

## **SHARE PRICE & PRICE RELATIVE DATA BASE**

The Share Price & Price Relative (SPPR) data base is an historical record of share prices and calculated price relatives of all Australian listed and previously listed companies with fully paid shares.

For each company, the share price, dividends, adjustments for share issues and reconstructions, number of shares on issue and price relatives are held on a monthly basis. Pertinent company and trading information is also supplied, as described in more detail on the following pages.

An accurate and conveniently arranged version of historical Stock Exchange information, the SPPR covers the period from December 1973 to December 2003.

## CONTENTS of CD-ROM

The Share Price and Price Relatives data base is supplied by the Centre for Research in Finance in a Microsoft Access (Version 2) data base format. Also included is our own front-end software to provide a second means of interrogating the data base.

To install our software, please follow the instructions given in the separate Installation guide. After successful installation you will be able to conduct searches by either of two methods:

1. You can execute our software, as per the accompanying guide.
2. You can open the SPPR data base using Microsoft Access and use the various tools MS Access provides.

Within the SPPR you will find six "Tables" (a Table in Microsoft Access is similar to a static spreadsheet where column headings are data fields or variable names). The **company** table contains company names and other security information. The **prices** table contains company share price and price relative information for each month. The three **indices** tables contain copies of our various market indices and the table labelled **industry classifications** gives industry definitions.

The next section - Security Information (Company Record) describes data fields in **company**. The meanings of variable names in prices are explained in the section labelled Monthly Data Record (Price Record). The final section, Industry Indices (Index Record), discusses data in each of the **indices** tables. It also describes the **industry classifications** table

Before presenting detailed descriptions of any variable, you should note that price relatives in the SPPR have default values of -99 and -9. These flag occasions when some component data is stale. **Your analysis may need to be adjusted to accommodate default price relative values.**

**You should also be aware that new industry level indices contain survivor biases that increase back through time from July 2001.**

## REPORTED ITEMS

### Security Information (Company Record)

**Group coy code** is similar to **company code** except that it spans company name changes. The consequences of company name changes are described under **company code**.

**Company code** contains a three to six character transaction code based on the Australian Stock Exchange code signifying the security. The three character code exactly mirrors the Exchange designation, whilst the six character code has been developed by the Centre to flag reused codes. For example, on 1st July 1981 Ansett Transport Industries shares were delisted from the boards of the Australian Associated Exchanges. Its code at that time was "ati". On 11th June 1987 this code was re-assigned to Atlantic Limited when its shares were added to the Exchange boards. The former records for Ansett Transport Industries were subsequently stored in the SPPR file with a code of "ati--1". This was later changed to "ati--2" after existing Atlantic Limited shareholdings were consolidated and Atlantic Limited share holdings were transformed, temporarily, into deferred delivery stock. The **company code** identifies particular segments in a company's trading history. In contrast, the **group coy code** provides a single, permanent label for all name or security segments. The **group coy code** for Ansett Transport Industries is "ati2" and that for all segments of Atlantic limited is "ati1". Use the **group coy code** when you want all name segments.

**Abbreviated coy name** is a short version of **full coy name**.

**Security type** is the type of fully paid security. Common types are "ordinary", "deferred" and "units".

**Home exchange** of the security. Acceptable values are : "s", "m", "b", "a", "p" and "h" for Sydney, Melbourne, Brisbane, Adelaide, Perth and Hobart.

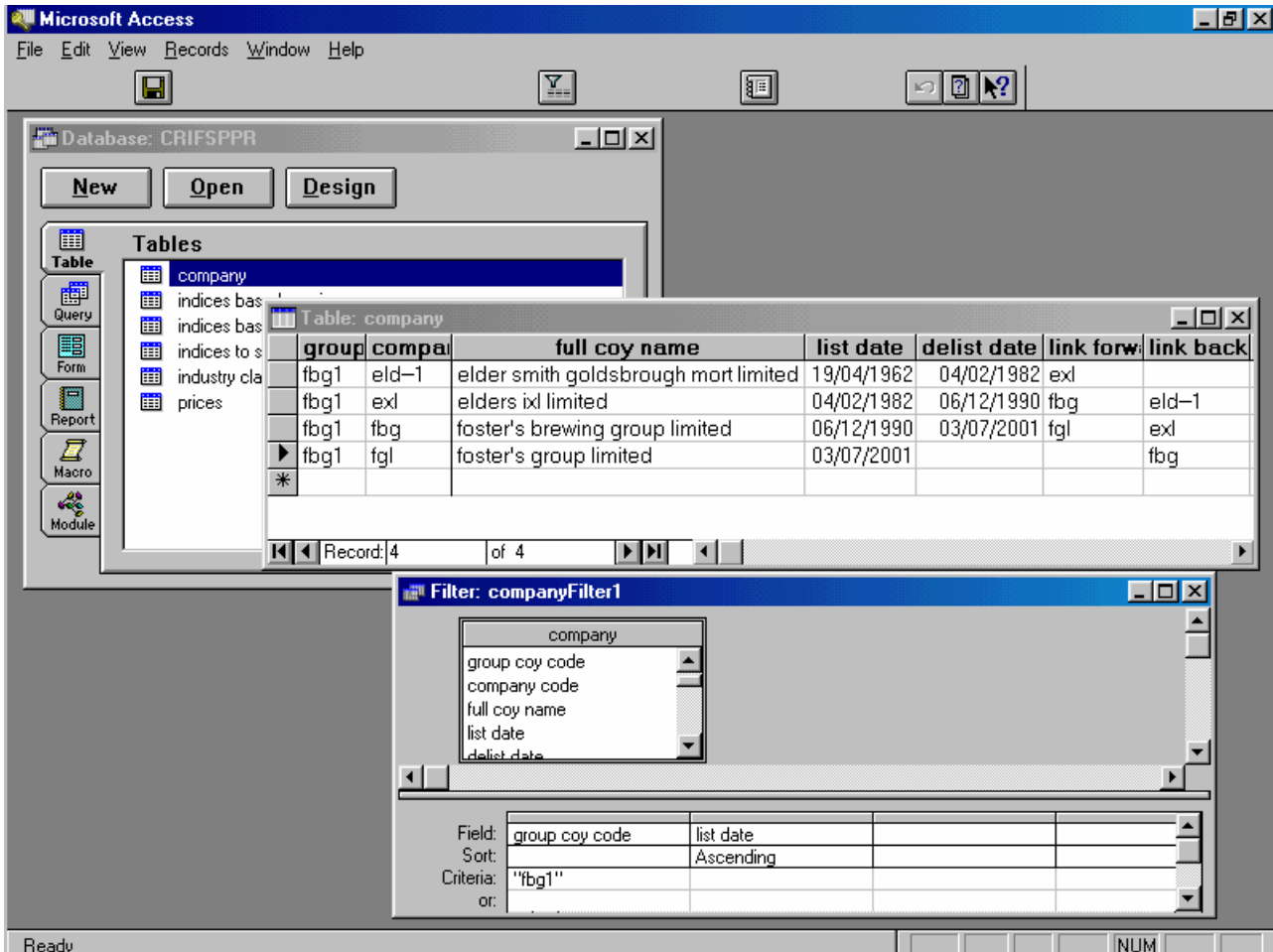
**Link forward** contains codes of the next company name or security segment after the present **company code**. For instance "eld--1", Elder Smith Goldsborough Mort Limited's name was changed in February 1982 to Elders IXL Limited, with code "exl". "exl" is recorded in the link forward field for "eld--1".

