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UK MARKET, FINANCIAL DATABASES AND EVIDENCE OF BIAS

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Abstract

In this study, we investigate the presence of survivorship, content and accuracy bias in the two most widely used databases for research in the UK equities market, Thomson Datastream (TDS) and London Share Price Database (LSPD). Both databases are cross-examined with a new independently constructed database, UKED. The results of our examination with regards the TDS revealed the existence of a limited survivorship bias in the coverage of certain financial and accounting items. However, these errors are limited and mostly concentrated in foreign stocks listed in UK and small stocks included in the dead stocks file of TDS. As regards LSPD, we discovered important problems of coverage in accounting items and issues of data integrity in the estimation of securities' returns. Further cross-examination of companies' capital changes records revealed important problems in coverage and richness of information provided. These errors could affect the adjustment factors used for the estimation of returns in LSPD and in particular they could play an important role in explaining the large difference between LSPD historical returns with those obtained from TDS and UKED.

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I. Introduction

The ability to sustain scientific advancement and theoretical pluralism in social sciences was always deeply attributable to the extent by which the underlying empirical research is free from any form of methodological failing. All theories and scientifically proven hypotheses are limited by the extent to which all data used to provide the underlying empirical support are free from any form of bias. In line with other areas of social sciences, empirical research in accounting and finance is also highly sensitive to the nature of information used. Possible existence of bias in accounting and financial data can lead to erroneous and invalid inferences.

Two of the most significant threats in finance research that use accounting information are the cases of survivorship and look-ahead biases. The former term refers to the condition where data on companies that have disappeared from the market are no longer available to researchers, while, the latter term refers to the case where data used in the study is assumed to be publicly available at time t while in reality this data was only available at a later time.

The main implications of these biases for finance empirical research can be summarised in two main areas. The first area is related with the actual measurement of the profitability for all investment strategies that use accounting data for classification purposes. Possible exclusion of liquidated companies from any study due to survivorship bias, can lead to potential *overestimation* and *underestimation* of the returns of such strategies (Lo and MacKinlay, 1990; Brown, Goetzmann, Ibbotson and Ross, 1992; Black, 1993; Davis, 1996). Similarly, look ahead bias, and more generally the problem of unavailability of correct event dates, may lead to incorrect classifications at the portfolio formation stage (Banz and Breen, 1986, Kothari, Sloan and Shanken, 1995).

With respect to the UK finance research, the latter bias is particularly important. The lack of consistency on accounting year closing dates for British companies raises significant questions regarding potential look-ahead bias in previous UK research. Up to the present day, the main methodology adopted to control for this problem is the use of a six-month lag between the balance sheet date and the use of this information in a study. For example, portfolios are formed on June-end using only accounting information with reporting dates earlier than the previous December-end. This ensures in almost all cases that the information used is indeed publicly available at the time of portfolio formation. However, where a company reports on, say April 30 19X1 with AGM date and information available date during May 19X1, the information used in portfolio formation at June 30 19X1 is from April 30 19X0, one year out of date. This could easily lead to misclassification of companies, as the company's financial position could have dramatically changed within the excluded year. The same problem occurs with companies which alter their accounting year dates, and switch for example from August 19x0 to January 19x1 with AGM dates prior to the following June 30. Finally, the same difficulties apply to companies that close accounts more than once in a single year. Especially in this case adjustments to the accounts have to be made; adjustments such as the combination of certain profit and loss account items and the use of the latest balance sheet records.

The second but equally important implication of biases is related to the determination and analysis of statistical models used to explain and predict relationships amongst variables. Missing information could result in incorrect assumptions regarding these models, and consequently to spurious results (Elton, Gruber and Blake, 1996; Kothari, Sabino and Zach, 2001). Forming portfolios and regressing variables affected by both survivorship and look-ahead bias will inevitably lead to the estimation of incorrect statistical relationships.

In contrast to the US research where the above issues were thoroughly investigated and alternative methodologies were developed to accommodate for these problems in both the

COMPUSTAT and CRSP databases (Banz and Breen, 1986; Kothari et. al., 1995; Shumway, 1997; Shumway and Warther, 1999), UK research on the possible accounting and financial information biases is almost non-existent. This is widely attributed to the lack of diversity of the existing data sources that will allow a fruitful comparison to be carried out.

For the last twenty years, the bulk of UK's empirical research in finance has been based on two main sources, London Business School's London Share Price Database (LSPD) and the Thomson Datastream (TDS). Other sources of financial data are the Morgan Stanley Capital International (MSCI), FT500 Index or Compustat's Global Vantage databases (Haugen and Baker, 1996; Richards, 1997; Fama and French, 1998; Dissanaikie, 1999). However, the later databases are sample-specific. In general terms, the former two databases are considered the most important resources for UK research (Dimson and Marsh, 1999; Dimson, Nagel and Quigley, 2003; Nagel, 2001).

With regards to the LSPD, its most important advantage is considered to be the inclusion of almost six thousand six hundred companies¹. Prior examination of this database (Board, 1989; Smithers, 1989) has shown that there are some deficiencies, mostly related to the random sample of thirty three percent of companies listed on the LSE from 1955 up to 1974, *this sample being selected as the most representative for the given period*. From that period onwards, it is claimed (LBS, 1998, p.2) that the LSPD has a complete history of all UK companies quoted on the LSE, and hence is free from survivorship bias.

TDS on the other hand provides extensive and up-to-date accounting and financial data for a vast collection of assets. However, despite the fact that TDS's content is highly important for both professionals and academics, any effort to extract historical information cannot be considered as a problem-free process. The extraction of past financial information for companies that no longer exist requires the use of a 'dead stock' file. Unfortunately, this file is not free from survivorship bias (Nagel, 2001) and the problem of excluded stocks is especially severe for financials, including banks, insurances and real estates. A common response of finance researchers to this problem is to exclude the financial sector altogether from their study (Liew and Vassalou, 1999; Gregory, Harris & Michou, 2001). However, this action could affect the validity of the research as from the decades of the eighties onwards the UK financial sector accounted for more than twenty percent of the LSE's total market capitalization. Additionally, certain information on these companies may also be subject to look-ahead bias.

As there has been no thorough examination of the deficiencies of the LSPD and TDS databases, a rigorous investigation of these sources is essential. A content analysis of both databases will assist in determining the degree to which it can be used as a trouble-free source of data for examining the UK stock market. It may also indicate the degree of bias that might be inherent in previous research studies using the examined data sources. In order to allow for this comparison, a new UK equity database, *from now referred to as UKED*, was created using alternative sources of primary data that can assist in the cross-examination of all existing information; and, if possible information bias is identified, it will allow its precise determination and measurement.

Therefore, the purpose of this paper is twofold. It will address the issue of bias in accounting and financial data for the UK equities market, and, will introduce this new database to the wide academic audience. The rest of the paper is structured as follows. Section two describes the cross-examination methodology and the data selection procedures. Also, in this section, the new database will be introduced. In section three, both LSPD and TDS are examined for internal consistency and particular specific evidences will be given in the case of survivorship bias being presented in TDS. Section four, compares all LSPD and TDS with the UKED

¹ This section is based on the LSPD version 10.0 updated up to the 30th of April 1999.

database. Particular attention will be placed on the recorded monthly returns of all databases. In section five, we will concentrate on the area of the capital changes records. Finally, the study concludes in section six with a discussion of a number of possible implications for UK accounting and finance research derived from the evidences of the databases' cross-examination.

II. Data and Methodology

Properties of the "Base-for-Comparison" Data.

UKED is a new database created and developed over the last six years as a private initiative by the authors. Compared to prior academic efforts in combining already existing databases (Nagel, 2001), the UKED is being constructed independently from existing primary sources. The database contains a careful selection of publicly available accounting and financial data related to the entire universe of securities officially quoted in the LSE from the period of April 1982 and up to the present day. UKED currently excludes all investment companies. In order to avoid the duplication problems inherent in SEDOL number-generation and in the LSPD coding system, UKED data are linked with each other through a unique coding system². This allows the correct identification of financial securities and distinguishes financial securities from the underlying company. *Figure 1* illustrates the functional structure and the links amongst the various data-sections, while, *Table 1* provides a summary of the data coverage and the primary sources used.

Where companies are listed for the first time on the LSE, three to five years of accounts are presented. These are the accounts forwarded to the LSE prior to the initial listing. Considerable effort has been expended to ensure that the information included is the exact information that investors had in their possession at the event dates given in the database. This was achieved by hand collecting and cross-examining all data from their hard-copy primary sources. Therefore, the database is completely free from any form of look-ahead bias. An important feature of this database is the plurality of the information provided in the security subsection where UKED has a complete trading history for all listed securities including different classes of assets, the methods of initial listing, the type of listing, suspensions, de-listing, re-listings, etc. with a total of approximately eighty different combinations for trading events. An additional unique characteristic of this section is that it takes into account the movements across different markets of the United Kingdom where the recorded securities may have been periodically listed, including the Official Listing, the Unlisted Securities Market, the Over-the-Counter Market, the Alternative Investment Market, the Third Market, the Irish Exploration Securities Market and the Irish Smaller Companies Market. Finally, the capital changes subsection provides a complete history of all capital changes for each security including a total of approximately one hundred and sixty seven different combinations of events³. Overall, the various subsections in combination give the most complete picture of the British market throughout the entire period covered by the database; information that appears to be unobtainable from other currently available UK

² For example, the UKEDCOM ID of the company Reed Austin Group Plc is UKED000669. That company has only one name change recorded in its history from Reed Austin Group Plc (UKED000669/1) to Austin Reed Group Plc (UKED000669/2); and has two assets listed in the LSE, an ordinary share of 25 pence par value with UKEDSEC ID of UKED000669-01 and an A' class Non Voting ordinary share of 25 pence registered as UKED000669-02.

³ Events such as sub-divisions and consolidations of par values, complex capital changes, rights issues, scrip issues, and capital changes involving other assets such as warrants and preference shares. This subsection also includes all detailed payments made in respect of the basic offer to investors after schemes of arrangements, mergers, acquisitions, etc., in the form of cash or share offers and their market values on the date of the event.

financial databases. At the present time, the UKED includes two thousand nine hundred and forty six securities corresponding to two thousands eight hundred and one past and present fully listed companies. This is the complete universe of fully listed companies for London since 1982.

