanding; and total return, year-end capitalization and year-end capitalization portfolio.
- NASDAQ: Month-end closing bid and ask, number of trades, historical traits information, market maker count, trading status, NASD classification.
- ➤ **History:** NYSE daily data begins July 1962. Monthly data begins December 1925.
- AMEX daily and monthly data begins July 1962. NASDAQ daily and monthly data begins July 1972.
- > Identifying Information: Complete Name History; all historical CUSIPs, Exchange Ticker Symbols, SIC Codes, Share Classes, Share Codes, Exchange Codes, and Security Delisting information. Certain items may change over time -- Name, CUSIP, and Exchange Ticker Symbol. CRSP has developed a unique identifier called the CRSP Permanent Issue Identification Number (PERMNO™), which does not change and allows for extremely accurate time-series analysis.
- ➤ **Distribution Information:** description of distribution, dividend amount, factors to adjust price and shares, declaration, ex-distribution, record and payment dates.

US Stock File Indices and Portfolio Assignments Database

A companion database, the **CRSP US Stock File Indices and Portfolio Assignments Database**, provides market indices on a daily, monthly, quarterly and annual frequency. Five files provide the following information.

The **CRSP Stock File Indices** includes Value- and Equal-Weighted Indices, with or without dividends, the S&P 500 Index and returns, NASDAQ Composite Index and returns. US Government consumer Price Index, US Government Bond Fixed Term Index Series, and the CRSP Risk-Free Rates File.

Track micro-, small-, mid- and large-cap stocks with **CRSP US Market Cap-Based Portfolios**. CRSP ranks all NYSE companies by market capitalization and divides them into 10 equally populated portfolios. AMEX and NASDAQ stocks are then placed into deciles according to their respective capitalizations. CRSP Portfolios 1-2 represent large caps, Portfolios 3, 4, 5 represent mid-caps, Portfolios 6, 7, 8 represent small caps, and Portfolios 9-10 benchmark micro-caps.

CRSP Indices for the S&P 500 Composite are daily and monthly files which include value- and equal-weighted returns, with and without dividends.

CRSP Excess Returns provide 10 equally populated portfolios each for the annual betas, standard deviations and excess returns for NYSE and AMEX stocks.

CRSP US Treasury and Inflation Series are monthly files containing returns and index levels on US Treasuries.

CRSP Survivor-Bias Free US Mutual Fund Database

based on the Standard & Poor's Micropal Database

Recently introduced, the **CRSP Survivor-Bias Free US Mutual Fund Database** records each mutual fund's name and organizational history. CRSP tracks monthly returns, Monthly Total Net Assets, Monthly Net Asset Values and Monthly Distributions for open-ended mutual funds from January 1, 1962, to December 31,1997. Updated quarterly, the database uses Microsoft Access 97 database software.

Mark M. Carhart developed this unique database for his 1995 dissertation submitted to the Graduate School of Business entitled, *Survivor Bias and Persistence in Mutual Fund Performance*. In it he noted that the explosion in new mutual funds has been "accompanied by a steady disappearance of many other funds through merger, liquidation and other means. ...this data is not reported by mutual fund data services or financial periodicals and in most cases is (electronically) purged from current databases. This imposes a selection bias on the mutual fund data available to researchers: only survivors are included."

In estimating the performance on an equal-weight index of equity mutual funds, Mr. Carhart found that, "Using only surviving funds biases these (performance) measures upward by about one percent per year."

1.2 How to Use This Guide

Who Should Use This Guide

This guide is for users who wish to access the CRSP Mutual Fund Data using Microsoft Access as a front end program. Database files for front-end usage with Microsoft Access are provided with the data. Note that although the files are formatted for Microsoft Access 97 database, the Mutual Fund Subscriber is responsible for independently purchasing the Microsoft product.

Document Organization

The Introduction contains a brief description of the CRSP Mutual Fund Database, development of the database Files and a brief overview of the database files.

The Data Description contains definitions and descriptions of data items included in the CRSP Mutual Fund Files.

The Utilities section contains how to access the data using Microsoft Access 97 as a front-end database interface program.

The Appendices (if any) contain supplemental information as follows:

The Index contains references to the variable names and the interactive programs.

Notational Conventions

- All variable names that occur within CRSP's Mutual Fund Database are printed using a constant-width, courier, font. For example, CUSIP refers to the CUSIP Agency identifier, while CUSIP refers to the variable used to store this identifier. CRSP's variable mnemonics, used as names and in the descriptions, are displayed capitalized using a CONSTANT-WIDTH font. Names of FORTRAN common blocks are delimited by slashes(//).
- In the variable definitions section, the variable I is sometimes used in referencing a variable in an array. In this case, I refers to a possible range of valid data in this array for this company, where the valid range is determined by the number of header variables. For example, the date is referred to as year(I) where I is the calendar year-end for which data applies.
- ➤ The text of this document is in Times New Roman. *Italics* and **bold** styles are used to emphasize headings, names, definitions and related functions.
- Data variables followed by an asterisk (*) are key (unique) data fields.

1.3 File Development and Data Sources

The original CRSP Mutual Fund database, containing open-end mutual fund data (from December 1961 to December 1995), was initially constructed and maintained by Mark Carhart at the University of Chicago, Graduate School of Business, currently Co-Head of Quantitative Research at Goldman Sachs Asset Management in New York. Funding was provided by Eugene F. Fama and the Center for Research in Security Prices.

Standard and Poor's Micropal, Inc. [©1996] - 617-451-1585 www.micropal.com, a division of the McGraw-Hill Companies, Inc.), formerly ICDI, is the primary electronic data source for the CRSP Mutual Fund File. They provided an estimated two-thirds of the original data. The rest of the data is, and has been, acquired from printed sources for hand entry, which include; the Fund Scope Monthly Investment Company Magazine (2/62-2/76), ICDI's MACOR, the Investment Dealers Digest Mutual Fund Guide (1993), Investor's Mutual Fund Guide printed monthly reports (6/83-12/93), the United & Babson Mutual Fund Selector (1/76 to 12/83), and the Wiesenberger Investment Companies Annual Volumes (1962-1993).

The CRSP Mutual Fund Database was Created in Four Stages

The data was compiled into an annual list of active mutual fund names and attributes along with organizational history such as name changes, mergers and liquidations primarily from Wiesenberger Investment Companies annual volumes, 1962 to 1993.

Monthly returns back to January 1962 and current attributes for all active funds annually since June 1993, as well as for most funds that perished since 1989 were obtained from Standard and Poor's Micropal, a division of the McGraw-Hill Companies, Inc, formerly Investment Company Data, Inc. (ICDI), in Des Moines, Iowa.

All available missing return and attribute information on all funds was added from various printed monthly sources going back to January 1962. In the third stage, we also added funds that were not in the Wiesenberger or ICDI database, although instances of this were rare.

The data was checked against original and secondary sources for any unusual entries and typographical errors.

The files are updated annually with snapshots of Standard and Poor's Micropal's database.

1.4 Overview

The CRSP Survivor Bias-Free Mutual Fund Files provide open-ended mutual fund data from December 1961 to December 1996 for funds of all investment objectives, principally equity funds, taxable and municipal bond funds, international funds and money market funds. The data are divided into the following six principal categories:

- 1. A Record of Each Mutual Fund Entity's Name(s) and Organizational History,
- 2. Annual Mutual Fund Attributes,
- 3. Monthly Returns,
- 4. Monthly Total Net Assets (TNA),
- 5. Monthly Net Asset Values (NAV), and
- 6. Distributions.