**Link backward** to codes of past names or previous security types. Following on from the example with Elders, the link back field for "exl", Elders IXL Limited, contains the code "eld--1" for Elder Smith Goldsborough Mort Limited.

The **list date** is the date on which the security was listed on the Exchange. Although the list date of the earliest name segment is usually equivalent to the company's list date it does not always correspond to the date on which the company's securities were first listed on the Exchange. Only if the company's initial securities were fully paid ordinary shares would this list date agree with the company list date. An example when the two dates are different is when the company commences trading with contributing shares. This distinction may be particularly relevant for mining and resources stocks where contributing shares are more common.

For older companies on the file we have found that list date information is often unavailable from other sources. When there has been some difficulty confirming unusual list dates, the company's incorporation date has been substituted into the list date field for the oldest link in the company's series.

**Useful Tip:** If you use Microsoft Access, an efficient method to interrogate name entries in the **company** table is to select on **group coy code** and sort ascending by **list date**. For instance, the previous example involving Elders is easily checked by selecting **group coy code** equal to “fbg1” and sorting results in ascending order by **list date**. This gives all name segments used by Elders in the order they appeared. Microsoft Access Version 2 displays the data as



**Delist date** is the date on which the security was delisted. Often this will also be the date on which the company was delisted but, as mentioned above, not necessarily.

**Min listdate** is the earliest list date of any name segment used by a company across **group coy code**.

**Max delist date** is the latest delist date information across different name segments for **group coy code**. **Max delist date** is null (empty) for companies that were not delisted at the end of the data set.

**Industry code to Sept 2002** contains ASX industry classifications that were current when the ASX system was replaced by Standard & Poors. Industry classifications and corresponding industry group names are given below for securities then listed on ASX first boards.

To distinguish between first and second board listed securities, the industry classification variable of second board securities is modified by adding "1000" to values listed below. For example,

International Philatelic Corporation Limited with code "ipc ", is classified to industry "1022", indicating it was a second board listing in the Miscellaneous Industrials group.

**Major ASX Industries (replaced in September 2002)**

<b>Code Industry Group</b>	<b>Code Industry Group</b>
1 Gold	13 Retail
2 Other Metals	14 Transport
3 Diversified Resources	15 Media
4 Energy	16 Banks & Finance
5 Infrastructure & Utilities	17 Insurance
6 Developers & Contractors	18 Telecommunications
7 Building Materials	19 Investment & Financial Services
8 Alcohol & Tobacco	20 Property Trusts
9 Food & Household Goods	21 Healthcare & Biotechnology
10 Chemicals	22 Miscellaneous Industrials
11 Engineering	23 Diversified Industrials
12 Paper & Packaging	24 Tourism & Leisure

**Sub Indust Code** was introduced to the SPPR in January 2001 and only applies to companies still listed at that time or listed thereafter. Sub Indust Code is a sub-industry classification maintained until September 2002 by the ASX within the 24 major industry categories of Industry. Names for the sub-industry categories appear in the next table.

**Complete ASX Industry Classifications (replaced in September 2002)  
Industry Sub-Group Numbers and Names**

**1 Gold**

- 1 Gold Producer
- 2 Gold Explorer
- 3 Gold, Other Mining
- 4 Gold, Oil
- 5 Gold, Copper
- 6 Gold, Investment

**2 Other Metals**

- 1 Diversified Mining
- 2 Base Metals
- 3 Mineral Sands
- 4 Bauxite
- 5 Diamonds
- 6 Mining (Producer)
- 7 Mining (Explorer)
- 8 Mining Investment

**3 Diversified Resources**

- 1 Resources
- 2 Oil, Steel, Mining
- 3 Mining, Smelting
- 4 Fuels, Metals, Industry
- 5 Coal, Gold, Oil
- 6 Oil, Gold, Investment

**4 Energy**

- 1 Oil/Gas Producer
- 2 Oil/Gas Explorer
- 3 Oil/Gas Investor
- 4 Gas Distribution
- 5 Coal
- 6 Uranium
- 7 Other Energy Sources

**5 Infrastructure & Utilities**

- 1 Tollway Operators
- 2 Electricity, Gas
- 3 Infrastructure Investment
- 4 Other Infrastructure
- 5 Other Utilities