Sample Selection and Methodology

LSPD and TDS will be examined using a two-stage procedure. The first stage involves the examination of internal consistency and completeness of the various sub-records of the LSPD database, while; the second stage will focus in cross-examining all three databases for potential bias in the data input. In this very stage, the UKED database will be used as the control database. As regards TDS at this stage, the examination will concentrate only in the security registry/registry of mnemonics and the securities' returns item, as the latter one is needed for cross-examination purposes.

According to *Table 2, Panel A*, for the period of April 1982 to April 2002 UKED currently includes 15,079 records in the security registry corresponding to 2,802 and 2,947 securities that have been fully listed in London during the given period. In *Panel B*, we summarise the properties of the LSPD database. After excluding all pre-1980s records, all post-1999s records and all investment trusts⁴, there are 4,036 securities suitable for examination. Five securities should also be excluded from the data-sample due to inconsistencies between the data recording and the master index file. Although these stocks appear to be active in the early years of the 1980's, no data have been recorded in the LSPD records since the late 1970's.

As regards TDS, according to *Table 2, Panel C*, from a total number of 10,475 financial instruments in its UK Equity section and dead stock files, there are only 2,954 fully listed securities. After cross-examining the records of all UKED, LSPD and TDS, the survivorship bias of the latter database is restricted to only 90 companies that have been fully listed during the examined period. The majority of these companies have been fully listed in London during the period of the eighties and they are located in the dead stocks file.

In order to identify any potential survivorship and content bias, we have to create a basis upon which individual observations included in the UKED, LSPD and TDS sub-records will be examined. To do so we construct an activity table, *from now on referred to as a "trading activity map"*, using quotation and cancellation dates for every company from the key-registry files of both UKED and LSPD. Finally, due to the lack of a similar file for TDS, the latter database content will be examined with regards to the registry of the former two databases with regards only to the assets that are common in all three. The methodology adopted is the following; all securities are sorted on the basis of their record number and their first and last trading day is recorded. These trading maps also include all suspensions, cancellations and re-listings in between these two dates. For LSPD, two hundred and twenty eight monthly tables of listing status are recorded, using variables of 1 and 0 for active and inactive listing in the UK equities market. For the UKED, there is a total of two hundred forty monthly tables and for TDS two hundred ninety two. Apart from the monthly trading map an annual listing map is also created with values ranging from $n=0$ to $n=12$ where $n=12$ reflects full trading activity for the annual interval while $n<12$ refers to years where a given company was initially quoted, suspended or de-listed. Having prepared these monthly and annual tables, all different sub-records are examined with each observation cross-matched against its representative table, e.g. annual observations such as EPS, DPS and share capital against the

⁴ SEDOL Group codes 34, 37 and 38. Nine records from the SEDOL Group 32 are also excluded, as they are misclassified Venture Capital Trusts companies.

annual tables and monthly observations such as stock prices and returns against the monthly ones.

III. Internal Consistency Examination

Table 3 summarises the findings with regards to the LSPD internal validation. Apart from the minor inconsistencies reported earlier in the sample selection procedure, there are no other problems associated with the registry file of the LSPD. Nevertheless, there is some considerable amount of missing observations associated with the EPS. According to *Panel B*, after cross-examining the EPS records against the annual “trading map” there is evidence of missing EPS observations for approximately 83.0% of LSPD’s universe⁵, while for 15.9% of the examined sample there are no EPS observations recorded at all.

As far as the DPS records are concerned, the LSPD should be considered almost as bias-free. According to *Table 3, Panel C*, it appears that there are only five hundred forty one securities that have no information recorded concerning the given accounting indicator. Further investigation of these securities by cross matching against the UKED database shows that the bias is indeed very limited reaching only 0.15%, as five hundred and twenty five securities did not pay any dividends during the period under investigation. For the remaining sixteen securities, after examining their DPS records two categories of errors are evidenced; six of the securities that have no dividend record correspond to companies that have never been registered in the UK. The remaining ten cases of omitted dividend payments correspond to UK-registered companies.

With regards to stock prices and share capital observation, according to *Panel D and E*, these data can be again considered as almost bias-free. From the examined universe of securities, only twenty-three cases appeared not to have any share prices recorded, the majority of them being Irish or non-ordinary status securities. The survivorship bias for the share capital records appears to be slightly higher. From a total number of 34,565 share capital observations, only five hundred and forty records appear to be missing. This corresponds to one hundred and seventy nine companies. The majority of these missing observations are reported in the recession period of 1991 to 1995. Further investigation of these inconsistencies reveals that for the 51.4% of the cases the missing observation is primarily related to the case of securities being suspended for more than a year and also to the incorrect recordings of the databases’ main registry where there are even cases where securities are recorded as still active almost fourteen years after their actual de-listing from the UK equity market⁶. Thus, only eighty-seven cases are considered to be genuine survivorship bias in the share capital records. This accounts for only 2.16% of the examined sample.

Finally, with respect to the capital changes records, an initial examination shows that thorough recording of capital changes is very limited as only 2,654 securities have records of capital changes from the total sample. Nevertheless, this apparent inconsistency mostly arises because the LSPD reports only those capital changes that affect the calculation of logarithmic returns from unadjusted stock prices. Some capital changes do not require adjustments to be made as they are backed up by additional value in the firm, and are excluded. However, these

⁵ This examination excludes all securities de-listed during 1980 as well as all securities with a total trading activity of less than twelve successive months, $n < 12$. This is because published accounting information is generally included in the LSPD’s EPS and DPS sub-records with a time lag, and in the case of companies with short total trading histories such information is not recorded at all. Therefore, these results correspond only to securities with $n > 12$ annual trading activity.

⁶ Consider as an example the case of Tan Sad Holdings (LSPD ID 5042). The death date recorded in the master index file is February 1982. However, the last trading event recorded in the other sections of the LSPD is in May 1975.

records as well as the LSPD's returns are examined thoroughly later in the study, by directly comparing these records with the capital changes and returns of the UKED.

Using, a point system for measuring bias we are capable of precisely estimating the impact of survivorship bias in the examined records. After assigning 1 point for every bias-free record and 0 for the opposite case, there is a total of seven hundred and forty one securities affected, a number which represents approximately eighteen percent (18.38%) of the data set examined⁷. If the EPS sub-record is excluded from the analysis entirely, only one hundred and eight securities are affected by missing data, which accounts for less than three percent of the sample, (2.68%).

As regards TDS, despite the large amount of data contained in the database, certain limitations are immediately apparent as we cross-match the security mnemonic registry with the stock prices, returns and DPS records for both active and dead stock files. According to *Table 4*, for all different types of assets there is evidence of some degree of survivorship bias in the selected items. However, most of these omissions affect foreign securities and other assets rather than fully-listed, AIM and USM's ordinary shares. However, in line with prior and current research (Nagel, 2001; Gregory, Harris and Michou, 2001; Ince and Porter, 2004) a potential examination of other accounting indicators such as B/ME, EPS, etc., will produce a far higher percentage of survivorship bias, and the quantification of such errors is subject to future research. Further examination of the entire sample for missing observations or using daily and monthly frequency data revealed no consistency problems within the TDS dataset. However, testing for accuracy of the selected data and potential impact on research inferences from using them is examined in the following section

IV. Results from Cross-Examination

Data Preliminaries, Methodology and Return Differences.

Comparing all three databases is a far more complex task. Due to the different coding systems of all three examined databases, screening the data was undertaken through a manual matching procedure using both SEDOL numbers, companies' names and birth and death dates. This allowed the selection of a common dataset that can be used for cross-examination purposes. According to *Table 5*, for the sample-period 1982 to 1999 there are 2,786 records⁸ in LSPD, 2,776 securities in UKED and 2,727 securities in TDS. The latter number excludes all securities that are affected by the "incompatibility" bias evidenced in the TDS returns' records reported earlier. Further cross-examination of the security records revealed minimal survivorship bias in LSPD and UKED but a slightly higher percentage in the TDS. Analytically, the total survivorship bias in TDS represents 4.43% with a total of one hundred and twenty one securities less than both LSPD and UKED. LSPD's and UKED's total missing securities are seventy-three and fifty respectively. These results include forty-five securities, which appear only in the TDS records. The vast majority of these assets are not ordinary shares. For consistency purposes all these securities will be ignored from the cross-examination. Overall, 2,638 securities qualify as a common data-sample for all three databases; this represents the 93.35 percent of the total universe of fully listed securities⁹ for the selected period.

As the securities' return is the most essential item in UK finance research, further

⁷ These results includes only those securities without any records of EPS rather than all the ones with a minimum of one EPS observation omitted, as well as, it excludes all inconsistencies in the Capital Changes and Returns records as these are examined separately.

⁸ These registry records correspond to 2,750 fully listed securities.

⁹ After combining as assets included in all three databases the total universe of fully listed stocks is 2,826.

examination of their accuracy is vital. To determine the accuracy of these figures for all existing data sources we adopt two different methodologies. The first one is a simple buy and hold strategy with monthly rebalancing. We first allocate $1/N$ of wealth to each security actively traded in the market at each calendar month and we hold this “*tracker*” portfolio for the entire period of 1982-1999. We can then estimate cumulative holding period returns using the following mathematical notation

$$AHPR_{TR,M} = \prod_{t=1}^M \left[\frac{1}{n} \sum_{i=1}^n (1 + r_t)_i \right] \quad (1)$$

where, $AHPR_{TR,M}$ is the holding period return for the tracker portfolio TR and holding period M . If a company becomes de-listed during the portfolio-holding period, all proceeds are re-invested in the remaining active stocks following the $1/N$ rule.

The second methodology aims to compare the overall performance of individual securities over their entire listing history. Each security’s returns are estimated as

$$HPR_{ik} = \prod_{t=1}^k [(1 + r_k)] \quad (2)$$

where, HPR_{ik} is the holding period return for stock i and for holding period k months.