For additional information on the database, please refer to Mark Carhart's papers; "On Persistence in Mutuual Fund Performance," Journal of Finance, March 1997, vol. 52, no. 1 pp. 57-82 and "Mutual Fund Survivorship,", working paper, May 1997, Goldman Sachs Asset Management.

Data Accuracy of the CRSP Mutual Fund Database Files

The CRSP Mutual Fund Files are designed for research and educational use. Considerable resources are expended to improve and to check the quality of the data. Errors are not common. Some of the errors found in checking the data are the results of inaccuracies in the initial data source. The inaccuracies are corrected as soon as possible. Other errors are CRSP coding errors; over time these coding errors are found and corrected. Historical corrections account for differences in the data from update to update. The Annual CRSP Mutual Fund Database Files contain updated data through the end of the previous calendar year.

Machine-readable data are checked for internal consistency. Secondary sources are used to check suspect information. Information not available in machine-readable form is hand-coded and verified.

1.5 Latest Changes

The CRSP Survivor-Bias Free US Mutual Fund Database has been updated to contain data through December 1997.

Fund Names were supplied containing occasional spatial, abbreviation, and spelling inconsistencies. These have been corrected.

The 1996 File's asset allocation values were erroneously provided in fractions instead of percentages in the Annual Summary Data File. This has been corrected in the 1997 iteration of the data.

Annual Summary Data fields OBJ, Policy, SI_OBJ containing asset allocation data, are historical and do not contain data beyond 1995.

1.6 Known Bias' in the CRSP Mutual Fund Database

- There is a bias in the way that returns are averaged, such that if a fund started in 1962 and split into 4 share classes in 1993, each new share class of the fund is permitted to inherit the entire return history. Only the successful funds survive and their return histories are sometimes duplicated in the database.
- There is a selection bias favoring the historical data files of the best past performing private funds which became public The SEC has recently begun permitting some funds (and eventually probably all funds) with prior return histories as private funds to splice these returns on to the beginning of their public histories. The effect of this is that only the successful private fund histories are included in the database to date.

2. DATA DESCRIPTIONS

2.1 Variable Description

Annual Summary Data File

ICDI_NO_A* Fund Identification Number

Text (5)

The Fund Identification Number is an alpha-numeric field containing the Fund Identification Number. This number, although rarely duplicated, is not a unique number. Numbers in this field starting with the letter "M" were dummy Fund Identification Numbers assigned by CRSP and represent dead funds not included in Micropal's data.

YEAR_A* Calendar Year for Which the Data Applies

Long Integer (Number)

The Calendar Year for Which the Data Applies is in a YYYY format.

FUND_NAME Fund Name

Text (50)

The Fund Name contains the Fund Name up to 50 characters. Names in excess of 50 characters are truncated to fit.

YEAR_ORG Year the Fund Was Organized

Long Integer (Number)

The Year the Fund Was Organized contains the date in a YYYY format

OBJ Wiesenberger Fund Type Code

Text (5)

The Fund Type is a 5 character code which identifies the funds investment strategy identified by Wiesenberger.

	1962-1990	IEQ	International equity
G	Growth	IFL	International flexible strategy
I	Income	INT	International equity
S	Stability	LTG	Long-term government
	1991-Present	MBD	Municipal bond
ALL	Asset allocation	MCG	Maximum capital gains
BAL	Balanced	MHY	Municipal high yield
CBD	Corporate Bond	MMF	Money market fund
CHY	Corporate high yield bond	MSS	Municipal single state
ENR	Energy Sector	MTG	Mortgage related securities
FIN	Financial sector	OTH	Other (not classified)
GCI	Growth with current income	SCG	Small capitalization growth
GOV	Government securities	TCH	Technology sector
GPM	Gold and precious metals	TFM	Tax-free money market
HTL	Health sector	TMM	Taxable money market
IBD	International bond	UTL	Utility sector

POLICY

Type of Securities Mainly Held by the Fund

Text (6)

The Type of Securities Mainly Held by the Fund are identified by the following character codes.

Leases Holds equity in lease contracts

B & P	Bond and preferred stocks	Leases	Holds equity in lease contracts
Bal	Balanced fund	MF	Multi-manager fund
Bonds	Bonds	MM	Money market fund
C & I	Canadian and international	Pfd	Preferred stocks
CS	Common stocks	Spec	Sector or highly speculative fund
Flex	Flexible strategy	TF	Tax-free fund
GS	Government securities	TFE	Tax-free exchange fund
Hedge	Leverage and/or short-selling	TFM	Tax-free money market fund
I-S	Income fund		

ICDI_OBJ ICDI's Fund Objective Code

Text (2)

The ICDI's Fund Objective Code is a 2 character code which identifies the Fund's investment strategy as identified by Source Standard and Poor's Micropal, formerly ICDI. This code is available beginning in 1993.

Aggressive growth	MF	Tax-free money market fund
Balanced	MG	Government securities money market fund
High quality bonds	MQ	High quality municipal bond fund
High yield bonds	MS	Single-state municipal bond fund
Global bonds	MT	Taxable money market fund
Global equity	MY	High-yield money market fund
Growth and income	OI	Option income (write covered options)
Ginnie Mae funds	PM	Precious metals
Government securities	SF	Sector funds
International equities	SP	Special funds (unclassified)
Income	TR	Total return
Long-term growth	UT	Utility funds
	Balanced High quality bonds High yield bonds Global bonds Global equity Growth and income Ginnie Mae funds Government securities International equities Income	Balanced MG High quality bonds MQ High yield bonds MS Global bonds MT Global equity MY Growth and income OI Ginnie Mae funds PM Government securities SF International equities SP Income TR

SI_OBJ Strategic Insight's Fund Objective Code

Text (3)

The Strategic Insight's Fund Objective Code is a 3 character code which identifies the fund's investment strategy, as identified by Strategic Insight. See Appendix A for a list of Strategic Insight's Fund Objectives.

TNA Total Net Assets

Currency (Currency)

The Total Net Asset (at calendar year-end) is normally calculated by taking the closing market value of securities owned plus all assets, minus all liabilities.

NAV Net Asset Value Per Share

Currency (Currency)

The Net Asset Value is calculated by taking the closing market value of securities owned plus all assets, minus all liabilities, and dividing by the number of shares outstanding.

INCOME Total Income Distributions

Currency (Currency)

The Total Income Distribution (over the calendar year) measures the total (taxable) distributions the fund produced over the calendar year.

CAP_GNS Total Capital Gains Distributions

Currency (Currency)

The Total Capital Gains Distributions (over the calendar year) is the total distribution per share of the profits derived from the sale of stocks or bonds.

YIELD Income Yield

Double (Number)

The Income Yield (at calendar year-end) is the total income earned (or lost) in percentages over the calendar year. It is the sum of the income distributions divided by the NAV on the last trading day in December. This does not include fund maintenance.

TURNOVER Turnover Ratio Of The Fund

Double (Number)

The Turnover Ratio of The Fund (over the calendar year) is the minimum of aggregate purchases of securities or aggregate sales of securities, divided by the average Total Net Assets (TNA) of the fund.

MAX_LOAD Maximum Front-End Load Fees

Double (Number)

Maximum Front-End Load Fees are the maximum sales charges applied at the time of the initial purchase. These fees are in percentages.

OTH_LOAD Maximum Deferred Sales Charges And Rear-End Load Fees Double (Number)

Maximum Deferred Sales Charges and Rear-End Load Fees are the maximum sales charges the investor owes when withdrawing money from their investment. These rear-end (back-end) loads are often deferred over a period of time such that the investor owes a percentage of the withdrawal fee if they hold the fund for specific designated periods of time. These fees are in percentages.