**6 Developers & Contractors**

- 1 Building Contractor
- 2 Property Development Manager
- 3 Residential Developer
- 4 Developer, Retail
- 5 Developer, Finance

**7 Building Materials**

- 1 Building Materials
- 2 Cement
- 3 Brick, Pipes, Tiles
- 4 Timber & Board

**12 Paper & Packaging**

- 1 Packaging, Building Materials
- 2 Forest Products, Trade
- 3 Forest Products, Paper
- 4 Paper Merchant
- 5 Can Manufacturer
- 6 Plastic Bottles

**13 Retail**

- 1 Retail
- 2 Wholesaler, Retailer
- 3 Manufacturer, Retailer
- 4 Retail Investments
- 5 Chemist, Investor

**14 Transport**

- 1 Transport
- 2 International Transport
- 3 Transport, Other Services
- 4 Transport & Security

**15 Media**

- 1 Diversified Media
- 2 Publishers
- 3 Television
- 4 Radio
- 5 Advertising, Marketing

**16 Banks & Finance**

- 1 Banking
- 2 Finance Company

**17 Insurance**

- 1 Insurance Company
- 2 Insurance Broker

**18 Telecommunications**

- 1 Network Operator
- 2 Cables
- 3 Equipment, Services
- 4 Other Telecommunications

**19 Investment and Financial Services**

- 1 Investment Trust/Company
- 2 Equity Investor
- 3 Property Investor
- 4 Trustee Company
- 5 Miscellaneous Financial Services
- 6 Investment, Food, Property

**20 Property Trusts**

- 1 Property Trust
- 2 Property Trust & Developer

**21 Healthcare & Biotechnology**

- 1 Pharmaceutical
- 2 Biotechnology

- 5 Concrete, Petroleum
- 8 Alcohol & Tobacco**
  - 1 Brewer
  - 2 Vintner
  - 3 Tobacco
  - 4 Tobacco & Food
- 9 Food & Household**
  - 1 Food
  - 2 Flour Miller, Baker
  - 3 Miller, Baker, Food
  - 4 Soft Drink/Confectionery
  - 5 Other Household Goods
  - 6 Household Goods, Chemicals
- 10 Chemicals**
  - 1 Chemicals
  - 2 Fertilisers
  - 3 Chemical, Fertiliser, Paint
  - 4 Industrial Gases
  - 5 Salt, Horticulture
- 11 Engineering**
  - 1 Heavy Engineering
  - 2 Steel Merchants & Agents
  - 3 Machinery Manufacturer
  - 4 Engineering Contractor
  - 5 Light Engineering
  - 6 Aircraft

- 3 Hospital Management
- 4 Health/Medical Services
- 5 Health & Related Products
- 22 Miscellaneous Industrials**
  - 1 Miscellaneous Industrials
  - 2 Miscellaneous Services
  - 3 Mining Services
  - 4 Agriculture & Related Services
  - 5 Automotive & Related Services
  - 6 Computer & Office Services
  - 7 Entrepreneurial Investors
  - 8 High Technology
- 23 Diversified Industrials**
  - 1 Diversified Industrial
  - 2 Sugar, Building Materials
  - 3 Forest Products, Building
  - 4 Electronics, Media
  - 5 Media, Textiles
- 24 Tourism & Leisure**
  - 1 Casinos/Gaming
  - 2 Hotel/Resort Operations
  - 3 Leisure Activities

**GICS industry code to Sept 2002** is an eight digit industry classification system from Standard & Poors. It replaced the previous ASX system, (which appears in the SPPR as **Industry code to Sept 2002** and **Sub Indust Code**). GICS codes first became available in July 2001. In September 2002 the last four GICS digits of most companies were zeroed. Unfortunately, hiding the last four digits created some broader industry categories than the ASX system. For instance, resources companies are now coded into just two industries when previously they had been separated into four ASX resources industries. **GICS industry code to Sept 2002** retains the last useful eight digit industry data before digits were zeroed. **GICS industry code** contains the latest zeroed GICS data since September 2002.

**GICS sector code to Sept 2002** contains the first two digits of **GICS industry code to Sept 2002**. Standard & Poors GICS is a hierarchical system where each two digits define a new level in the hierarchy. The broadest level corresponds to the first two digits. These are the sector level values. Within each sector are industry group, then industry and finally, sub-industry. For instance, BHP's GICS industry code to Sept 2002 is 15104020. This places BHP in sector 15, industry group 10, industry 40 and sub-industry 20 of the GICS. The table called "Standard & Poors Global Industry Classification System (GICS)" gives names for each level in the complete system.

**CRIF industry class code** is a variable mapping one or more GICS industry codes into CRIF defined portfolios. The mapping is defined in the **industry classification** table.

**GICS industry code** is the latest GICS value after September 2002. The last four digits are usually zeroed by Standard & Poors before we receive them. Researchers requiring access to the hidden

data should direct enquiries to Standard & Poors. The table headed “Standard & Poors Modified GICS” lists all possible codes in the latest system.