Figure 2 illustrates the performance of UK fully-listed dataset over the examined period using the first methodology. An equally weighted tracker portfolio starting in January 1982 using the LSPD database as a source of returns will generate 18.52 pounds by the end of the holding period. This performance is approximately twenty five percent higher (26.41%) compared to the results obtained from the UKED and TDS databases, 14.65% and 13.84% respectively. By examining the trendlines we can see that this performance follows a roughly similar pattern up to the mid-1993. However, from that period onwards the returns estimation using the LSPD dramatically accelerates. The use of correlation coefficient tests verifies these differences. According to *Table 6* monthly *CAHPRs* using LSPD returns time series are positively correlated with those of UKED (0.998**) and TDS (0.996**). Nonetheless, the sum of squares statistic for the LSPD returns is considerably higher, (6393.6) than that of using UKED and TDS’ returns, (5022.5) and (4756.0) respectively. LSPD’s returns also exhibit higher volatility, $\sigma = 5.668$ compared to 4.459 and 4.234. TDS’ and UKED’ descriptive statistics are almost identical with returns almost perfectly correlated, 0.999** and mean values of 7.224 and 7.146 for TDS. Since, the information regarding the calculation of returns in the LSPD is very limited, it is not possible to precisely identify the source of these difference. However, a probable hypothesis that can partially explain this difference is the use of gross and net dividends in the return estimation. If LSPD uses gross dividends for the calculation of returns compared to net dividends used in the UKED and TDS, some of these difference can be removed.

The cross-examination of returns at individual-stock level, generate some additionally interesting findings. According to *Table 7, Panel A*, from the total 2,638 securities selected in the data sample, there are considerable differences in the case of the securities that were declared valueless. Out of one hundred and fifty cases of valueless securities, TDS and LSPD record a –100 loss in the last month before cancellation only in 13.82% and 1.97% of the examined cases. For the remaining 86.18% of the cases, both databases report returns only up to the last month before these assets became suspended. We can illustrate these errors using as an example the case of CH Industrials Plc, *UKEDSEC000236-01; LSPD ID 1413; TDS Mnemonic 910233*. Both TDS and LSPD’s final record of returns is reported in February 1991 when the stock was temporarily suspended. However, in March 1991 the Inland Revenue accepted that shares of CH Industrials Plc became of negligible value and in

September 1991 the company moved into liquidation. The ordinary security finally became de-listed from the UK market in November 1991 with a 100% loss for its shareholders. However, LSPD and TDS's *HPRs* are 3.003 and 2.437 respectively as they do not account for the later event¹⁰.

With regards to the securities classified as non-valueless, all three databases produce similar *HPRs* for the 90.75% of the examined sample. For fifty securities, LSPD returns are considerably different than the ones produced from the UKED and TDS, 2.01%; while, TDS deviate substantially for approximately 4.63% of the sample, 115 securities. Finally, for twenty-six cases UKED returns are different than those produced by the other two databases and for thirty-nine cases all three databases report completely different *HPRs*. Further investigation of the return differences for these sixty-five securities included in the last two categories revealed the following problems; for seven securities, LSPD fails to record the stock prices for the first years of trading as these securities were either initially listed in the Third market or they were Irish companies. In one case, that of Navan Resources Plc, UKEDSEC02259-01; LSPD ID 9117; TDS Mnemonic 943505, the last return observation recorded from LSPD is in April 1997. However, the company continued trading in the market up to 11th of July 2000 where it was exchanged for securities in Navan Mining Plc on a one-to-one basis.

For an additional five cases, errors were discovered in the estimations of the final payoffs before the securities were removed from the official listing. These cases involved assets whose companies were taken over; or, assets that were exchanged to a different share of the same company. Consider the case of Cluff Resources Plc B' ordinary share with par value of 25 pence, UKEDSEC 1102-02, LSPD ID 7349. Under a scheme of arrangement effective at 05/07/1985, this security was converted to the £1 ordinary share on the basis of one £1 ordinary share for one 25p B' share. The last recorded return for this security for July 1985 according to LSPD is 1.070 or 7.00% profit while according to UKED is 0.7674 or 23.26% loss. Moreover, the unadjusted closing price for June 1985 for this share according to LSPD and UKED is identical at 43 pence while LSPD also records the dealers' price for the end of July 1985 at 46 pence. The information for the £1 ordinary share, UKEDSEC 1102-01 and LSPD ID 6765, is June-closing price of 43 pence and July-closing price of 33 pence respectively. Therefore, the returns for July 1985 for the shareholder of the 25 pence B' ord should be estimated as $\{[(\text{One } \pounds 1 \text{ Ordinary} * 33 \text{ pence}) - (\text{One } 25\text{p B' Ordinary} * 43 \text{ pence})] / (\text{One } 25\text{p B' Ordinary} * 43 \text{ pence})\}$ or 23.25% loss. In contrast, LSPD's last months' returns of seven percent profit can only be estimated as $\{[(\text{One } 25\text{p B' Ordinary} * 46 \text{ pence}) - (\text{One } 25\text{p B' Ordinary} * 43 \text{ pence})] / (\text{One } 25\text{p B' Ordinary} * 43 \text{ pence})\}$ or 6.976% profit; an erroneous estimation as the shareholder of B' share in the end of July 1985 was no longer holding B' ordinary shares but rather the £1 ordinary ones.

Finally, for the remaining fifty-two cases, *thirty of which are involved in takeover activity*, there are no errors identified in either the stock prices or the dividend records. Therefore, the only possible explanation for these differences could be an incorrect treatment of the underlying capital changes. An in-depth analysis of these records that can be the origin of the above errors as well as they might be able to explain the large difference in LSPD's 200-month return trend is discussed in the following section.

V. Capital Changes Records.

In section four, it was observed that, while the 1982-1999 holding period returns on the UKED and TDS tracker portfolios are very similar, the holding period return of the LSPD

¹⁰ As regards the LSPD, the liquidation is recorded in the Master Index file as the reason for its de-listing. However, the returns do not reflect this event.

tracker portfolio is more than 25% greater than the UKED and TDS returns. A back-of-the-envelope calculation shows that the use of gross rather than net dividends can account for only a proportion of this difference.

As stated in the London Share Price Database Reference Manual, 1998, LSPD monthly returns are computed on the basis of the LSPD share prices, dividends, and capital changes records. In section three it was noted that the LSPD share price and dividend records are, except for a small number of errors and omissions, both accurate and complete. Therefore, it is natural to look for an explanation for the differences in returns by an examination of the LSPD Capital Changes records, and a comparison with the UKED records.

The UKED capital changes records are contained in the UKED Securities Registry. The coding system for the UKED capital changes is given in the UKED Securities Codes file. The main hardcopy sources used in constructing the UKED Securities Registry are the book versions of the Capital Gains Tax Service 1982/1983 – 1998/1999 (1999/2000, 2001/2000 and 2002/2001) published by FT Interactive Data, which contains all data required for the computation of UK Capital Gains in respect of shareholdings in UK companies for the periods covered. The Monthly Supplements to this service were also used extensively. The authors believe the Capital Gains Tax Service to be the most accurate of all the sources used in the construction of UKED, and to be, for all practical purposes 100% error free. In the construction of the 1982-2002 version of UKED during 1999-2003, the authors went through the 2000+ pages of the Capital Gains Tax Service line-by-line four separate times. On this basis it is claimed that the UKED Securities Registry has a very high degree of accuracy and completeness (of course, an equal degree of care was taken with respect to the other UKED files).

The coding system used in the UKED Securities Codes file is rather complex and inelegant, since it simply reflects the complexities of all UK capital changes during the period covered. However, *Table 9* contains a summary of the coding system used, while a good overview of the UKED capital changes records can be obtained by quickly browsing over the complete Securities Codes file given in *Appendix A. Table 8* gives the coding system used by LSPD (London Share Price Database Reference Manual, 1998).

The UKED monthly returns and the LSPD monthly returns are calculating using different methods. The UKED returns are computed by taking the increase, as a decimal number, of the shareholders wealth from the beginning of the month to the end of the month. In complex capital changes such as combinations of two, three, or more scrip issues, rights issues, consolidations and/or other capital events occurring on the same day or during the same month (UKED Capital Event Codes 900 and 901), the UKED Securities Registry records the shareholders cash and shares as at the cum-date and the shareholders shares and cash as at the ex-date, thus providing, together with the share price and dividend records, sufficient information for computing the monthly change in wealth. LSPD, on-the-other hand calculates an adjustment factor, the LSPD Adjustment Factor, corresponding to the capital event. For example, a one-for-one scrip issue has an adjustment factor of 0.50, since the share price, other things being equal, will decrease by 50% on the ex date. To compute returns, LSPD divides share prices on or after the ex-date by the adjustment factor of 0.50 (A minor point to note is that the figure recorded in LSPD is the adjustment factor multiplied by 1,000). Thus, *'All adjustments are based on the principle that the value of a share is unaltered by a change in capital structure'* (London Share Price Database Reference Manual, 1998, Section 2.6), which expresses, more-or-less clearly the principle behind the computation of adjustment factors.

The first problem noted with the LSPD Capital Changes records is that the computation of adjustment factors is problematic for capital changes involving more than one type of security. For example, the correct adjustment factor for a rights issue in preference shares can

only be obtained given the correct theoretical model for finding the *relative values* of shares to preference shares both before and after the capital event, other thing being equal. Clearly, no such problem arises for the UKED method. This theoretical difficulty associated with the adjustment factor method will be revisited below, when particular classes of capital events involving more than one security are examined.

The second problem with the LSPD Capital Changes records is that, for complex capital changes, there do not appear to be enough data fields provided to record all the information required.