TOT_LOAD Total Of All Maximum Front, Deferred And Rear-End Load ChargesDouble (Number)

The Total Of All Maximum Front, Deferred And Rear-End Load Charges is a total of loads applied to a fund. These fees are in percentages.

EXPENSES Expense Ratio Double (Number)

Expense Ratio (over the calendar year) is the percentage of the total investment that shareholders pay for the mutual fund operating expenses.

TICKER Nasdaq Ticker Symbol Character (5)

The Nasdaq Ticker Symbol is the 5 character symbol used as a fund identifier.

STOCKS % Percentage Invested In Stocks Double (Number)

The Percentage Invested In Stocks (includes warrants and "other" categories from ICDI) is the percentage of the fund invested in stocks as of the Calendar Year for Which the Data Applies.

BONDS % Percentage Invested In Bonds And Preferred Stocks Double (Number)

The Percentage Invested In Bonds And Preferred Stocks (when preferreds are not separately reported separately as of the Calendar Year for Which the Data Applies) is the percentage of the fund invested in preferred, corporate, municipal, government, and convertible bonds.

PRFD STOCKS % Percentage Invested In Preferred Stocks Double (Number)

The Percentage Invested In Preferred Stocks (when available separately) is the percentage of the fund invested in preferred stocks, when they are listed separately from bonds as of the Calendar Year for Which the Data Applies.

CASH % Percentage Invested In Cash Equivalents Double (Number)

The Percentage Invested In Cash Equivalents is the percentage of the fund invested in very save instruments and investments that can be quickly liquefied as of the Calendar Year for Which the Data Applies.

Supplementary Annual Data File

The Supplementary Annual Data File contains supplemental fund specific information including; asset composition, fund manager, fund management company, and initial offering date.

ICDI_NO_A_S* Fund Identification Number

Text (5)

The Fund Identification Number is an alpha-numeric field containing the Fund Identification Number. This number, although rarely duplicated, is not a unique number. Numbers in this field starting with the letter "M" were dummy Fund Identification Numbers assigned by CRSP and represent dead funds not included in Micropal's data.

YEAR_A_S* Calendar Year for Which the Data Applies

Long Integer (Number)

The Calendar Year for Which the Data Applies is in a YYYY format.

MGMT_NO ICDI's Identifier For The Management Company Name

Double (Number)

ICDI's Identifier For The Management Company Name is Source Standard and Poor's Micropal's, formerly ICDI's numerical identifier for the Management Company.

MGMT_NAME Management Company Name

Text (50)

The Management Company Name is the organization responsible for electing a Fund Manager.

MGR_DATE

Date Current Portfolio Manager Took Control

Long Integer (Number)

The Date Current Portfolio Manager Took Control is the month and year in which the manager assumed responsibility for the fund's investment portfolio.

MGR_NAME

Individual Portfolio Manager's Name

Text (30)

The Individual Portfolio Manager's Name is the name of the person responsible for making the investment decisions for a sub-accountant's underlying mutual fund.

MAX_LOAD Maximum]

Maximum Front-End Load Fees

Double (Number)

Maximum Front-End Load Fees are the maximum sales charges applied at the time of the initial purchase.

DEF LOAD

Maximum Deferred Sales Charges

Double (Number)

The Maximum Deferred Sales Charges are the maximum sales charges the investor owes when withdrawing money from their investment. These are often deferred over a period of time such that the investor owes a percentage of the withdrawal fee if they hold the fund for specific designated periods of time.

REAR LOAD

Maximum Rear-End Loads

Double (Number)

The Maximum Rear-End Loads are the maximum sales charges the investor owes when withdrawing money from their investment. These rear-end (back-end) loads are often deferred over a period of time such that the investor owes a percentage of the withdrawal fee if they hold the fund for specific designated periods of time.

12B1 12b-1 Fee Double (Number)

The 12b 1 Fee is a charge which is deducted from the underlying mutual fund's total assets to cover the cost of distribution and marketing. The value reported is the actual annual percentage of total assets attributed to this expense as of fiscal year end which is reported in the prospectus.

MATUR Weighted Average Maturity In Years (For Bond Funds) Double (Number)

The Weighted Average Maturity in Years (for bond funds) is the weighted average time to the return of a dollar of principal. It is determined by multiplying each part of the principal received at the time it is received.

AC_DATE Date For Which Asset Composition Data Applies Long Integer (Number)

The Date For Which Asset Composition Data Applies in a YYYYMM format.

AC_COM Percentage Invested In Common Stocks Double (Number)

The Percentage Invested in Common Stocks is the percentage of the fund invested as of the AC DATE, or the Date for Which Asset Composition Data Applies.

AC_PREF Percentage Invested In Preferred Stocks Double (Number)

The Percentage Invested in Preferred Stocks is the percentage of the fund invested as of the AC_DATE, or the Date for Which Asset Composition Data Applies.

AC_CONV Percentage Invested In Convertible Bonds Double (Number)

The Percentage Invested in Convertible Bonds is the percentage of the fund invested as of the AC_DATE, or the Date for Which Asset Composition Data Applies.

AC_WARR Percentage Invested In Warrants Double (Number)

The Percentage Invested Warrants is the percentage of the fund invested as of the AC_DATE, or the Date for Which Asset Composition Data Applies.

AC_CORP Percentage Invested In Corporate Bonds Double (Number)

The Percentage Invested in Corporate Bonds is the percentage of the fund invested as of the AC_DATE, or the Date for Which Asset Composition Data Applies.

AC_MUNI Percentage Invested In Municipal Bonds Double (Number)

The Percentage Invested in Municipal Bonds is the percentage of the fund invested as of the AC_DATE, or the Date for Which Asset Composition Data Applies.

AC_GOVT Percentage Invested In Government Bonds Double (Number)

The Percentage Invested in Government Bonds is the percentage of the fund invested as of the AC_DATE, or the Date for Which Asset Composition Data Applies.

AC_OTH Percentage Invested In Other Securities Double (Number)

The Percentage Invested in Other Securities is the percentage of the fund invested as of the AC_DATE, or the Date for Which Asset Composition Data Applies.

AC_CASH Percentage Invested In Cash

Double (Number)

The Percentage Invested in Cash is the percentage of the fund invested as of the AC_DATE , or the Date for Which Asset Composition Data Applies.

Fund Names File

The Fund Names File contains a record of all known income and capital gains distributions on funds in ICDI's database, including the date, type, amount and reinvestment NAV on every distribution.

ICDI_NO_A Fund Identification Number

Text (5)

The Fund Identification Number is an alpha-numeric field containing the Fund Identification Number. This number, although rarely duplicated, is not a unique number. Numbers in this field starting with the letter "M" were dummy IDCI numbers assigned by CRSP and represent dead funds not included in ICDI's data.

FUND_NAME Fund Name

Text (50)

The Fund Name contains the Fund Name up to 50 characters. Names in excess of 50 characters are truncated to fit.

BEGYEAR Earliest Fund Data Available

Long Integer (Number)

The Earliest Fund Date Available is in a YYYY format is the year the mutual fund began.

ENDYEAR Latest Fund Date Available

Long Integer (Number)

The Fund Date Available is in a YYYY format is the last year the mutual fund was in existence.

Distributions Data File

The Distributions Data File contains a record of all known income and capital gains distributions on funds in ICDI's database, including the date, type, amount and reinvestment NAV on every distribution.

ICDI_NO_D* Fund Identification Number

Text (5)

The Fund Identification Number is an alpha-numeric field containing the Fund Identification Number. This number, although rarely duplicated, is not a unique number. Numbers in this field starting with the letter "M" were dummy IDCI numbers assigned by CRSP and represent dead funds not included in ICDI's data.