**GICS sector code** is the first two digits of **GICS industry code**.

## Standard & Poors Global Industry Classification System (GICS) as at April 2003

GICS Code	Sector	Industry Group	Industry	Sub-Industry
10000000	Energy			
10100000		Energy		
10101000			Energy Equipment & Services	
10101010				Oil & Gas Drilling
10101020				Oil & Gas Equipment & Services
10102000			Oil & Gas	
10102010				Integrated Oil & Gas
10102020				Oil & Gas Exploration & Production
10102030				Oil & Gas Refining & Marketing
15000000	Materials			
15100000		Materials		
15101000			Chemicals	
15101010				Commodity Chemicals
15101020				Diversified Chemicals
15101030				Fertilizers & Agricultural Chemicals
15101040				Industrial Gases
15101050				Specialty Chemicals
15102000			Construction Materials	
15102010				Construction Materials
15103000			Containers & Packaging	
15103010				Metals & Glass Containers
15103020				Paper Packaging
15104000			Metals & Mining	
15104010				Aluminium
15104020				Diversified Metals & Mining
15104030				Gold
15104040				Precious Metals & Minerals
15104050				Steel
15105000			Paper & Forest Products	
15105010				Forest Products
15105020				Paper Products
20000000	Industrials			
20100000		Capital Goods		
20101000			Aerospace & Defence	
20101010				Aerospace & Defence
20102000			Building Products	
20102010				Building Products
20103000			Construction & Engineering	
20103010				Construction & Engineering
20104000			Electrical Equipment	
20104010				Electrical Components & Equipment
20104020				Heavy Electrical Equipment
20105000			Industrial Conglomerates	
20105010				Industrial Conglomerates
20106000			Machinery	
20106010				Construction & Farm Machinery
20106020				Industrial Machinery
20107000			Trading Companies & Distributors	
20107010				Trading Companies & Distributors

<b>GICS Code Sector</b>	<b>Industry Group</b>	<b>Industry</b>	<b>Sub-Industry</b>
<b>Cont.</b>			
20200000	Commercial Services & Supplies		
20200100	Commercial Services & Supplies		
20201010			Commercial Printing
20201020			Data Processing Services
20201030			Diversified Commercial Services
20201040			Employment Services
20201050			Environment Services
20201060			Office Services & Supplies
20300000	Transportation		
20301000	Air Freight & Couriers		
20301010	Air Freight & Couriers		
20302000	Airlines		
20302010	Airlines		
20303000	Marine		
20303010	Marine		
20304000	Road & Rail		
20304010	Railroads		
20304020	Trucking		
20305000	Transportation Infrastructure		
20305010	Airport Services		
20305020	Highways & Railtracks		
20305030	Marine Ports & Services		
25000000	Consumer Discretionary		
25100000	Automobile & Components		
25101000	Auto Components		
25101010	Auto Parts & Equipment		
25101020	Tires & Rubber		
25102000	Automobiles		
25102010	Automobile Manufacturers		
25102020	Motorcycle Manufacturers		
25200000	Consumer Durables & Apparel		
25201000	Household Durables		
25201010	Consumer Electronics		
25201020	Home Furnishings		
25201030	Homebuilding		
25201040	Household Appliances		
25201050	Housewares & Specialties		
25202000	Leisure Equipment & Products		
25202010	Leisure Products		
25202020	Photographic Products		
25203000	Textiles & Apparel		
25203010	Apparel & Accessories		
25203020	Footwear		
25203030	Textiles		
25300000	Hotels Restaurants & Leisure		
25301000	Hotels Restaurants & Leisure		
25301010	Casinos & Gaming		
25301020	Hotels		
25301030	Leisure & Facilities		
25301040	Restaurants		

<b>GICS Code</b>	<b>Sector</b>	<b>Industry Group</b>	<b>Industry</b>	<b>Sub-Industry</b>
<b>Cont.</b>				
25400000		Media		
25401000			Media	
25401010				Advertising
25401020				Broadcasting & Cable TV
25401030				Movies & Entertainment
25401040				Publishing & Printing
25500000		Retailing		
25501000			Distributors	
25501010				Distributors
25502000			Internet & Catalog Retail	
25502010				Catalog Retail
25502020				Internet Retail
25503000			Multiline Retail	
25503010				Department Stores
25503020				General Merchandise Stores
25504000			Specialty Retail	
25504010				Apparel Retail
25504020				Computer & Electronics Retail
25504030				Home Improvement Retail
25504040				Specialty Stores
30000000	Consumer Staple			
30100000		Food & Drug Retailing		
30101000			Food & Drug Retailing	
30101010				Drug Retail
30101020				Food Distributors
30101030				Food Retail
30200000		Food Beverage & Tobacco		
30201000			Beverages	
30201010				Brewers
30201020				Distillers & Vintners
30201030				Soft Drinks
30202000			Food Products	
30202010				Agricultural Products
30202020				Meat Poultry & Fish
30202030				Packaged Foods
30203000			Tobacco	
30203010				Tobacco
30300000		Household & Personal Products		
30301000			Household Products	
30301010				Household Products
30302000			Personal Products	
30302010				Personal Products
35000000	Health Care			
35100000		Health Care Equipment & Services		
35101000			Health Care Equipment & Services	
35101010				Health Care Equipment
35101020				Health Care Supplies
35102000			Health Care Providers & Services	
35102010				Health Care Distributors & Services
35102020				Health Care Facilities
35102030				Managed Health Care

<b>GICS Code</b>	<b>Sector</b>	<b>Industry Group</b>	<b>Industry</b>	<b>Sub-Industry</b>
<b>Cont.</b>				
35200000			Pharmaceuticals & Biotechnology	
35201000			Biotechnology	
35201010				Biotechnology
35202000			Pharmaceuticals	
35202010				Pharmaceuticals
40000000	Financials			
40100000		Banks		
40101000			Banks	
40101010				Banks
40200000		Diversified Financials		
40201000			Diversified Financials	
40201010				Consumer Finance
40201020				Diversified Financial Services
40201030				Multi-Sector Holdings
40300000		Insurance		
40301000			Insurance	
40301010				Insurance Brokers
40301020				Life & Health Insurance
40301030				Multi-line Insurance
40301040				Property & Casualty Insurance
40301050				Reinsurance
40400000		Real Estate		
40401000			Real Estate	
40401010				Real Estate Investment Trusts
40401020				Real Estate Management & Development
45000000	Information Technology			
45100000		Software & Service		
45101000			Internet Software & Services	
45101010				Internet Software & Services
45102000			IT Consulting & Services	
45102010				IT Consulting & Services
45103000			Software	
45103010				Applications Software
45103020				Systems Software
45200000		Technology Hardware & Equipment		
45201000			Communications Equipment	
45201010				Networking Equipment
45201020				Telecommunications Equipment
45202000			Computers & Peripherals	
45202010				Computer Hardware
45202020				Computer Storage & Peripherals
45203000			Electronic Equipment & Instruments	
45203010				Electronic Equipment & Instruments
45204000			Office Electronics	
45204010				Office Electronics
45205000			Semiconductor Equipment & Products	
45205010				Semiconductor Equipment
45205020				Semiconductors