Adj	Type	1	2	3	4	5	6	7
500	1	0	1	1	0	0	0	0

The extract above shows the LSPD records for a one-for-one stock split. The LSPD Adjustment Factor is 500 (= 0.50*1,000), the Type of capital change is a stock split (coded as 1 by LSPD, see Table 9), with the details given in columns 2 and 3. In this simple capital event there is no problem. However, consider the following complex capital change, recorded in UKED as follows:

900.00	10.00	1200.00	10.00	5.00	700.00	Rights 7 ord 5p for 1,200 ord 10p at 100p p.s., and a capital reorganisation whereby each ord 10p was subdivided and converted to 1 ord 1p and 1 unlisted 1st deferred 9p, then consolidation of every 400 ord 1p to 1 ord 400p which was then subdivided to 1 ord 5p and 1 unlisted 2nd deferred 395p. The deferred are effectively valueless.		
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The UKED data shows that the capital change has UKED Code 900, and that at the start the shareholder had 1,200 ord with a par value of 10p (fourth column) and 700p cash, and at the end 10 ord (second column) with a par value of 5p. The notes cell contains details of the capital event. Thus, in UKED the problem of inadequate number of cells for complex events is solved by giving the raw details in the notes (to provide an audit trail), and computed information in the cells. LSPD records this same capital event as follows:

13333.00	9.00	0.00	0.00	0.00	10.00	1.00	0.00	0.00
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LSPD records the capital event as 9 (in fact incorrectly, *see Table 8*), and provides in columns 3 to 9 almost none of the information required to compute the adjustment factor. In this case, the total of nine available columns would be enough, under some convention for how the data is to be recorded, to adequately record this capital event. The fact that the available space has not been used is very closely connected to the third problem.

The third problem with the LSPD approach is that the 21 codes of Table 9 are not enough, *in combination with the limitation to nine columns for recording the details of the event* to adequately code the great variety of possible capital events. Compare with the 274 event codes used in UKED (*Appendix A*). In other words, the limitation to nine columns would be enough if LSPD had around one hundred event codes, and twenty-one event codes would be enough provided the details of the events could be recorded (under some convention), in say, fifty or sixty columns. But both limitations together, only twenty-one codes and only nine columns, means that it is impossible to adequately record all the capital events that have actually occurred to UK companies during the period under investigation. In other words, the carpet is too big to fit the room, and must lead to problems somewhere. Where the problems actually do occur is detailed in the following discussion.

The fourth problem appears to be a large error rate in LSPD in the actual recording of capital

event data, i.e. the data recorded is not accurate, and in some cases, consistent conventions have not been used in recording the data.. In The fifth main problem with the LSPD Capital Changes records is that the data is incomplete, i.e. there are a significant number of records missing.

We turn now to a detailed comparison of the LSPD and UKED data, and explain in detail how the discussed in general above impact on the LSPD Capital Changes records.

From the cross matching of securities presented earlier in the paper, for the universe of securities common to both LSPD and UKED, LSPD records 5,170 capital events and UKED 5,652. Capital changes were matched by Security Code and by date (year, month and day), and, in a second run they were matched by Security Code and by date (year and month only). For these the methodological decision was taken to assume that where there was a one-to-one matching in the second run, that the capital changes really do correspond (and that the LSPD capital change has been given the incorrect day date (though with the correct year and month)). An examination of the details of the records indicates that this is the most realistic assumption. In particular, it is noted that both UKED and LSPD are computing returns on a monthly basis, and changing the day date within the same month would in most cases not lead to an error in the computation of returns (a possible exception being where the stock goes ex-dividend during the month). It is also consistent with a general aim of this paper, namely to give any apparent errors in LSPD the most generous interpretation, thus possibly understating, rather than overstating the actual bias in the LSPD data.

In the matching process there were a large number of complexities to deal with. These include; where UKED (or LSPD) has two capital events for the same company with the same date, where two or more UKED (LSPD) capital changes correspond to only one LSPD (UKED) capital change (for example, where a stock split and a rights issues occurred on the same day), where a company has two classes of ordinary shares and where there is an error in the cross matching of the LSPD and UKED securities, and finally, in a merger situation where LSPD and UKED have been different decisions on which company is the continuing one. The last two mentioned are in effect another check on the accuracy of the cross matching used earlier in the paper. It turns out that only insignificantly many of these complexities were realized in practice, and the overall results reported here would have been substantially the same had these complexities not been identified and adjusted for.

The bias in LSPD arising from the exclusion of capital events recorded in UKED amount to 576. Taking the total number of capital events as the 5,652 recorded in UKED, the number of omissions from LSPD amounts to 10.19%, *Table 10*. Of these 358 (6.33%) are capital changes that would materially impact on the computation of monthly returns. The others, such events as a reduction in par value, would have an adjustment factor of 1, and could be ignored.

Considered next is the impact of problems two and three mentioned above, namely that there are insufficient data fields available in the LSPD Capital Changes file and/or insufficient LSPD capital event codes for the full extent and variety of capital events occurring in the UK during the period. It is reasonable then, to expect a significant number of capital events incorrectly coded by LSPD. *Table 11* shows a total of 525 (9.29%) of LSPD capital changes misclassified, with a two-dimensional breakdown across UKED codes and LSPD codes. For example, row 201 (UKED 201 = offer for subscription of shares on a maximum entitlement basis, i.e. a rights issue) column 1 (LSPD code 1 = scrip issue) shows that there are 17 such rights issues incorrectly classified as scrip issues in LSPD.

Of the LSPD capital changes that are correctly classified, *Table 12* gives a breakdown by UKED Code of the numbers of LSPD capital changes that have material omissions and/or errors in the data fields containing the details of the capital change. The total number of such capital changes amounts to 835 (14.77% of the total UKED universe). Typical examples of

data entry errors for complex capital changes (i.e. capital changes other than straightforward scrip issues in the same shares, rights issues in the same shares, subdivisions and consolidations) are given in Table 13. *Table 13* gives examples of data entry errors in LSPD for rights issues in loan stock. These are typical of the extent of such errors for the remaining rights issues in loan stock, and for other complex capital changes. The figure of 835 is almost certainly an under-estimate. For complex capital changes, and in particular for the 900 and 901 UKED codes (combinations of scrip issues, rights issues, subdivisions, consolidations, and scrip and rights issues in other securities) it was often difficult to reconcile the figures entered in the LSPD data fields with the details of the capital change. The decision was taken to assume the LSPD data to be correct in every case where there were a sufficient number of data entries in the fields. Data omissions in LSPD were assumed only when it was self-evident.

From UKED Securities Registry	LSPD data fields								
Notes	Adj fact	Type	1	2	3	4	5	6	7
Capitalisation issue of 1 floating rate redeemable pref for each ord 50p, ex capitalisation 19950907, and consolidation of every 6 ord 50p to 5 ord 60p 19950907. MV 19950907: pref 49p; ord 60p ex price 334p.	1200.00	9.00	0.00	0.00	0.00	50.00	60.00	0.00	0.00

For example, in this case there is clearly insufficient data in the LSPD fields to contain all the information relevant to this capital change¹¹.

In the following example the situation is less clear. Under some convention it is possible that the LSPD data fields correctly contain all the information in the capital change. In this, and similar cases it was assumed that no data was missing from the LSPD fields¹².

From UKED Securities Registry	LSPD data fields								
Notes	Adj fact	Type	1	2	3	4	5	6	7
Rights 1 ord 40p for 12 ord 12.5p, at 100p p.s., allotment letters posted 19911101, and subdivision of each ord 12.5p to 1 ord 5p and 3 unlisted deferred 2.5p, effectively valueless, then consolidation of ord 5p to ord 40p, 19911104.	8000.00	9.00	0.00	1.00	12.00	13.00	40.00	100.00	15.00

Returning to the LSPD Adjustment Factors there are two remarkable observations. Firstly, for virtually all capital changes involving only one security; scrip issues in the same stock, rights issues in the same stock, subdivisions, consolidations, and combinations where the net effect is one of these simple cases, the LSPD Adjustment Factors are correct. This is in spite of the large percentage of cases where the capital change has been incorrectly classified, or where the information given in the data fields is wrong or missing.

¹¹ Note also that the adjustment factor given by LSPD is correct only for the consolidation component of the capital change, i.e. the LSPD adjustment factor ignores the capitalization issue. Thus, in this and similar cases the LSPD capital change was classified as missing data

¹² It is worth noting that, in this case as well, the adjustment factor given seems to correspond to only part of the capital change, namely, the consolidation, and that the rights issue component has been ignored

For example, LSPD classifies the following capital change as a complex scrip issue, and the data given in fields 1-7 is clearly inadequate to compute the correct adjustment factor. In spite of this the correct figure for the adjustment factor has been given.

From UKED Securities Registry	LSPD data fields							
Notes	Adj fact	Type	1	2	3	4	5	6
Consolidation of every 50 ord 1p to 1 ord 50p, then subdivision of each ord 50p to 1 ord 1p and 1 unlisted deferred 49p, effectively valueless.	50000.00	9.00	0.00	0.00	0.00	1.00	1.00	0.00

This seems to be difficult to reconcile with the claim that the adjustment factors have been computed from the LSPD source files in all cases.

LSPD adjustment factors for capital changes involving more than one security are more problematic to analyse. As noted above, an adjustment factor can only be computed given some assumptions on the relative values of the securities before and after the capital change. For example, a rights issue in preference shares would result in an adjustment factor less than 1000 (= 1*1000) in the case where the preference shares were issued at a discount to their intrinsic value, resulting in a transfer of value from shares to preference shares. In the absence of some guidance on how LSPD estimates the intrinsic values of securities such as warrants, loan, notes, preference shares and other securities issued in complex rights issues, it is impossible to evaluate the correctness of most of the adjustment factors given in capital changes involving more than one security. It appears though, that LSPD has not made such estimates in a systematic way. For example, many of the adjustment factors for rights issues in loan notes are give by LSPD as 1,000 (= 1*1,000), i.e. it is assumed in these cases that the intrinsic value of the loan notes is equal to the issue price. In many other cases however, adjustment factors of less than 1,000, generally of around 900, are given, with the implicit assumption that the loan notes have been purchased in the rights issue at a discount to their intrinsic value. These difficulties are compounded in more complex cases, for example in a multiple capital change including a rights issue in preference shares followed by a scrip issue in shares with warrants attached. In addition, as the UKED returns were computed using the change in shareholders wealth method, UKED does not generally include data on the share values immediately prior to the ex-date.

Summarising the contribution of the paper so far to the existence of biases in TDS and LSPD the following broad conclusions can be proposed. With regards to TDS, there is significant survivorship bias in the TDS dead stock file, which could be problematic for some areas of research. However, the overall returns on the TDS tracker index are close to those of UKED, and the number of individual securities where cumulative returns differ substantially is not extremely large. TDS is also incorrect in that bust stocks are not generally given a final month return of -100%, as in UKED, which could also lead to survivorship bias in some situations.