X_YR* Year of Ex Date

Long Integer (Number)

The Year of Ex Date is the YYYY portion of the Ex-Dividend date. This is the date is typically about three weeks prior to dividend payments. Shares purchased after this date, prior to dividend distribution are not entitled to the dividend.

X_MO* Month of Ex Date

Long Integer (Number)

The Month of Ex Date is the MM portion of the Ex-Dividend date. This is the date is typically about three weeks prior to dividend payments. Shares purchased after this date, prior to dividend distribution are not entitled to the dividend.

X_DAY* Day of Ex Date

Long Integer (Number)

The Day of Ex Date is the DD portion of the Ex-Dividend date. This is the date is typically about three weeks prior to dividend payments. Shares purchased after this date, prior to dividend distribution are not entitled to the dividend.

X_TYP* Type of Distribution

Text (1)

The Type of Distribution is the type of payment the fund distributions are available in. These are coded according to the following conventions;

- \triangleright D = income/dividends,
- \triangleright C = capital gains,
- \triangleright S = split.

X_AMT Amount of Distribution

Double (Number)

The Amount of Distribution is the dollar amount of the distribution.

RE NAV Reinvestment NAV

Double (Number)

The Reinvestment NAV is the fund's Net Asset Value (NAV) on the close of the pay-date and includes reinvestment of the distribution. This would be the new sum of all of the assets minus the liabilities then dividing the result by the total number of shares. For splits, the split ratio is RE_NAV/X_AMT.

Funds List File

The Funds List File contains the historical tracking information of the funds. This includes a record of; all fund entities in the database by Fund Identification Number, merger/liquidation information, as well as the official end date and dates of the first and last data on the fund with the specific fund id in the database.

ICDI_NO* Fund Identification Number

Text (5)

The Fund Identification Number is an alpha-numeric field containing the Fund Identification Number. This number, although rarely duplicated, is not a unique number. Numbers in this field starting with the letter "M" were dummy IDCI numbers assigned by CRSP and represent dead funds not included in ICDI's data.

DEAD Dead Fund Flag

Text (1)

The Dead Fund Flag identifies dead funds with a Y=Yes, or a N=No.

ECD Code

Text (3)

The ECD Code identifies the reason the fund died.

END_DATE Date Of Fund Disappearance

Short Date (Date/Time)

The Date in a MM/DD/YYYY format of Fund Disappearance is the date reported. If there is no date available, the last reported date of the last available data.

NEW_ICDI1 Mergers ICDI Number

Text (5)

The Mergers ICDI Number is the ICDI number the fund merged into.

NEW_ICDI2 Splits ICDI Number

Text (5)

The Splits ICDI Number is the second fund old fund assets were divided into.

FIRST_DATA Date Fund Began Trading

Short Date (Date/Time)

The File Beginning Date in a MM/DD/YYYY format is the first record date containing mutual fund data in the file.

LAST_DATA Da

Date Fund Ended Trading

Short Date (Date/Time)

The File Ending Date in a MM/DD/YYYY format is the last record date containing mutual fund data in the file..

Monthly Net Asset Values/Shares

The Net Asset Values table contains the NAV's for each Fund Identification Number on a monthly basis as of the end of the month.

ICDI NO N* **Fund Identification Number** Text (5)

The Fund Identification Number is an alpha-numeric field containing the Fund Identification Number. This number, although rarely duplicated, is not a unique number. Numbers in this field starting with the letter "M" were dummy IDCI numbers assigned by CRSP and represent dead funds not included in ICDI's data.

YEAR* Calendar Year for Which the Data Applies

Long Integer (Number)

The Calendar Year for Which the Data Applies is in a YYYY format.

JAN NAV Net Asset Value Per Share - January

Double (Number)

The Net Asset Value Per Share - January is the value as of the end of January of the given Calendar Year End.

Net Asset Value Per Share - February

Double (Number)

The Net Asset Value Per Share - February is the value as of the end of February of the given

Calendar Year End.

MAR_NAV Net Asset Value Per Share - March **Double (Number)**

The Net Asset Value Per Share - March is the value as of the end of March of the given Calendar Year End.

APR_NAV **Net Asset Value Per Share - April**

Double (Number)

The Net Asset Value Per Share - April is the value as of the end of April of the given Calendar

Year End.

MAY_NAV Net Asset Value Per Share - May **Double (Number)**

The Net Asset Value Per Share - May is the value as of the end of May of the given Calendar

Year End.

JUN NAV **Net Asset Value Per Share - June** Double (Number)

The Net Asset Value Per Share - June is the value as of the end of June of the given Calendar Year End.

Net Asset Value Per Share - July

Double (Number)

The Net Asset Value Per Share - July is the value as of the end of July of the given Calendar

Year End.

AUG NAV **Net Asset Value Per Share - August** Double (Number)

The Net Asset Value Per Share - August is the value as of the end of August of the given Calendar Year End.

JUL_NAV

FEB NAV

SEP_NAV Net Asset Value Per Share - September Double (Number)

The Net Asset Value Per Share - September is the value as of the end of September of the

given Calendar Year End.

OCT_NAV Net Asset Value Per Share - October Double (Number)

The Net Asset Value Per Share - October is the value as of the end of October of the given

Calendar Year End.

NOV_NAV Net Asset Value Per Share - November Double (Number)

The Net Asset Value Per Share - November is the value as of the end of November of the

given Calendar Year End.

DEC_NAV Net Asset Value Per Share - December Double (Number)

The Net Asset Value Per Share - December is the value as of the end of December of the given

Calendar Year End.

Monthly Total Returns File

The Monthly Total Returns File contains the cumulative Total Return per share for each Fund Identification Number calculated using the following formula:

The return on fund i from time t-1 to time t is calculated as:

$$R_{t-1,t} = \left(\frac{NAV_{t}}{NAV_{t-1}}\right) \left(\prod_{j=1}^{J} \left(1 + \frac{X_{-}AMT_{j}^{D}}{RE_{-}NAV_{j}^{D}}\right) \left(\prod_{k=1}^{K} \left(\frac{X_{-}AMT_{k}^{S}}{RE_{-}NAV_{k}^{S}}\right)\right) - 1\right)$$

where

 NAV_{t-1} The NAV at the end of the previous period.

NAV is the NAV at the end of the current period.

J The number of dividend or capital gains distributions during the period.

K The number of NAV splits during the period.

 $X_AMT_j^D$ is the jth dividend or capital gains distribution during the period.

 $RE_NAV_j^D$ is the NAV at which the jth dividend or capital gains distribution was reinvested.

 $X_{AMT_k}^S$ is the number of new shares per $RE_{NAV_k}^S$ of old shares investors received in the k^{th} NAV split

over the period

 $RE_NAV_k^S$ is the number of old shares investors traded in for $X_AMT_k^S$ new shares in the k^{th} NAV split.

'nat is,

 $\frac{X_{-}AMT_{k}^{S}}{RE_{-}NAV_{k}^{S}}$ is the split ratio for the kth NAV split.

ICDI NO R* Fund Identification Number

Text (5)

The Fund Identification Number is an alpha-numeric field containing the Fund Identification Number. This number, although rarely duplicated, is not a unique number. Numbers in this field starting with the letter "M" were dummy IDCI numbers assigned by CRSP and represent dead funds not included in ICDI's data.

YEAR_R* Calendar Year for Which the Data Applies

Long Integer (Number)

The Calendar Year for Which the Data Applies is in a YYYY format.

JAN_RET Total Return Per Share - January

Double (Number)

The Total Return Per Share as of the end of January of the specified Calendar Year for Which the Data Applies.

FEB_RET Total Return Per Share - February

Double (Number)

The Total Return Per Share as of the end of February of the specified Calendar Year for Which the Data Applies.