<b>GICS Code</b>	<b>Sector</b>	<b>Industry Group</b>	<b>Industry</b>	<b>Sub-Industry</b>
<b>Cont.</b>				
50000000	Telecommunications			
50100000		Telecommunication Services		
50101000			Diversified Telecommunication Services	
50101010				Alternative Carriers
50101020				Integrated Telecommunication Services
50102000			Wireless Telecommunication Services	
50102010				Wireless Telecommunication Services
55000000	Utilities			
55100000		Utilities		
55101000			Electric Utilities	
55101010				Electric Utilities
55102000			Gas Utilities	
55102010				Gas Utilities
55103000			Multi-Utilities	
55103010				Multi-Utilities
55104000			Water Utilities	
55104010				Water Utilities
99999999				Pending
0	Not Assigned			

**Standard & Poors Modified GICS as at December 2003**

<b>GICS Code</b>	<b>Sector</b>	<b>Industry Group</b>	<b>Industry</b>	<b>Sub-Industry</b>
10100000	Energy	Energy		
15101000	Materials	Materials	Chemicals	
15102000			Construction Materials	
15103000			Containers & Packaging	
15104000			Metals & Mining	
15105000			Paper & Forest Products	
20100000	Industrials	Capital Goods		
20200000		Commercial Services & Supplies		
20300000		Transportation		
25100000	Consumer Discretionary	Automobile & Components		
25200000		Consumer Durables & Apparel		
25300000		Hotels Restaurants & Leisure		
25400000		Media		
25500000		Retailing		
30100000	Consumer Staple	Food & Drug Retailing		
30200000		Food Beverage & Tobacco		
30300000		Household & Personal Products		
35100000	Health Care	Health Care Equipment & Services		
35200000		Pharmaceuticals & Biotechnology		
40100000	Financials	Banks		
40200000		Diversified Financials		
40300000		Insurance		
40401010		Real Estate	Real Estate	Real Estate Investment Trusts
40400000		Real Estate		
45100000	Information Technology	Software & Services		
45200000		Technology Hardware & Equipment		
45300000		Semiconductors & Semiconductor Equipment		
50100000	Telecommunication Services	Telecommunication Services		
55100000	Utilities	Utilities		
0	Not Defined			

**Full coy name** is the complete company name for each name segment.

**Grp months** is the number of monthly price records appearing in the SPPR for this company, across all names. Each price record does not necessarily indicate a trade. This variable can be used to classify companies by age rather than trading activity.

**Grp traded months** records the number of months with valid prices relative measures. This is more a measure of trading activity than **grp months** but it also will increase with company age.

**Altered link** explains why links for an official name change have not been implemented. These are highlighted so you can adopt the official link if required.

**Delist Codes** are upper case values summarising the reason for delisting this security. When a company delists, it is the reason given by the ASX for delisting. Multiple Delist Codes can appear within this field so search for “\*M\*” to find all entries involving “M”, say. The range of Delist Codes and their meanings are:

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<b>Delist Code</b>	<b>Represents</b>
N	name or company code change
C	Capitalisation change whose deferred delivery shares span the end of a month
A	company Acquired
M	company Merged with another
I	Insufficient shareholder spread
R	at company’s own Request
S	following Shareholder approval
Y	change in shareholder liability status. Usually involves N too.
F	failure to pay listing fees
E	Evicted by order of ASX, such as after long periods of suspended trading.
V	listing rule Violation
L	Liquidated
D	assets Distributed
W	voluntary Wind-up
B	Break-up or demerger.
G	closure of Australian branch registry
2	second board company not transferred to the main board
O	Other
Z	company is relisted

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Note, the stated reason for delisting may not always reflect the principal cause. For example, a company that is mostly acquired may cease paying listing fees and so be recorded as “F” rather than “A” (acquired companies can also depart as “I”). Companies in financial distress may also exit under “F” rather than “L”.

**Delist Reason** contains further information associated with the delisting. When a company is said to be acquired or merge, any names given for the acquirer or merger partner are recorded here.

**Related Gcode** are the **group coy codes** or Gcodes of any companies recorded under **Delist Reason** that match with **Full coy name**. Note, more than one Gcode can appear here, separated by commas.

**tcode\_3** is the first three characters **Company code**. This variable is useful for matching with other historic records reporting ASX codes of the time.

**fullname\_10** is the first ten characters of **Full coy name**. It is also helpful for matching with other historic records.

**abrurname\_10** is another variable to add matching with separate historic records. It is the first ten characters of **Abbreviated coy name**.

## Monthly Data Record (Price Record)

**Group tcode** corresponds to **group coy code** in the **company** table. It identifies all price records for an individual company, regardless of its **tcode**.

The **tcode** of a company identifies price records for individual name segments. For example, "ati--1" gives all prices prior to the consolidation undergone by Atlantic Limited whereas the **group coy code** of "ati1" identifies all Atlantic Limited price records.

**Last trading date** defines the final trading day each month. It sets each date record across the SPPR, as opposed to the **price date**, which contains the date on which the last trade was observed. The **last trading date** is a variable to structure all SPPR records. It may or may not correspond to the date on which the last trade occurs for any particular company. It is the last day of the month on which the last trade is possible.

**Ltd yr** is the year part of the **last trading date** in yyyy format.

**Ltd mo** is the month portion of **last trading date** in mm format.

The **closing price** is the last available price (in cents) each month for the designated security. It is not always an actual trade and it may not be a price set in the current month. If a security's last traded price in any month is smaller than the last quoted bid, then the bid price appears in this field. Similarly, if the last traded price is greater than the last quoted ask, the ask price is recorded. If the bid and ask values are not outside the range of the last traded price, as just described, then the last traded price is stored. The actual date of such a trade may come from several months before the current month, depending upon trading activity for the security.