For LSPD the cumulative return of the tracker index is around 25% larger than those of both TDS and UKED. It appears that this can be only partially explained by the fact that LSPD uses gross, rather than net dividends in computing returns. LSPD also shares the survivorship bias problem associated with bust stocks. On the other hand, LSPD has negligible survivorship bias in the universes of companies and securities. The errors and omissions in the LSPD Capital Changes records could pose problems in many areas of research, though some of the problems have been difficult to quantify. For example, research on the impact of different classes of capital changes on stock prices would perhaps not be feasible using the LSPD data, given the large percentage of errors and omissions. However, the extent of bias in the adjustment factors, and in particular their role in explaining the large difference between

the TDS and UKED returns, and the LSPD returns is difficult to evaluate.

VI. Conclusion

The presence of bias in accounting and financial data represents a crucial factor in determining the external validity of scientific research. UK research in the field has been very limited and vastly inconclusive. In this study, we investigate this problem by comparing the two most widely accepted databases in UK's financial research, TDS and LSPD. To do so, we independently created a new database from existing primary sources. This new database, *UKED*, contains a careful selection of publicly available accounting and financial data for UK listed securities. In this study we investigated both the internal consistency of information reported in the already existing sources and the accuracy of the data provided.

In terms of internal consistency of the data recorded, the presence of bias in LSPD is found to be very limited while, the only records that appear to be vastly erroneous is that of EPS. On the other hand, the information provided by TDS is extensive and generally reliable. However, the exclusion of information for a large percentage of dead stocks leads to significant survivorship bias in many areas of research. Further examination on a selected sample of different accounting and financial items using monthly and daily frequency data revealed no internal consistency problems within the TDS dataset and a limited survivorship bias mostly affecting foreign securities listed in the UK market. However, it is believed that more evidence of survivorship bias could be recovered once other accounting data are examined. The biggest problem occurring from the use of TDS is the vast inclusion of non-ordinary items in the equities section of the database; the appearance of more than one record for certain ordinary stocks, and, the inability of TDS to provide an accurate static mirror image of the UK equities market at any given point in time as it does not provide accurate listing and de-listing information.

A cross examination of all three databases in terms of securities' returns produced some interesting findings. In contrast to UKED and TDS where the *HPRs* performance of a tracker portfolio over the period 1982 to 1999 is almost identical, the performance of such portfolio using the LSPD returns is approximately twenty-five percent higher. Compared to the TDS and UKED which use net dividends in the returns estimation, the use of gross dividends and tax credits by LSPD can only partially explain this difference.

Further examination on the returns revealed errors in the case of valueless securities with both TDS and LSPD consistently under-recording the loss of investors holding these securities. After eliminating the elements of gross-net dividends and the impact of valueless securities in the returns' estimation, this study focused on the capital changes recorded in LSPD. After a cross-examination of LSPD's capital changes with those recorded in UKED, the most important problem found in LSPD is that the computation of adjustment factors is considerably problematic for capital changes involving more than one type of security and that the data recorded is incomplete with a significant number of records missing or having material omissions and/or errors in the data fields containing the details of the capital change. The precise quantification of these errors and their impact on empirical research in finance should be answered in future research.

Overall, it is our opinion that all examined databases are a valuable tool for UK research but researchers should have a good understanding of the various errors inherent in TDS and LSPD; and, should undertake appropriate corrective actions, *mostly involving the combination of all three databases and rigorous cross-referencing*. Only under these conditions, can research output be unbiased and inferences be valid. Overall, we strongly believe that it is our common responsibility to ensure that research in accounting and finance is not restricted by the data sources. Data sources should be the means for new models and

theories to emerge and not their confinement.

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Figure 1. Functional Structure of the UKED Fully Listed Database

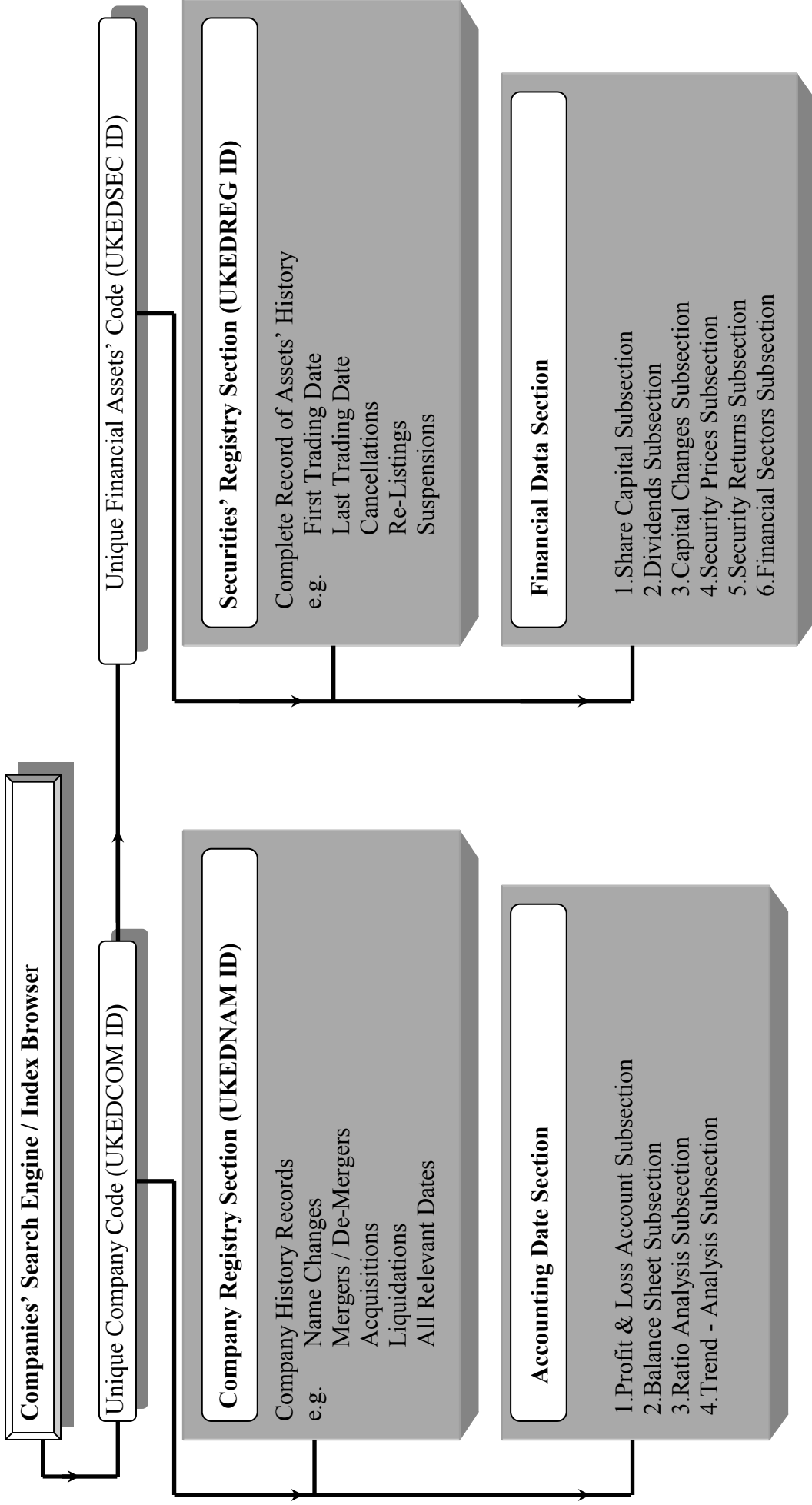


Table 1. Contents of Data Files Included in UKED Dataset

The universe of stocks comprises all UK stocks (excluding investment trusts) that have been fully listed at any time during June 30 1987 to April 5 2002 .		
File Name	Period Covered	Content
Securities Registry	April 6 1982 to April 5 2002	Extensive, detailed and complete records of securities' histories: birth/death details, capital changes and listing details.
Securities Registry Codes		Definitions and explanations of the Event Codes used in the Securities Registry.
Companies Registry	April 6 1982 to April 5 2002	History of company name changes. In each case the full legal name of the company is given.
Companies Registry Codes		Definitions and explanations of the codes used in the Companies Registry.
Monthly Total Returns	May 1982 to March 2002	Monthly total returns written as a decimal number. Returns are computed on the basis of data from the Securities Registry, Monthly Stock Prices and Dividends files.
Monthly Stock Prices	April 1982 to March 2002	End of month stock prices in pence per share.
Dividends	April 6 1982 to April 5 2002	Dividends in pence per share, ex dividend dates, dividend payment dates and type of dividend (interim, final, special). Dividend announcement dates are available for some companies.
Accounts	Latest annual accounts publicly available as at June 30 1987 to latest accounts publicly available as at April 30 2002	Aggregate profit and loss accounts, aggregate balance sheet accounts, final announcement date, balance sheet date and month of AGM. Accounts for non-financial companies are: Sales, Earnings Before Tax, Earnings Per Share (as reported in the accounts), Earnings Per Share according to Financial Reporting Standard 3 (as reported in the accounts), Dividends Per Share (as reported in the accounts), Intangible Fixed Assets, Tangible Fixed Assets, Long-Term Financial Assets, Inventories, Accounts Receivable, Cash and Near-Cash, Shareholders Equity, Long-Term Liabilities, Short-Term Liabilities and Balancing Item. All accounts are in £000,000. Accounts for financial companies are presented in a different format.
Industry Sectors	July 31 1987 to April 30 2002	History of industry sector classifications for each company on a quarterly basis.
Number of Issued Shares	September 30 1987 to September 30 2001	Number of ordinary shares issued as at the end of September each year.
Market Capitalization	September 30 1987 to September 30 2001	Market capitalization of total ordinary issued capital for each company as at the end of September each year.
Market Listing	April 6 1982 to April 5 2002	Market listing for each security as at the end of each month.
Accounting Ratios and Trends files	June 30 1987 to March 31 2002	All standard accounting and market ratios as at the end of each month, computed on the basis of information publicly available before the end of that month.