MAR_RET Total Return Per Share - March

Double (Number)

The Total Return Per Share as of the end of March of the specified Calendar Year for Which the Data Applies.

APR_RET Total Return Per Share - April

Double (Number)

The Total Return Per Share as of the end of April of the specified Calendar Year for Which the Data Applies.

MAY_RET Total Return Per Share - May

Double (Number)

The Total Return Per Share as of the end of May of the specified Calendar Year for Which the Data Applies.

JUN_RET Total Return Per Share - June

Double (Number)

The Total Return Per Share as of the end of June of the specified Calendar Year for Which the Data Applies.

JUL_RET Total Return Per Share - July

Double (Number)

The Total Return Per Share as of the end of July of the specified Calendar Year for Which the Data Applies.

AUG_RET Total Return Per Share - August

Double (Number)

The Total Return Per Share as of the end of August of the specified Calendar Year for Which the Data Applies.

SEP_RET Total Return Per Share - September

Double (Number)

The Total Return Per Share as of the end of September of the specified Calendar Year for Which the Data Applies.

OCT_RET Total Return Per Share - October

Double (Number)

The Total Return Per Share as of the end of October of the specified Calendar Year for Which the Data Applies.

NOV_RET Total Return Per Share - November

Double (Number)

The Total Return Per Share as of the end of November of the specified Calendar Year for Which the Data Applies.

DEC_RET

Total Return Per Share - December

Double (Number)

The Total Return Per Share as of the end of December of the specified Calendar Year for Which the Data Applies.

Total Net Assets File

The Total Net Assets File contains the cumulative Net Asset Value for each Fund Identification Number. The data is provided on an annual basis for funds with available data between the years 1961-1969, on a quarterly basis for funds between 1970 and 1991 and on a monthly basis for funds between 1991 and 1996.

ICDI_NO_T* Fund Identification Number

Text (5)

The Fund Identification Number is an alpha-numeric field containing the Fund Identification Number. This number, although rarely duplicated, is not a unique number. Numbers in this field starting with the letter "M" were dummy IDCI numbers assigned by CRSP and represent dead funds not included in ICDI's data.

YEAR_T* Calendar Year for Which the Data Applies

Long Integer (Number)

The Calendar Year for Which the Data Applies is in a YYYY format.

JAN_TNA Total Net Assets - January

Double (Number)

The Total Net Assets as of the end of January of the specified Calendar Year for Which the Data Applies.

FEB_TNA Total Net Assets - February

Double (Number)

The Total Net Assets as of the end of February of the specified Calendar Year for Which the Data Applies.

MAR_TNA Total Net Assets - March

Double (Number)

The Total Net Assets as of the end of March of the specified Calendar Year for Which the Data Applies.

APR_TNA Total Net Assets - April

Double (Number)

The Total Net Assets as of the end of April of the specified Calendar Year for Which the Data Applies.

MAY_TNA Total Net Assets - May

Double (Number)

The Total Net Assets as of the end of May of the specified Calendar Year for Which the Data Applies.

JUN_TNA Total Net Assets - June

Double (Number)

The Total Net Assets as of the end of June of the specified Calendar Year for Which the Data Applies.

JUL_TNA Total Net Assets - July

Double (Number)

The Total Net Assets as of the end of July of the specified Calendar Year for Which the Data Applies.

AUG_TNA Total Net Assets - August

Double (Number)

The Total Net Assets as of the end of August of the specified Calendar Year for Which the Data Applies.

SEP_TNA Total Net Assets - September Double (Number)

The Total Net Assets as of the end of September of the specified Calendar Year for Which the Data Applies.

OCT_TNA Total Net Assets - October Double (Number)

The Total Net Assets as of the end of October of the specified Calendar Year for Which the

Data Applies.

NOV_TNA Total Net Assets - November Double (Number)

The Total Net Assets as of the end of November of the specified Calendar Year for Which the

Data Applies.

DEC_TNA Total Net Assets - December Double (Number)

The Total Net Assets as of the end of December of the specified Calendar Year for Which the

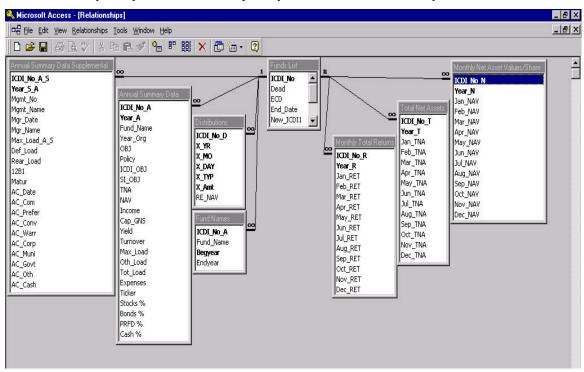
Data Applies.

1997 CRSP SURVIVOR BIAS FREE MUTUAL FUND DATABASE					

3. DATA ACCESS

3.1 File Descriptions

The CRSP Survivor Bias Free US Mutual Fund Data Base was imported into Micro Soft Access for ease of use and is designed to enforce referential integrity between tables within the database by using the Fund Name Table as the parent property. This *parent* table includes a list of all relevant ICDI identifiers and asks that all other tables contain, at a minimum, a subset list of ICDI identifiers, but have no greater nor unique number of ICDI identifiers. This form is read-only in any view. There are 7 primary tables in the database. They are linked as follows:



With referential integrity set, the Funds List table is used to power the interactive form, allowing data from all tables to be represented seamlessly in the main form window. By clicking on the available buttons, each subsequent window, linked through the Mutual Fund Name History form will then be able to extract relevant data.

Mutual Fund Name History Form: The primary and linking form, Mutual Fund Name History, provides the ability to search the Funds Name table by specific ICDI_NO Fund Identification Numbers or by Fund Name or Date. Users may want to scroll manually through the funds or use the pointer buttons or the Find Fast button. Note that when using the Find Fast feature, the user will need to click on the specific field you want to search prior to opening the Find Fast button, and set the Match Field drop down menu to 'Start of Field'. The Mutual Fund Name History Form separates companies via ICDI identifier and breaks each identifier down by time range for name history. This should be kept in mind, as subsequent forms will only be able to scroll through applicable time ranges for the name history of the searched ICDI identifier. For example, all returns will be available for the specified fund with the same fund name and ICDI Fund Identification Number. These could be viewed, one year at a time for the specific fund. If the name was changed, that data under the new name would need to be looked up separately. To view all the returns together, minimize or close the form and view the table. To end the form session, either close the windows manually or use the Stop button. Using the Stop button will exit the program.

Net Asset Values Form: The Net Asset Values form displays data from the Monthly Net Asset Values/Share table for the date specified by the ICDI identifier form the Mutual Fund Name History and Net Asset Value forms, for that specific fund within the date ranges applicable to name history.

Beginning data may not always be the same as start date data available in the Mutual Fund Name History form.

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Monthly Total Returns Form: The Monthly Total Returns form displays the data from the range specified by the ICDI Fund Identification Number from the Mutual Fund Name History form and Monthly Total Returns from the Monthly Total Returns table, for that specific fund within the date ranges applicable to name history.

Beginning data may not always be the same as start date data available in the Mutual Fund Name History form.

Total Net Assets Form: The Total Net Assets form displays the data from the range specified by the ICDI identifier from the Mutual Fund Name History form and total net assets from the Total Net Assets table, for that specific fund within the date ranges applicable to name history.

Beginning data may not always be the same as start date data available in the Mutual Fund Name History form.

ICDI Fund ID Info Form: ICDI Fund ID Info Form displays the data from the range specified by the Fund Identification Number from the Mutual Fund Name History form and trading information from Funds List table, for that specific fund within the date ranges applicable to name history.