The **price date** is the date of the price. That is, the date on which the recorded price was established. It may be the last trading day of the month, like the **last trading date**, or it may be some earlier day in the same month, or, in the case of prices carried over from previous months, it may be a date from several months ago. In conjunction with the type of price, this variable can be used to establish whether or not the **closing price** was an actual trade in the record month.

**Price time** is the time at which the price was observed.

The **price type** indicates whether the price was a bid, ask, or trade. Common values are " " (blank) for a traded price, "a" for an ask and "b" for a bid. A less common type is "t", representing a theoretical price posted at the commencement of trading (this code sometimes appears when a security is newly listed and has not yet been actually traded).

**Price location** is the exchange on which the **closing price** was observed. Codes include all the home exchange values plus the additional code "n", which corresponds to information gathered from the national SEATS system. Two other values also appearing in this field are "i" and "j". These indicate data which has been manually entered from Personal Investment magazine and The Stock Exchange Journal, respectively, and which have been unavailable on this Centre's records of quote sheets from the various Exchanges.

**Dividend** per share during month (if any) in cents and excluding franking credits.

**Dividend date** is the Ex-date of dividend.

**Franking** is the proportion of franking credits available in cash dividends. Values range between 0 and 100. Null entries indicate occasions when franking credits are unknown.

**Class A** is the amount of Class A franked dividends (in cents).

**Class B** is the amount of Class B franked dividends (in cents).

**Class C** is the amount of Class C franked dividends (in cents).

**Capitalisation Adjustment** provides an adjustment for changes in company capital structure taking effect during the month. Examples of capitalisation changes influencing this field are bonus, rights and non-renounceable issues and consolidations, splits, repayments of capital and other non-dividend distributions. The wealth change is measured in cents per share.

When the **closing price** comes from an earlier month, so that the latest available price information comes from before the capitalisation change, no adjustment is determined and this variable is set to zero. When trading does occur in the current month, or the bid and ask values have moved relative to the last traded value, as described above, capitalisation changes are derived.

**Adjustment date** is the Ex-date of capitalisation change.

**Share qty** gives the number of fully paid ordinary shares on issue, including those that arise from a capitalisation change, at the time of the change. **Share qty** records such changes quickly. It does not recognise restrictions on dividend entitlements that keep newly issued shares in a separate category of "NEW" shares on the ASX. Instead, it implicitly records newly issued shares as having the same dividend entitlements as existing shares.

**DC factor** is a double counting/dilution factor (used in index calculation). Following Standard & Poor's involvement in ASX index calculation, DC factors were no longer available to us. Consequently, from July 2001 onwards we increased DC Factors by 25% per quarter up for companies with DC Factors under 100%.

**Price relative** (prel) is the ratio of the value of the security from month to month taking account of capitalisation changes and dividends that became effective between the **price dates** of successive months.

$$\text{Prel}_t = \frac{\text{ClosingPrice}_t + \text{CapitalisationAdjust}_t + \text{Dividend}_t}{\text{ClosingPrice}_{t-1}}$$

When the **price date** for month  $t-1$  or  $t$  is 'stale', in that it comes from an earlier month, a default prel value is imposed. Default values for prels are "-99.00" and "-9.00" according to whether or not it is Closing Price $_{t-1}$  or Closing Price $_t$  which is stale.

**You should note these default values as they may severely affect any analysis using prels.**

**Mkt prel** is a copy of the **vwmkt** index appearing in the **indices** tables. **Vwmkt** is a value-weighted average price relative for every valid price relative in the SPPR and represents overall market returns. A separate copy of **Mkt prel** appears for each company.

**Ew mkt prel** is a similar copy of **ewmkt** from the **indices** tables. It is an equal-weighted average of valid company prels across the SPPR.

**Rf prel** is a copy of **rfrate** from the **indices** tables. It is the annual yield on 13 Week Treasury Notes, converted to a monthly price relative form.

**Total capital** is the market capitalisation of the company's fully paid ordinary shares. It equals **Share qty times closing price**.

**Capital rank** is the relative rank of each company's **Total capital**, where a rank of 1 corresponds to the largest company.

**Cum capital** is an alternative measure of market capitalisation. It differs from **total capital** only in the manner in which market capitalisation is measured when a company's shares have not traded. **Cum capital** uses the number of listed shares at the end of the last month in which a price is recorded rather than the current month. This ensures market capitalisation is not over-estimated for companies that split their shares and then do not trade. It also prevents under-estimation for companies that consolidate and do not trade. However, it may promote under-estimated values for companies that make placements while shares are not trading.

**Price yr** and **price mth** are similar to **ltd yr** and **ltd mo** except they are based on **price date**.

**Industry** is copied directly from **industry code** in the **company** table, for each entry for **company code**. It is supplied to ease calculation of industry measures through time.

**Mcap by Dfactor** is another measure of market capitalisation. It is equivalent to **total capital** except it is deflated by **DC factor** and expressed in million dollars. All other SPPR price data is expressed in cents.