Table 2. Internal Consistency Examination Datasets

<i>Panel A: UKED (06/04/1982 - 05/04/2002)</i>	
Security Registry Records	15,079
Corresponding Securities	2,946
<i>Corresponding Companies (Includes only fully-listed)</i>	2,801
<i>Panel B: London Share Price Database (01/01/1980 - 31/12/1998)</i>	
Master Index Total Records	15,461
Records before 1st January 1980	6,449
Records between 01/01/1980 - 31/03/1999	9,012
Records after 31st December 1998	110
Total records universe for 01/01/1980 - 31/12/98	8,902
Records Duplication ¹	2
Corresponding Securities	4,791
Securities on Codes 34,37,38 ²	663
New Listed Securities During 01/01/98 - 31/12/98	92
Inconsistencies Between Master Index Death Dates and Source Files Last Recorded Events ³	5
<i>Securities qualifying for Internal Examination (Inc. all Fully-Listed, USM, AIM)</i>	4,031
<i>Panel C: TDS (01/01/1982 - 30/05/2006)</i>	
Total Number of Records (Includes all active and dead stocks files)	10.475
<i>Detailed Breakdown of Records</i>	
Duplicate Records	96
Records of Partially, Nil and Fully-Paid; MGST shares, VXX and Other Assets.	258
Records of Warrants	46
Records of Foreign Companies	1,131
Records of Investment Companies	2,666
Records of USM, AIM, Irish	3,324
<i>Companies Qualifying for Internal Examination (Fully Listed Status)</i>	2,954

¹ The two duplicate records in the LSPD's master index file are the *HSBC Holdings Plc \$H10*, with ID 8758 and *Isle of Man Enterprises*, ID 8443.

² These securities are classified as Financial Trusts, Investment Trusts and Unit Trusts.

³ Inconsistencies between the master index records and last trading events are affecting the securities of *Westminster Investment Group* – ID205, *JCEG Ltd*-ID2807, *Kenkast Ltd*-ID 2901, *Levers Optical Co.*-ID3103, *Tan Sad Holdings*-ID5042 and *KL Holdings*- ID2849.

Table 3. LSPD Internal Consistency Results

<i>Panel A - Master Index File Inconsistencies</i>	
Duplicate Records	2
De-Listing Date Error	5
Non-UK Registered Companies ¹	6
Companies with Incorrect SEDOL Group Classification ²	10
<i>Panel B - EPS Records Inconsistencies</i>	
Examined Universe	4,031
Securities De-Listed during 1980	83
Securities with lifespan of n<12 months	43
Remaining Sample Examined	3,905
Companies without earnings observations	622
% of sample	15.93%
Companies with at least one EPS observation missing	3,231
% of sample	82.74%
<i>Panel C - DPS Records Inconsistencies</i>	
Examined Universe	4,031
Companies with DPS Observations Recorded	3,490
Companies without any DPS Observation	541
A. No Dividends Paid (inc. Inv. Trusts & other Assets e.g. C' A' DFRD, etc.)	525
B. Overseas Companies ^(see. note 1)	6
C. Missing Dividends for UK Registered Companies	10
% of Companies with DPS Bias	0.15%
<i>Panel D - Stock Prices Records Inconsistencies</i>	
Examined Universe	4,031
Companies with no Share Price Observations Recorded	23
% of sample	0.57%
<i>Panel E - Share Capital Records Inconsistencies</i>	
Examined Universe	4,031
Companies with missing Share Capital Observations	87
% of sample	2.16%

¹ The six overseas companies included in LSPD which dividends are omitted as they were denominated in foreign currencies are: *Alstralia and New Zeland Bank-ID6734* (Australia), *Broken Hill Proprietary-ID6736* (Australia), *De Beers Consd Mns Dfd-ID6737* (South Africa), *Highlands & Lowlands BHD-ID6740* (Malaysia), *Jackson Exploration Inc-ID6872* (USA), and, *Chemical Methods Ass-ID7036* (USA).

² Incorrect SEDOL group (SG) classifications are evidenced in the cases of *North Atlantic Smaller Cos-ID6012* (SG5), *Jurys Hotel Group Plc-ID9114* (SG8), *South Crofty Plc-ID6549*(SG9), *IFICO Plc-ID6990*(SG10), *Glencar Mining-ID8475*(SG14), *Erostin Group plc-ID7909*(SG16), *Cabra Estates Plc-ID4446*(SG16), *Ennex International Plc-ID7184*(SG17), *Smith(WH) Group Plc-ID4758*(SG19), and, *Peters(Michael) Grp-ID7107*(SG20).

Table 4. TDS Internal Inconsistency Results

Date Range	01/01/1982-31/05/2006
Population of Securities/Assets	10,475
Foreign Securities	1,131
Records of Stock Prices, Returns and DPS	915
<i>Survivorship Bias (%)</i>	<i>19.09</i>
Investment Companies	2,666
Records of Stock Prices, Returns and DPS	2,571
<i>Survivorship Bias (%)</i>	<i>3.56</i>
AIM, USM, Irish, Other Types of Assets	3,628
Records of Stock Prices, Returns and DPS	3,196
<i>Survivorship Bias (%)</i>	<i>11.90</i>
Records of Fully-Listed Securities.	2,954
Records of Stock Prices, Returns and DPS	2,897
<i>Survivorship Bias (%)</i>	<i>1.92</i>
Total UP, RI and DPS Records of Assets	9,579
Percentage from Entire Universe (%)	8.55

Table 5. LSPD/TDS/UKEQ Databases Cross Examination

DATE RANGE	LSPD	UKEQ	TDS
	01/01/1982-31/05/1999	05/04/1982-04/04/2004	01/01/1982-30/05/2006
POPULATION OF RECORDS/SECURITIES			
FOREIGN SECURITIES	4,840	2,946	10,475
INVESTMENT COMPANIES	0	0	1,131
AIM, USM, IRISH, OTHER ASSETS	683	0	2,666
DUPLICATE RECORDS	1,359	0	3,628 ¹
	0	0	96 ²
RECORDS OF FULLY LISTED STOCKS	2,798	2,946	2,954
SECURITIES < 01/01/1982	5	0	2
SECURITIES > 31/12/1998	7	170	173
INCOMPATIBILITY BETWEEN TDS REGISTRY & RI RECORDS	0	0	52 ³
SECURITIES QUALIFYING FOR EXAMINATION	2,786	2,776	2,727
SURVIVORSHIP BIAS			
MISSING FROM LSPD	0	15	15
MISSING FROM TDS	107	107	0
MISSING FROM UKEQ	1	0	1
MISSING FROM LSPD AND TDS	0	13	0
MISSING FROM UKEQ AND TDS	4	0	0
MISSING FROM LSPD AND UKEQ	0	0	45
SECURITIES AFTER SURVIVORSHIP BIAS IS ELIMINATED	2,674	2,641	2,666
MERGED RECORDS	36	3	28
CROSS-EXAMINATION SAMPLE OF STOCKS	2,638	2,638	2,638

Notes:

- Under the heading "AIM, USM, IRISH & OTHER ASSETS" the authors include all assets denominated as Partially Paid, Nil Paid, Fully Paid, VXX, TDS Test Records and Warrants.
- After careful examination in TDS there are one hundred three cases where the same securities appear twice under different mnemonics.
- After cross-matching TDS' mnemonic file with the relevant RI records, for one hundred and forty three securities which are recorded in the Mnemonic registry file the RI records are missing. The majority of these cases affect securities that are no longer listed in the UK market, and accounts for approximately five percent of the universe of the fully listed securities (4.69%).

Figure 2. CAHPR for LSPD, TDS and UKED (1982-1999)

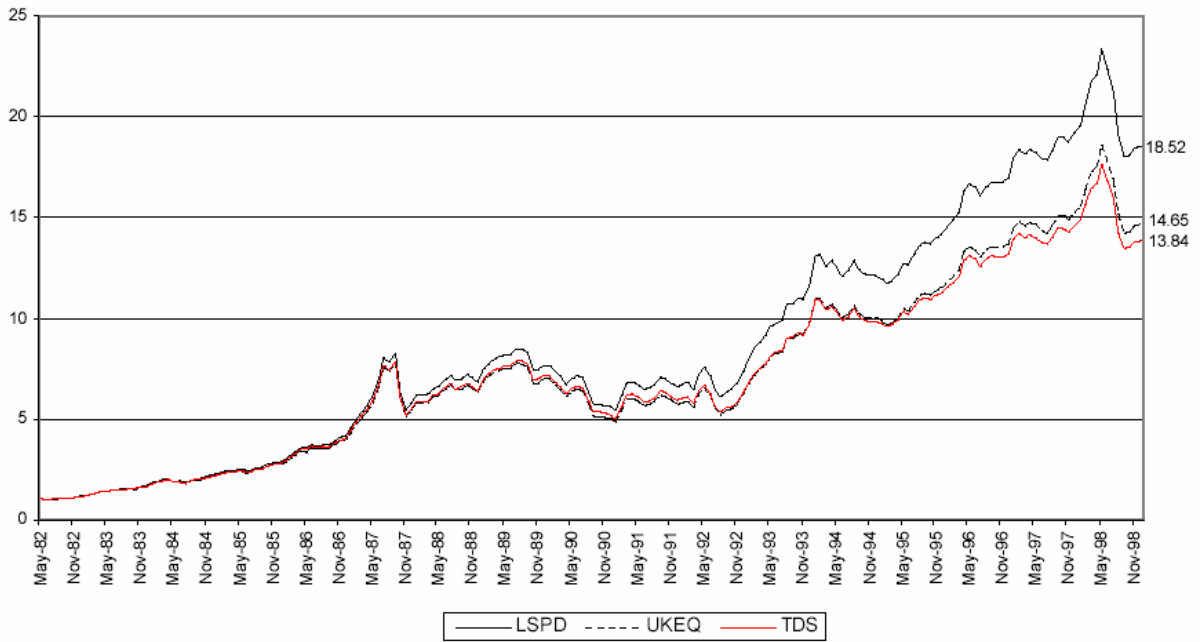


Table 6. Cross-Correlations Between LSPD, TDS and UKED (1982 – 1999)