Beginning data may not always be the same as start date data available in the Mutual Fund Name History form.

Distributions Form: The Distributions form displays the data from the range specified by the ICDI identifier from the Mutual Fund Name History form and annual distributions information from the Distributions table, for that specific fund within the date ranges applicable to name history.

Beginning data may not always be the same as start date data available in the Mutual Fund Name History form.

Annual Summary Form: The Annual Summary form displays the data from the range specified by the ICDI identifier from the Mutual Fund Name History form and fund specifics from the Annual Summary Data table, for that specific fund within the date ranges applicable to name history.

Beginning data may not always be the same as start date data available in the Mutual Fund Name History form.

Annual Supp Form: The Annual Supp form displays the data from the range specified by the ICDI identifier from the Mutual Fund Name History form and data from the Annual Summary Data Supplemental table, for that specific fund within the date ranges applicable to name history.

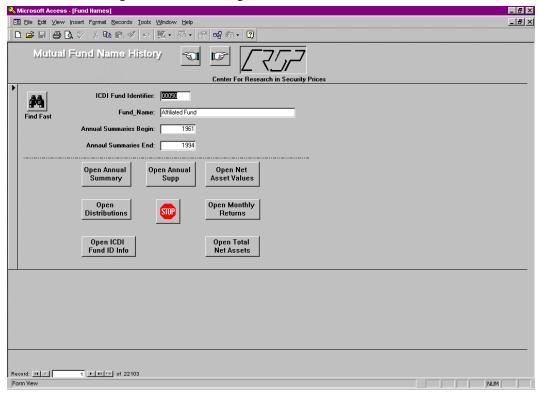
Beginning data may not always be the same as start date data available in the Mutual Fund Name History form.

3.2 Overview for Data Access

The CRSP Mutual Fund Database is designed to facilitate research on the historical performance of specific open ended Mutual Funds using survivor bias-free data.

The front end data access is set up in Microsoft Access 97, and is designed for PC use. The user's system should minimally contain a 2 Gigabyte hard drive with 32 Mb RAM. This is a large database, and we recommend that you install on your system or network rather than run from the CD.

Access to the data begins with the following screen:



The Mutual Fund Name History form allows the user to scroll through the available Mutual Funds by name, one record at a time. The table should be used to view multiple records. Funds can be selected by Fund Name or ICDI Fund Identification Number. The Fund Identification Number and the These can be sorted in Access and by default are sorted by ICDI Fund Identification Number, beginning with 50. Using the find macro of MS Access, by clicking on the binoculars you can search for the desired fund by name, or using the hot keys ctrl + F, ICDI Fund Number or Date (any available field on the open screen). Please note that which ever field you are searching will appear in the top of the pop up box. If you are going to search for the fund by name, you will need to change the default settings of find under "match" to 'start of field' and click the 'search only current field' check button off. Once you have selected the desired fund, use the mouse to click on the data you wish to view for that item. The data available include:

- Open Annual Summary,
- > Open Distributions,
- Open ICDI Fund ID Info,
- > Open Annual Supplemental,
- Open Net Asset Values,
- Open Monthly Returns and
- Open Total Net Assets.

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Only one year at a time is displayed in the forms. To display the additional information over multiple years, close the forms and either open the table or the form for the item you are interested in. You can search any associated field by the ICDI Fund Identification Number using the Ctrl + F, Find Fast macro. See the data definition section for variables available in each of the database tables.

Reports can be written, but only if the user must have read/write access to the database. Read-only prohibits the user from creating output reports and queries in MS Access 97.

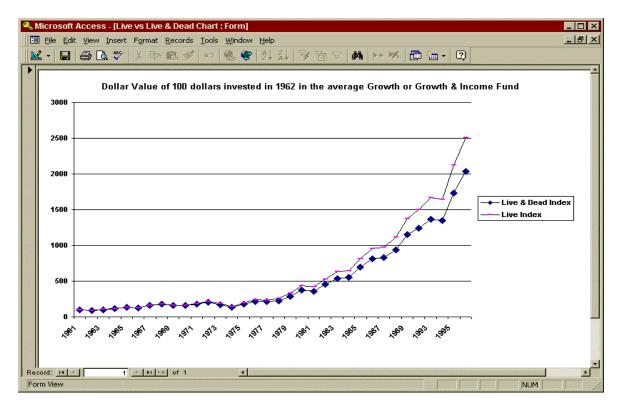
Database Setup

Microsoft Access can be used in a networked environment or on individual PC's. Networking requires licensing from Microsoft. Appropriate licensing arrangements must be made with Microsoft.

3.3 Sample Queries

Included are several sample queries that were used to build the following chart showing the significance of having both live and dead funds in a database. Returns were calculated for funds classified as 'growth' and 'growth and income' funds over the file history. These were converted into indexes to graphically display the difference made by including both the live and dead funds into one research database. There is a significant performance difference between the two.

Live vs Live & Dead Chart



These queries may be used as a base to modify and create your own similar queries. Following is the methodology used in their creation.

Funds were initially selected based upon their classification as a 'growth' or 'growth and income' fund using the OBJ (the Wiesenberger Fund Type Code), ICDI_OBJ (the ICDI's Fund Objective Code) and SI_OBJ (the Strategic Insight's Fund Objective Code). The Growth Funds Returns table, created by the Growth Funds Avg Return query and consists of; the fund number, a flag for whether or not the fund is dead or not, the year, three different fields for fund type classification and a flag for whether or not the fund meets the "growth" criteria, the compounded annual return for the year, and the fields necessary to calculate the annual return.

Next two queries were created to average the returns for all funds in a given year. (This would be the return that an investor would have received if they had invested equally in all of the funds and then held those investments for one year.) The two queries were created and tables were generated from them when they were run. Both the query and the associated table have the same name. One is call the Live & Dead Funds Avg Return Query and the other is the Live Funds Only Avg Return Query.

Next the query Combine Avg of Annual Returns was created and run. The results of this were exported to a Micro Soft Excel WorkBook file using MS Excel 97. When exported, this query created an Excel file containing three columns; the year, the Avg of the compound returns for live and dead funds, and the Avg of the compound returns for live funds only. An Index was created using the returns both return series, and live and dead, that was

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based at 100 beginning in 1962. The resulting Excel file was then imported back into the CRSP Mutual Fund Database as table Combined_Avg_of_ Annual_Returns.

To create the form that shows the result a new form was created using the chart wizard and the above mentioned table as the source. The resulting form was named $\texttt{Live}\ \texttt{vs}\ \texttt{Live}\ \texttt{\&}\ \texttt{Dead}\ \texttt{Chart}.$

Appendices

1997 CRSP Survivor Bias Free Mutual Fund Database		

APPENDIX A. DATA CODE LISTING

Missing Return Codes

-99	No data is available
-95	Missing data
Blank	No data is available

EDC Codes

VAS

?	don't know what happened to this fund
; *	don't know what happened to this fund, but post 4/93
CE	converted to closed-end
CLO	closed to new investment so not reporting currently
D	divided into 2 or more funds
DUP	duplicate fund
L	liquidated
L*	probably liquidated
M	merged
M*	probably merged
M?	perhaps merged
N	name change (along with ICDI_NO change)
NI	not in ICDI's database
PRI	converted to private
R	removed at fund request
TFE	tax-free exchange fund (Wiesenberger stopped reporting)

Policy And Objective Codes

Codes for Types of Securities Mainly Held By the Fund

variable annuity vehicle (Wiesenberger stopped reporting)