**Useful Tips:** When using Microsoft Access you can constrain searches to match criteria from different tables. For instance, to find the market capitalisation of companies in the banking industry, as at December 2002, you need to select industry information from the **company** table and market capital data from the **prices** table for December 2002. Several methods can achieve this because the SPPR contains more than one identification variable. (**Group coy code** from the **company** table and **group tcode** in the **prices** table contain the same values and can be matched. Similarly, **company code** and **tcode** in each table are equivalent.) The simplest method is to find all companies in **company** with **gics industry code** equal to 40100000 and match the resulting Gcodes with those in **prices** where the time constraint is applied. The next graphic presents this query for Microsoft Access Version 2. The second graphic shows the result of executing that query. Note the line joining **group coy code** in **company** with **group tcode** in **prices**. It means the query requires these variable to match between the tables. **full coy name** is requested simply to identify the companies found. Any variable could be requested. For example, if you are only interested in banks that were still listed at the end of December 2002 you could include the condition that **delist date** equals NULL. (You actually type NULL as the value to be matched.) Companies with null delist dates are still listed. Or if you wanted banks that were listed before June 1985 you could request **min listdate** less than #01/06/1985#. (The delimiter # signals a date string to Microsoft Access. The order of dd/mm/yyyy may vary on your PC to mm/dd/yyyy if it applies the US date standard.). Similarly, companies that do not change their names have **link forward** equal to NULL. These are all simple and quick requests for Microsoft Access.

Microsoft Access

File Edit View Query Window Help

Database: CRIFSPPR

New Open Design

Queries

Select Query: Query1

company

- group cov code
- company code
- full coy name
- list date
- delist date

prices

- group tcode
- tcode
- last trading date
- ltd yr
- ltd mo

Field:	gics industry code	ltd yr	ltd mo	total capital	full coy name
Sort:				Descending	
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	40100000	2002	12		
or:					

Ready

Microsoft Access

File Edit View Format Records Window Help

Database: CRIFSPPR

New Open Design

Queries

Select Query: Query1

gics industry code	ltd yr	ltd	total capital	full coy name
40100000	2002	12	4.81862376698E+12	national australia bank limited
40100000	2002	12	3.3846696801E+12	commonwealth bank of australia.
40100000	2002	12	2.61506064181E+12	australia and new zealand banking group limited
40100000	2002	12	2.42931443838E+12	westpac banking corporation
40100000	2002	12	9.03475959106E+11	st george bank limited
40100000	2002	12	2.12957606533E+11	bank of western australia limited
40100000	2002	12	95900321808	bendigo bank limited
40100000	2002	12	65935762500	adelaide bank limited
40100000	2002	12	47397458577	bank of queensland limited.
40100000	2002	12	2682305118	homeloans limited

Record: 1 of 10

Latest GICS industry code for a company. Last four digits were zeroed from September 2002 onwards.



## Industry Indices (Index Record)

Three indices tables are included with the SPPR. **indices to Sept 2002 based on asx industry codes** is compatible with previously supplied SPPR indices. It presents returns for indices based on the ASX industry classification system. Returns stop in September 2002 when that system ceased.

Except for *EWMkt* and the Treasury backed securities, like *RFree*, indices in **indices to Sept 2002 based on asx industry codes** are value-weighted averages of price relatives for every company within the specified industry segment. *EWMkt* applies an equal weight to company price relatives. *RFree* contains annual rates for 13 Week Treasury Notes converted into monthly price relative format. Other Treasury backed securities are *13wk*, *3yr*, *5yr*, *10yr* and *indexed*, which all appear in monthly price relative format. *VWMkt* is a value-weighted average of valid price relatives for every company. Other indices are value-weighted combinations of industries, such as *Metals*, which combines industries 1 (Gold) and 2 (Other Metals), or represent single industries, like *i1* (Industry 1 – Gold) or *i2* (Industry 2 – Other Metals).

Standard & Poors' Global Industry Classification System (GICS) replaced ASX industry codes in September 2002. GICS were first available in July 2001, when all eight digits were supplied. From September 2002 onwards, GICS codes were modified to hide the last four digits with zeros for most companies. Although complete GICS values still contain eight digits, the last four digits are now only available directly from Standard & Poors. Index returns contained in **indices based on gics** apply the latest (zeroed) GICS values to define industry membership. Some smaller industries are combined to produce SPPR index returns. A complete mapping of GICS industries and SPPR indices appears in the table on the next page.

Many of the same index names appear in **indices based on gics** that were described above for **indices to Sept 2002 based on asx industry codes**. Their meanings are the same as above. New indices in this table are labelled *g1*, *g2*, through to *g27*. *g* is an abbreviation for “group”. Group definitions usually equal a GICS industry. The next table gives the complete mapping. Each group index is value-weighted for group member companies.

**indices based on gics sectors** contains index returns for sector level portfolios.

**You should be aware that all of the indices based on GICS values rely on industry definitions obtained since July 2001. Nevertheless, many of the GICS based indices contain values back to January 1974. Index values before July 2001 have been generated by imputing GICS codes back through time. GICS codes were extended back through time for company name segments with the same ASX industry classification as was present when GICS were first assigned. The assumption being that if the ASX classification had not changed then neither would the GICS code. Although this method produces returns for companies with similar industry interests that are held today, it also introduces implicit survivor biases. Survivor biases arise because companies that change industry focus are not tracked in earlier periods. Nor are companies that delist before July 2001 because they are not present when GICS are first assigned and so are ineligible for GICS industry membership. Survivor biases can be expected to increase the further back in time present day GICS are imputed.**