	CAHPR_{LSPD}	ρ CAHPR_{TDS}	CAHPR_{UKED}
CAHPR_{LSPD}	1.000	0.996**	0.998**
<i>Sig</i>	.	0.000	0.000
$\sum(x-\bar{x})^2$	6393.622	4756.086	5022.511
$COV_{x,y}$	32.129	23.900	25.239
CAHPR_{TDS}	0.996**	1.000	0.999**
<i>Sig</i>	0.000	.	0.000
$\sum(x-\bar{x})^2$	4756.086	3566.820	3754.353
$COV_{x,y}$	23.900	17.924	18.866
CAHPR_{UKED}	0.998**	0.999**	1.000
<i>Sig</i>	0.000	0.000	.
$\sum(x-\bar{x})^2$	5022.511	3754.353	3957.924
$COV_{x,y}$	25.239	18.866	19.889
<i>N</i>	200	200	200
μ	8.414	7.146	7.224
σ	5.668	4.234	4.459

** Correlation is significant at 0.01 level (2-tailed).

Table 7. CAHPR'S for LSPD, TDS, and UKED

PANEL A		PANEL B			
INDIVIDUAL SECURITIES' CROSS-EXAMINATION		CAHPR DIFFERENCES <i>t</i>-statistic			
N	2,638	2,638	2,638	2,638	2,638
NON-VALUELESS SECURITIES	2,486	94.24%			
CAHPR INDIFFERENCE	2,256	90.75%			
TDS=UKEQ / LSPD <>	50	2.01%			
LSPD=UKEQ / TDS <>	115	4.63%			
TDS & LSPD <> UKEQ	26	1.05%			
TDS <> LSPD <> UKEQ	39	1.57%			
VALUELESS SECURITIES	152	5.76%			
CAHPR INDIFFERENCE	3	1.97%			
TDS=UKEQ / LSPD <>	18	11.84%			
TDS & LSPD <> UKEQ	131	86.18%			

	TDS-UKED	LSPD-UKED	LSPD-TDS
N	2638	2638	2638
μ	0.4944	0.8307	0.3363
St.Error	0.1005	0.0878	0.0946
σ	5.161	4.511	4.857
<i>t</i> -value	4.921	9.459	3.556
Sig	0.000**	0.000**	0.000**
μ -Dif.	0.494	0.831	0.336
% Lower	0.297	0.658	0.151
% Upper	0.691	1.003	0.522

** Correlation is significant at 0.01 level (2-tailed).

Table 8. LSPD Coding System of Capital Changes

LSPD Code	Type of capital change
1	Scrip issue
2	Scrip issue in another share
3	Scrip issue then consolidation
4	Consolidation then scrip issue
5	Scrip issue then subdivision
6	Subdivision then scrip issue
7	Scrip issue in another ord then consolidation
8	Scrip issue in antoehr ord then subdivision
9	Complex scrip issue
10	Consolidation
11	Subdivision
12	Capital repayment
13	Cancel part of nominal value
14	Rights issue
15	Complex rights issue
16	Righs in anotehr share
17	Multiple rights issue
18	Spare
19	Spinoff (rights in another company)
20	Spinoff (rights in a foreign company)
21	Demerger
0	Used in this paper in Table 11 to indicate that no code is given in LSPD for a capital event recorded in LSPD

Table 9. Overview of the UKED capital change codes

UKEDcode	Type of capital change
100-118	Script issues and similar (including demergers)
200-214	Rights issues
300-301	Subdivisions
400	Consolidation
500-526	Mergers and acquisitions
600-620	Suspensions, cancellations and changes of listing to other markets
700-709	Capital reductions, redesignations and conversions
800-823	Inland Revenue pronouncements on valueless stocks, winding-ups, liquidations and similar terminal events
900-901	Complex capital changes, typically combinations of scrip issues, rights issue, subdivisions and consolidations
B000, B100s-B800s	Details of first security listings

Table 10. Capital Changes Missing from LSPD

Case A refers to Capital Changes Missing from LSPD while UKED fields are complete

Case B refers to Capital Changes Data Missing from LSPD while only some fraction of them are missing from the UKED fields.

Type of capital event	Case A	Case B
Scrip issue of the same type of shares in the same company	65	0
Scrip issue of the same type of shares in the same company together with a cash payment	32	0
Scrip issue in different equity shares in the same company	3	0
Free distribution of shares in a different company	2	1
Loyalty bonus in privatised former state-owned firms. The loyalty bonus is immaterial for institutional investors.	39	0
Free issue of warrants to subscribe for the same type of shares in the same company	3	1
Free distribution to a company's shareholders of shares in a new company de-merging from the company.	1	1
Free distribution of cash (UKED Code 113, which covers all cash distributions not covered under any other UKED Code).	17	0
Capital repayment	6	0
Liquidation distribution	4	0
Free distribution of one or more shares (UKED Code 117, which covers all share distributions not covered under any other UKED Code).	1	0
Free issue of warrants in another company	1	0
Rights issue of shares of the same type in the same company	58	0
Offer for subscription of shares of the same type in the same company on a maximum entitlement basis	37	0
Offer for subscription of shares of the same type in the same company on a minimum entitlement basis	8	0
Offer for subscription of shares of the same type in the same company on an n for m basis	4	0
Offer for subscription of preference shares in the same company on a maximum entitlement basis	3	4
Offer for subscription of preference shares in the same company on a minimum entitlement basis	0	2
Rights issue or offer for subscription of loan stock in the same company	1	2
Rights issue or offer for subscription of securities not covered under any other UKED Code	5	10
Rights issue together with consolidation and/or subdivision	6	0
Subdivision (UKED Code 300)	5	0
Subdivision (UKED Code 301; effectively a reduction in capital value not affecting the computation of returns).	16	0
Consolidation	9	0
Acquisition by the company that is in effect a capital restructuring of the same company with the same UKED code resulting in a change in the number of shares held and/or the receipt of cash or other securities of substantial material value	27	0
Reduction in capital value (UKED Code 700) or capital change that is in effect a reduction in capital value (UKED Code 701)	44	0
Reduction in nominal value plus a cash payment	2	0
Conversion or re-designation of shares to shares with a different UKED Security Code on a 1 for 1 basis	2	0

Table 10. Capital Changes Missing from LSPD (cont.)

Conversion or redesignation of shares to shares with the same UKED Security Code on a 1 for 1 basis	58	0
Conversion of shares to ordinary shares in the same company on a 1 for 1 basis, where the new ordinary shares do not rank for dividends, scrip issues or any other capital event occurring in the month of conversion	59	0
Conversion of shares to ordinary shares in the same company NOT on a 1 for 1 basis, and where the new ordinary shares do not rank for dividends, scrip issues or any other capital event occurring in the month of conversion	4	0
Shares cancelled under a Scheme, holders receiving cash and/or securities	4	0
Liquidation or winding up, holders receiving cash and/or securities	1	1
Complex capital restructuring	27	0
Total missing from LSPD.	554 (9.80%)	22/22 (0.39%)
Total missing from LSPD that would materially affect computation of returns	336 (5.95%)	

Table 11. Misclassifications of capital changes in LSPD

Ucode/Lcode	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	E
100 (1006)	11	<u>992</u>	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	14
101 (4)	1	3	0	0	0	0	0	0	0	<u>0</u>	0	0	0	0	0	0	0	0	0	0	0	0	4
102 (22)	0	2	<u>20</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
103 (3)	0	2	0	0	0	0	0	0	0	<u>1</u>	0	0	0	0	0	0	0	0	0	0	0	0	2
104 (5)	0	0	<u>5</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106 (39)	1	1	<u>30</u>	0	0	0	0	0	0	1	0	0	0	0	1	0	5	0	0	0	0	0	9
107 (41)	0	0	17	0	0	0	0	0	0	8	0	0	0	0	0	0	1	0	0	<u>3</u>	0	<u>12</u>	26
108 (1)	0	0	0	0	0	0	0	0	0	<u>1</u>	0	0	0	0	0	0	0	0	0	0	0	0	0
110 (7)	0	1	<u>6</u>	0	0	0	0	0	0	<u>1</u>	0	0	0	0	0	0	0	0	0	0	0	0	1
111 (2)	0	0	0	0	0	0	0	0	0	<u>2</u>	0	0	0	0	0	0	0	0	0	0	0	0	0
112 (1)	0	0	0	0	0	0	0	0	0	<u>1</u>	0	0	0	0	0	0	0	0	0	0	0	0	0
114 (2)	0	0	0	0	0	0	0	0	0	0	0	0	<u>2</u>	0	0	0	0	0	0	0	0	0	0
116 (2)	0	0	<u>1</u>	0	0	0	0	0	0	<u>1</u>	0	0	0	0	0	0	0	0	0	0	0	0	0
117 (1)	0	0	0	0	0	0	0	0	0	<u>1</u>	0	0	0	0	0	0	0	0	0	0	0	0	0
118 (1)	0	0	<u>1</u>	0	0	0	0	0	0	<u>1</u>	0	0	0	0	0	0	0	0	0	0	0	0	0
200 (1704)	1	6	0	0	0	0	0	0	0	8	0	0	1	0	<u>1666</u>	0	22	0	0	0	0	0	38
201 (851)	1	17	0	0	0	0	0	0	0	5	0	0	0	6	<u>812</u>	0	10	0	0	0	0	0	39
202 (63)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<u>60</u>	0	3	0	0	0	0	0	3
203 (25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<u>25</u>	0	0	0	0	0	0	0	0
204 (56)	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	<u>52</u>	0	0	0	0	0	4
205 (6)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<u>4</u>	0	0	0	0	0	2
206 (94)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	<u>89</u>	0	0	0	0	0	5
207 (21)	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	<u>19</u>	0	0	0	0	0	2
208 (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<u>2</u>	0	0	0	0	0	0
209 (45)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	<u>43</u>	0	0	0	0	0	2
210 (40)	0	0	0	0	0	0	0	0	0	5	0	0	0	0	9	1	<u>24</u>	0	0	1	0	0	16
211 (11)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	<u>10</u>	0	0	0	0	0	1
212 (139)	0	2	2	0	0	0	0	0	0	18	0	0	0	0	41	0	<u>75</u>	0	0	0	0	0	64
213 (22)	0	0	0	0	0	0	0	0	0	3	0	0	0	0	10	0	<u>9</u>	0	0	0	0	0	13
214 (24)	0	0	0	0	0	0	0	0	0	15	6	1	0	2	0	0	0	0	0	0	0	0	24

Table 11. Misclassifications of capital changes in LSPD (cont.)