1	B&P	Bond and preferred stocks
2	Bal	Balanced fund
3	Bonds	Bonds
4	C & I	Canadian and international
5	CS	Common stocks
6	Flex	Flexible strategy
7	GS	Government securities
8	Hedge	Leverage and/or short-selling
9	I-S	Income fund
10	Leases	Holds equity in lease contracts
11	MF	Multi-manager fund
12	MM	Money market fund
13	Pfd	Preferred stocks
14	Spec	Sector or highly speculative fund
15	TF	Tax-free fund
16	TFE	Tax-free exchange fund
17	TFM	Tax-free money market fund

Wiesenberger Objective Codes (Annual Volumes 1962-90)

1	G	Growth
2	I	Income
3	S	Stability
(Anr	nual Volu	mes 1991-93)
1	AAL	Asset allocate

1 AAL Asset allocation 2 BAL Balanced

3	CBD	Corporate bond
4	CHY	Corporate high yield bond
5	ENR	Energy sector
6	FIN	Financial sector
7	GCI	Growth with current income
8	GOV	Government securities
9	GPM	Gold and precious metals
10	$_{ m HLT}$	Health sector
11	IBD	International bond
12	IEQ	International equity
13	$_{ m IFL}$	International flexible strategy
14	INT	International equity
15	LTG	Long-term government
16	MBD	Municipal bond
17	MCG	Maximum capital gains
18	MHY	Municipal high yield
19	MMF	Money market fund
20	MSS	Municipal single state
21	MTG	Mortgage related securities
22	OTH	Other (not classified)
23	SCG	Small capitalization growth
24	TCH	Technology sector
25	TFM	Tax-free money market
26	TMM	Taxable money market
27	\mathtt{UTL}	Utility sector

ICDI's Fund Objective Codes (as of 1993)

1	AG	Aggressive growth
2	AGG	Aggressive growth
3	$_{ m BL}$	Balanced
4	BQ	High quality bonds
5	BY	High yield bonds
6	GB	Global bonds
7	GE	Global equity
8	GI	Growth and income
9	GM	Ginnie Mae funds
10	GS	Government securities
11	IE	International equities
12	IN	Income
13	LG	Long-term growth
14	MF	Tax-free money market fund
15	MG	Government securities money market fund
16	MQ	High quality municipal bond fund
17	MS	Single-state municipal bond fund
18	MT	Taxable money market fund
19	MY	High-yield money market fund
20	OI	Option income (write covered options)
21	PM	Precious metals
22	SF	Sector funds
23	SP	Special funds (unclassified)
24	TR	Total return
25	UT	Utility funds

Strategic Insight Fund Objective Codes

1	AGG	Aggressive growth
2	BAL	Balanced

3	BGA	Global North American bonds
4	BGC	Single country bonds
5	BGE	Global emerging market bonds
6	BGG	Global government bonds
7	BGN	Global bond general
8	BGS	Global bond short term
9	BQ	
10	CGN	General corporate bonds
11	CHQ	High-quality corporate bonds
12	CHY	High-yield corporate bonds
13	CIM	Corporate intermediate maturity
14	CMQ	Corporate medium quality
15	CPF	Corporate preferred
16	CSB	
17	CSI	Corporate short-intermediate maturity
18	CSM	Corporate short maturity
19	CVR	Convertible bonds
20	ECH	Chinese equity
21	ECN	Canada equity
22	EGG	Global growth
23	EGS	Global small cap
24	EGT	Global total return
25	EGX	Global equity sector
26	EID	International developing markets
27	EIG	International growth
28	EIS	International small cap
29	EIT	International total return
30	EJP	Japanese equity
31	ELT	Latin American equity
32	ENV	Environmental sector
33	EPC	Pacific basin equity, including Japan
34	EPR	Principal return funds
35	EPX	Pacific basin equity, excluding Japan
36	ERP	European equity
37	ESC	Single country equity
38	FIN	Financial sector
39	FLG	Flexible global
40	FLX	Flexible
41	GBG	Global bond general
42	GBS	Global bond short maturity
43	GGN	Government general
44	GIM	Government intermediate maturity
45	GLD	Gold
46 47	GLE	Global equity
47	GMA	Government adjustable rate mortgages
48	GMB	Government mortgage-backed funds
49	GRI	Growth & income
50	GRO	Growth
51	GSM	Government short maturity
52	HLT	Health sector
53 54	IAZ	Intermediate maturity tax-free bondsArizona
54 55	ICA ICT	Intermediate maturity tax-free bondsCalifornia
55 56	IFL	Intermediate maturity tax-free bonds—Connecticut
50 57	IGA	Intermediate maturity tax-free bondsFlorida
57 58	IKS	Intermediate maturity tax-free bondsGeorgia
20	TIVO	Intermediate maturity tax-free bondsKansas

59	IKY	Intermediate maturity tax-free bondsKentucky
60	IMA	Intermediate maturity tax-free bondsMassachusetts
61	IMD	Intermediate maturity tax-free bondsMaryland
62	IMI	Intermediate maturity tax-free bondsMichigan
63	IMN	Intermediate maturity tax-free bondsMinnesota
64	IMX	Corporate income mixed
65	INC	Intermediate maturity tax-free bondsNorth Carolina
66	ING	Income-growth
67	INJ	Intermediate maturity tax-free bondsNew Jersey
68	INM	Intermediate maturity tax-free bondsNew Mexico
69	INT	International equity
70	INY	Intermediate maturity tax-free bondsNew York
71	IOH	Intermediate maturity tax-free bondsOhio
72	IPA	Intermediate maturity tax-free bondsPennsylvania
73	ISC	Intermediate maturity tax-free bondsSouth Carolina
74	ITN	Intermediate maturity tax-free bondsTennessee
75	ITX	Intermediate maturity tax-free bondsTexas
76	IVA	Intermediate maturity tax-free bondsVirginia
77	IVT	Intermediate maturity tax-free bondsVermont
78	IWA	Intermediate maturity tax-free bondsWashington
79	JPN	Japanese equity
80	LCA	Short maturity tax-free bondsCalifornia
81	LFL	Short maturity tax-free bondsFlorida
82	LKY	Short maturity tax-free bondsKentucky
83	LMD	Short maturity tax-free bondsMaryland
84	LNY	Short maturity tax-free bondsNew York
85	MAL	Tax-free bondsAlabama
86	MAR	Tax-free bondsArkansas
87	MAZ	Tax-free bondsArizona
88	MCA	Tax-free bondsCalifornia
89	MCO	Tax-free bondsColorado
90	MCT	Tax-free bondsConnecticut
91	MFL	Tax-free bondsFlorida
92	MGA	Tax-free bondsGeorgia
93	MGN	Municipal general
94	MHI	Tax-free bondsHawaii
95	MHY	Municipal high yield
96	MIA	Tax-free bondsIowa
97	MID	Tax-free bondsIdaho
98	MIM	Municipal intermediate maturity
99	MIN	Tax-free bondsIndiana
100	MIS	Municipal insured
101	MKS	Tax-free bondsKansas
102	MKY	Tax-free bondsKentucky
103	MLA	Tax-free bondsLouisiana
104	MMA	Tax-free bondsMassachusetts
105	MMD	Tax-free bondsMaryland
106	MME	Tax-free bondsMaine
107	MMI	Tax-free bondsMichigan
108	MMN	Tax-free bondsMinnesota
109	MMO	Tax-free bondsMissouri
110	MMS	Tax-free bondsMississippi
111	MNC	Tax-free bondsNorth Carolina
112	MND	Tax-free bondsNorth Dakota
113	MNE	Tax-free bondsNebraska
114	MNH	Tax-free bondsNew Hampshire