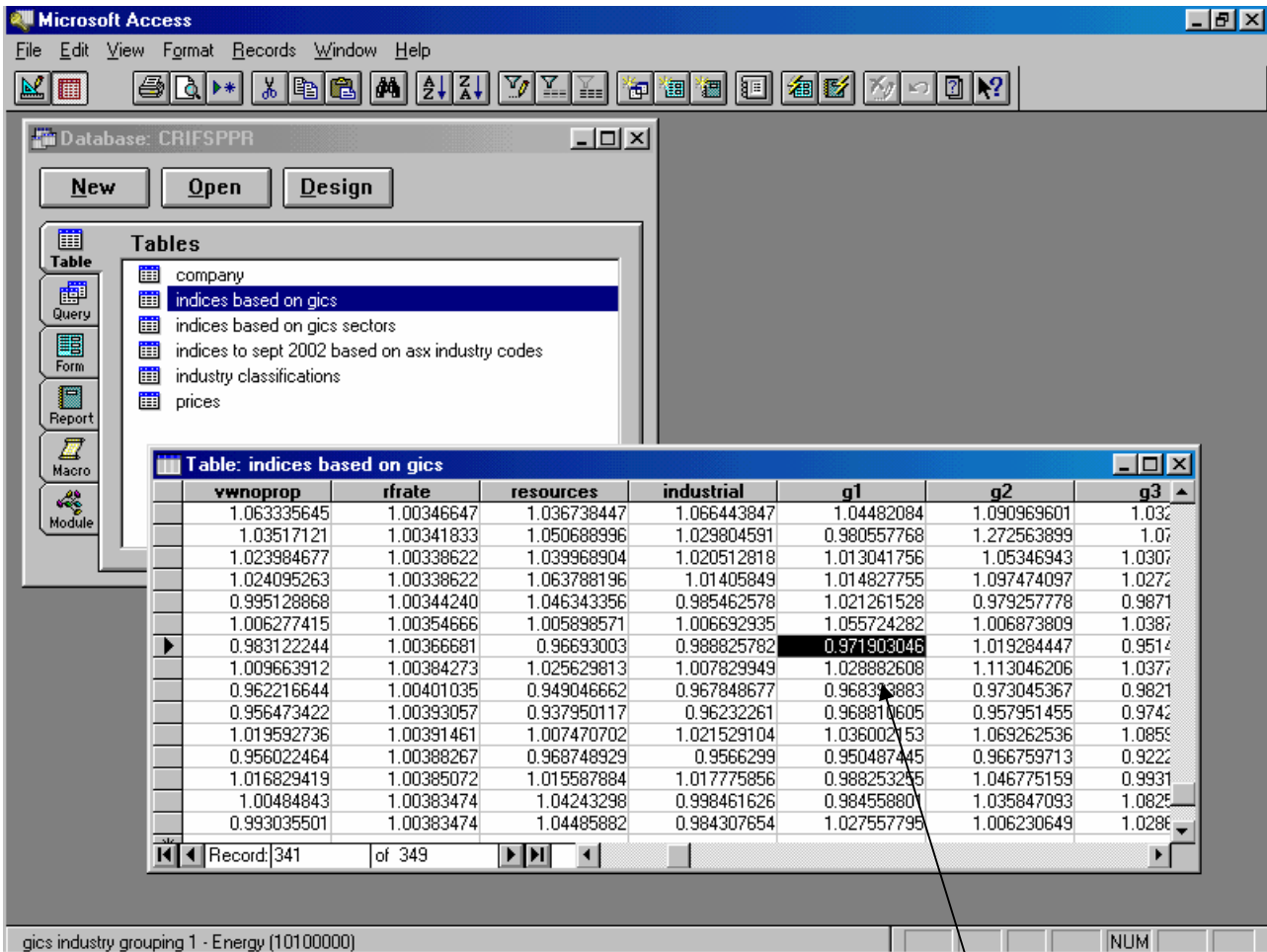
**The previous ASX based system is not subject to these survivor biases. Nor are either of the all-of-market indices (*EWMkt* and *VWMkt*) in any indices table.**

## Mapping Between GICS Industries and CRIF Industry Classes

GICS Code	GICS Name		Group CRIF Industry Class Code	CRIF Industry Class Name
10100000	Energy	↔	1	Energy
15101000	Chemicals	↔	2	Chemicals
15102000	Construction Materials	↔	3	Construction Materials
15103000	Containers & Packaging	↔	4	Paper & Forest Products + Containers & Packaging
15104000	Metals & Mining	↔	5	Metals & Mining
15105000	Paper & Forest Products	↔	4	Paper & Forest Products + Containers & Packaging
20100000	Capital Goods	↔	6	Capital Goods
20200000	Commercial Services & Supplies	↔	7	Commercial Services & Supplies
20300000	Transportation	↔	8	Transportation
25100000	Automobile & Components	↔	9	Automobile & Components
25200000	Consumer Durables & Apparel	↔	10	Consumer Durables & Apparel
25300000	Hotels Restaurants & Leisure	↔	11	Hotels Restaurants & Leisure
25400000	Media	↔	12	Media
25500000	Retailing	↔	13	Retailing
30100000	Food & Drug Retailing	↔	14	Food & Drug Retailing + Household & Personal Products
30200000	Food Beverage & Tobacco	↔	15	Food Beverage & Tobacco
30300000	Household & Personal Products	↔	14	Food & Drug Retailing + Household & Personal Products
35100000	Health Care Equipment & Services	↔	16	Health Care Equipment & Services
35200000	Pharmaceuticals & Biotechnology	↔	17	Pharmaceuticals & Biotechnology
40100000	Banks	↔	18	Banks
40200000	Diversified Financials	↔	19	Diversified Financials
40300000	Insurance	↔	20	Insurance
40400000	Real Estate	↔	21	Real Estate excluding Investment Trusts
40401010	Real Estate Investment Trusts	↔	22	Real Estate Investment Trusts
45100000	Software & Service	↔	23	Software & Services
45200000	Technology Hardware & Equipment	↔	24	Technology Hardware & Equipment
45300000	Semiconductors & Semiconductor Equipment	↔	24	Technology Hardware & Equipment
50100000	Telecommunication Services	↔	25	Telecommunication Services
55100000	Utilities	↔	26	Utilities
0	Not Assigned	↔	27	Not Specified

**industry classifications** is the final table in this edition of the SPPR. It contains industry code definitions for both the ASX and S&P GICS systems. All the industry definitions presented above are repeated in **industry classifications**.

**Useful Tip:** Industry definitions are presented to Microsoft Access users in the bottom left hand corner of the screen whenever a table is open and the cursor is sitting in an industry column. This method can also be used to obtain brief descriptions for every variable in the SPPR. For example, in Microsoft Access Version 2 the screen appears as



and the description for industry *g1* appears here when the cursor is in this column.