115	MNJ	Tax-free bondsNew Jersey
116	MNM	Tax-free bondsNew Mexico
117	MNY	Tax-free bondsNew York
118	MOH	Tax-free bondsOhio
119	MOR	Tax-free bondsOregon
120	MPA	Tax-free bondsPennsylvania
121	MPR	Tax-free bondsPuerto Rico
122	MRI	Tax-free bondsRhode Island
123	MSC	Tax-free bondsSouth Carolina
124	MSM	Municipal short maturity
125	MTN	Tax-free bondsTennessee
126	MTX	Tax-free bondsTexas
127	MUT	Tax-free bondsUtah
128	MVA	Tax-free bondsVirginia
129	MVT	Tax-free bondsVermont
130	MWA	Tax-free bondsWashington
131	MWI MWV	Tax-free bondsWisconsin
132	NTR	Tax-free bondsWest Virginia
133	OPI	Natural resources
134 135	PAC	Option income
136	RLE	Pacific equity Real estate
130	SBA	
	SBE	Bank government and agency money market
138 139	SBP	Bank money market prime and euro Bank money market prime
140	SBT	Bank government money market
140	SBY	Bank money market prime, euro and Yankee
141	SCG	Small company growth
143	SCU	Foreign currency
144	SEC	Porcigii currency
145	SIA	Institutional government and agency money market
146	SIE	Institutional money market prime and euro
147	SIP	Institutional money market prime and earo
	~	
148	SIT	
148 149	SIT SIY	Institutional government money market
149	SIY	Institutional government money market Institutional money market prime, euro and Yankee
149 150	SIY SPE	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro
149 150 151	SIY SPE SPR	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime
149 150 151 152	SIY SPE SPR SPY	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee
149 150 151 152 153	SIY SPE SPR SPY SUA	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market
149 150 151 152 153 154	SIY SPE SPR SPY	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market
149 150 151 152 153 154 155	SIY SPE SPR SPY SUA SUT	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama
149 150 151 152 153 154 155 156	SIY SPE SPR SPY SUA SUT TAL	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona
149 150 151 152 153 154 155 156 157	SIY SPE SPR SPY SUA SUT TAL TAZ	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed
149 150 151 152 153 154 155 156 157 158	SIY SPE SPR SPY SUA SUT TAL TAZ TBG	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia
149 150 151 152 153 154 155 156 157 158 159	SIY SPE SPR SPY SUA SUT TAL TAZ TBG TCA	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia Tax-free money marketConnecticut
149 150 151 152 153 154 155 156 157 158 159 160	SIY SPE SPR SPY SUA SUT TAL TAZ TBG TCA TCT	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia Tax-free money marketConnecticut Technology sector
149 150 151 152 153 154 155 156 157 158 159 160 161	SIY SPE SPR SPY SUA SUT TAL TAZ TBG TCA TCT TEC	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia Tax-free money marketConnecticut Technology sector Tax-free money marketgeneral
149 150 151 152 153 154 155 156 157 158 159 160	SIY SPE SPR SPY SUA SUT TAL TAZ TBG TCA TCT TEC TFG	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia Tax-free money marketConnecticut Technology sector Tax-free money marketgeneral Tax-free money marketinstitutional
149 150 151 152 153 154 155 156 157 158 159 160 161 162	SIY SPE SPR SPY SUA SUT TAL TAZ TBG TCA TCT TEC TFG TFI	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia Tax-free money marketConnecticut Technology sector Tax-free money marketgeneral Tax-free money marketinstitutional Tax-free money marketFlorida
149 150 151 152 153 154 155 156 157 158 159 160 161 162 163	SIY SPE SPR SPY SUA SUT TAL TAZ TBG TCA TCT TEC TFG TFI TFL	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia Tax-free money marketConnecticut Technology sector Tax-free money marketgeneral Tax-free money marketinstitutional Tax-free money marketFlorida Tax-free money marketFlorida Tax-free money marketMassachusetts
149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164	SIY SPE SPR SPY SUA SUT TAL TAZ TBG TCA TCT TEC TFG TFI TFL TMA	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia Tax-free money marketConnecticut Technology sector Tax-free money marketgeneral Tax-free money marketinstitutional Tax-free money marketFlorida Tax-free money marketMassachusetts Tax-free money marketMichigan
149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165	SIY SPE SPR SPY SUA SUT TAL TAZ TBG TCA TCT TEC TFG TFI TFL TMA TMI	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia Tax-free money marketConnecticut Technology sector Tax-free money marketgeneral Tax-free money marketinstitutional Tax-free money marketFlorida Tax-free money marketMassachusetts Tax-free money marketMichigan Tax-free money marketMinnesota
149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166	SIY SPE SPR SPY SUA SUT TAL TAZ TBG TCA TCT TEC TFG TFI TMA TMI TMN	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia Tax-free money marketConnecticut Technology sector Tax-free money marketgeneral Tax-free money marketinstitutional Tax-free money marketFlorida Tax-free money marketMassachusetts Tax-free money marketMichigan Tax-free money marketMinnesota Tax-free money marketMinnesota
149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167	SIY SPE SPR SPY SUA SUT TAL TAZ TBG TCA TCT TEC TFG TFI TFL TMA TMI TMN TNC	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia Tax-free money marketConnecticut Technology sector Tax-free money marketgeneral Tax-free money marketinstitutional Tax-free money marketFlorida Tax-free money marketMichigan Tax-free money marketMichigan Tax-free money marketMinnesota Tax-free money marketNorth Carolina Tax-free money marketNew Jersey
149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168	SIY SPE SPR SPY SUA SUT TAL TAZ TBG TCA TCT TEC TFG TFI THL TMA TMI TMN TNC TNJ	Institutional government money market Institutional money market prime, euro and Yankee Money market prime and euro Money market prime Money market prime, euro and Yankee Government and agency money market Government money market Tax-free money marketAlabama Tax-free money marketArizona Tax-free money marketbank managed Tax-free money marketCalifornia Tax-free money marketConnecticut Technology sector Tax-free money marketgeneral Tax-free money marketinstitutional Tax-free money marketFlorida Tax-free money marketMassachusetts Tax-free money marketMichigan Tax-free money marketMinnesota Tax-free money marketMinnesota

171	TPA	Tax-free money marketPennsylvania
172	TVA	Tax-free money marketVirginia
173	UTI	Utility sector

B: Installation Procedure

B. 1 CD Layout

- > top level contains setup programs, CD descriptions, copyright information, and two folders.
- ➤ data contains actual database files. Bottom level directories exist as needed based on the product and part of the set.

Mfdb.mdb - The 1996 CRSP Survivor Bias Free US Mutual Fund Data Base in Microsoft Access.

- ➤ doc CRSP documentation in different formats
 - + pdf Adobe Acrobat pdf version of the 1996 CRSP Survivor Bias Free US Mutual Fund Data Base File Guide
- > indicates that the item is located on the top level + indicates that it is a directory no indicator in front of the listing identifies the file itself

B.2 Installation

There is no setup application currently provided with the database. Files must be copied by hand with the Window's Explorer.

Copying Files

Files are copied with the Window's Explorer Application:

- 1. create a new folder in the target location for the CRSP Mutual Fund Database File. The folder must be visible on the left portion of Explorer.
- 2. Double-click on the data folder of the CD. Drag the MFDB_96 file to the target folder. Exit the Explorer, open Microsoft Access and open the newly loaded database.

Copy the entire contents of the CD to the target folder:

- 1. Use Select All and Copy commands in the Edit menu.
- 2. Select the target folder and choose the Paste command from the Edit menu.

1997 CRSP SURVIVOR BIAS FREE MUTUAL FUND DATABASE					

APPENDIX C: PRIMARY DATA SOURCE DISCLAIMER:

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