Ucode/Lcode	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	E
300 (194)	0	3	0	0	0	0	0	0	0	10	2	<u>179</u>	0	0	0	0	0	0	0	0	0	0	15
301 (76)	0	0	0	0	0	0	0	0	0	<u>2</u>	1	<u>13</u>	0	<u>60</u>	0	0	0	0	0	0	0	0	1
400 (78)	0	0	0	0	0	0	0	0	0	0	<u>71</u>	6	1	0	0	0	0	0	0	0	0	0	7
520 (7)	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
521 (3)	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	3
522 (13)	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	1	13
523 (1)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
700 (48)	0	0	0	0	0	0	0	0	0	1	0	0	1	<u>46</u>	0	0	0	0	0	0	0	0	2
701 (4)	0	0	1	0	0	0	0	0	0	1	0	0	0	<u>2</u>	0	0	0	0	0	0	0	0	2
704 (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
706 (2)	0	0	0	0	0	0	0	0	0	0	0	0	1	<u>1</u>	0	0	0	0	0	0	0	0	1
707 (4)	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4
708 (12)	1	1	1	0	0	0	0	0	0	3	1	2	0	0	1	0	2	0	0	0	0	0	12
709 (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
900 (201)	0	<u>1</u>	0	<u>1</u>	0	0	0	0	0	<u>65/94</u>	<u>2/10</u>	<u>1/4</u>	0	3	<u>10/1</u>	<u>4</u>	5	0	0	0	0	0	<u>115</u>
901 (56)	1	0	<u>1</u>	0	0	0	0	0	0	<u>37/3</u>	4	2	0	1	1	0	<u>1/1</u>	0	0	0	0	<u>4</u>	47
10000 (6)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<u>1/2</u>	0	<u>3</u>	0	0	0	0	0	<u>1</u>
All (4946/4947)																							525 (9.29%)

Table 12. Material omissions and/or errors in the LSPD capital changes data fields.

UKED Code	Number of LSPD capital changes with material omissions and/or errors (excluding the wrongly coded LSPD capital changes of Table 11)
100	36
102	18
103	1
104	5
106	29
107	2
108	1
110	4
111	1
112	1
114	2
116	1
117	1
200	110
201	140
202	12
203	8
204	26
206	80
207	12
209	40
210	13
211	6
212	55
300	47
301	19
400	15
700	46
701	2
704	1
706	1
900	98
901	2
Total	835 (14.77%)

Table 13. Typical Examples of Data Errors and Inconsistent Use of Conventions in Recording Data in LSPD in Complex Capital Changes: Typical Examples for Rights Issues in Loan Stock

COMPANY NAME	DATA	DATA	DATA
ACCOMPANYING NOTES			
Bluebird Toys Plc (UKED)	300 (=£3 of stock)	4 (= for 4 Ord)	300 (= At Par)
£3 of 12% convertible unsecured loan stock for 4 ord at par (UKED)			
Bluebird Toys Plc (LSPD)	30000	4	300
None given (LSPD)			
Plantation & General Investments Plc (UKED)	700	10	700
£7 of 9% convertible loan stock for 10 ord at par (UKED)			
Plantation & General Investments Plc (LSPD)	32764	10	700
None given (LSPD)			
Anglo Group Plc (UKED)	150	1	150
£1.50 of 9.5% convertible bonds 1999 for 1 ord at par (UKED)			
Anglo Group Plc (LSPD)	15000	1	430
None given (LSPD)			
Airtours Plc (UKED)	100000	1904	100000
£1000 of subordinated convertible bonds due 2004 for 1904 ord at par (UKED)			
Airtours Plc (LSPD)	1	1904	0
None given (LSPD)			
Budgens Plc (UKED)	100	5.424	100
£1 of new 5% convertible unsecured loan stock 2003 for 5.424 ord at par (UKED)			
Budgens Plc (LSPD)	100	542	0
None given (LSPD)			
Marylebone Warwick Balfour Group Plc (UKED)	100	5	100
£1 of new 7.5% convertible unsecured loan stock 2002 for 5 ord at par (UKED)			
Marylebone Warwick Balfour Group Plc (LSPD)	10000	1	100
None given (LSPD)			

**Table 14. Major omissions and errors in the LSPD Capital Changes records
(percentage figures given as percentage of the 5652 capital changes recorded
in UKED**

Capital changes omitted from LSPD	576	(10.19%)
Capital changes included in LSPD but where the Type of the capital change is wrongly classified	525	(9.29%)
Capital changes included in LSPD with the correct classification, but with material errors in the data fields	835	(14.77%)
Capital changes included in LSPD that are non-existent, or have been given the incorrect month or year date, or have been assigned to the wrong security	124	(2.19%)
Total	2060	(36.45%)

APPENDIX A

Type of Capital Changes Records extracted from the UKED Security Code File

EVENT CODE	EVENT	EXAMPLE	EVENT DATE	A	B	C	D	E
100.00	Capitalisation issue in shares with the same code.	Capitalisation issue 2 ord 25p for 1 ord 25p, xc 19990909.	19990909	2	1	25	25	0
101.00	Capitalisation issue in shares with the same code plus a cash payment.	Capitalisation issue 3 ord 25p for 2 ord 25p, plus 5p cash for each original ord (not 5p cash for every 2 original ord), xc 19990909.	19990909	3	2	25	25	5
102.00	Capitalisation issue in equity shares of the same company with a different code.	Holders of 'A' (RES VTG) ord 25p receive a capitalisation issue of 1 ord 25p for 10 'A' (RES VTG) ord 25p, xc 19990909. MV 19990924: 'A' (RES VTG) ord 25p, 27p; ord 25p, 27p. Market values appear in columns C and D when available.	19990906	1	10	27	22	0
102.k	Capitalisation issue in equity shares of the same company with a different code, where market values are given in month k after the event month.	Holders of 'A' (RES VTG) ord 25p receive a capitalisation issue of 1 ord 25p for 10 'A' (RES VTG) ord 25p, xc 19990909. MV 19991024: 'A' (RES VTG) ord 25p, 27p; ord 25p, 27p. Market values appear in columns C and D when available.	19990906	1	10	27	22	0
103.00	Free issue of shares with code xxx and free issue of warrants to subscribe for shares with code xxx.	Free issue of 1 ord 25p for 10 ord 25p, xc 19990909. Attached to every 3 new ord 25p were 2 warrants. MV: 19990924: ord 25p, 20p; warrants 5p. (for every 30 original ord holders receive 3 ord and 2 warrants).	19990909	3	30	20	5	2
103.k	Free issue of shares with code xxx and free issue of warrants to subscribe for shares with code xxx, where market values are given in month k after the event month.	Free issue of 1 ord 25p for 10 ord 25p, xc 19990909. Attached to every 3 new ord 25p were 2 warrants. MV: 19991024: ord 25p, 20p; warrants 5p. (for every 30 original ord holders receive 3 ord and 2 warrants).	19990909	3	30	20	5	2
104.00	Capitalisation issue (free issue, or free distribution) in equity shares of a different company.	Holders of every 3 ABC Plc ord 25p receive a free distribution of 2 ord 10p in XYZ Plc, ex entitlement 19990909. MV 19990924: ABC Plc ord 25p, 120p; XYZ Plc ord 10p, 15p. Typically the MV of ABC Plc ord on the MV date is unavailable, reflected by a zero entry in column C. Returns are computed using the market value of ABC Plc ord at the end of the month.	19990909	2	3	120	15	0
104.k	Capitalisation issue (free issue, or free distribution) in equity shares of a different company.	Holders of every 3 ABC Plc ord 25p receive a free distribution of 2 ord 10p in XYZ Plc, ex entitlement 19990909. MV 19991024: ABC Plc ord 25p, 120p; XYZ Plc ord 10p, 15p.	19990909	2	3	120	15	0
105.00	Loyalty bonus. Irrelevant to the computation of returns for institutional investors. Information given in the notes.	Holders of ord 50p who subscribed for ord 50p in the public offer for subscription of 19951212, and held their ord 50p continuously until 19991212 received a capitalisation issue of 1 ord 50p for 10 ord 50p up to a maximum of 100 new shares, effective 19991212. The event is deemed to be immaterial for institutional investors and is ignored in the computation of returns.	19991212	0	0	0	0	0
106.00	Free issue of warrants to subscribe for share xxx to holders of share xxx.	Free issue of 3 warrants to subscribe for ord 25p for 10 ord 25p, ex entitlement 19990909. MV 19990924: warrants 5p; ord 25p xp, 29p.	19990909	3	10	29	5	0
106.k	Free issue of warrants to subscribe for share xxx to holders of share xxx, where market values are given in month k after the event month.	Free issue of 3 warrants to subscribe for ord 25p for 10 ord 25p, ex entitlement 19990909. MV 19991024: warrants 5p; ord 25p xp, 29p.	19990909	3	10	29	5	0
107.00	Demerger of a single company.	Holders of ord 25p of ABC Plc receive a free distribution of ord 10p in XYZ Plc on a basis of 4 XYZ Plc ord 10p for every 3 ABC Plc ord 25p, ex entitlement 19990909. MV 19990924: ABC Plc ord 25p, 200p; XYZ Plc ord 10p, 58p.	19990909	4	3	200	58	0
107.k	Demerger of a single company, where market values are given in month k after the event month.	Holders of ord 25p of ABC Plc receive a free distribution of ord 10p in XYZ Plc on a basis of 4 XYZ Plc ord 10p for every 3 ABC Plc ord 25p, ex entitlement 19990909. MV 19991024: ABC Plc ord 25p, 200p; XYZ Plc ord 10p, 58p.	19990909	4	3	200	58	0
108.00	Demerger. Free distribution of ord in 2 or more companies.	In a demerger effective 19990909 holders of ord of ABC Plc received a free distribution of 2 ord of XYZ Plc for 5 ord and 10 ord of UVW Plc for 5 ord. MV 19990924: ABC Plc ord xp 100p; XYZ Plc ord 10p; UVW Plc ord 20p. Total MV of ord of demerged companies 220p = MV of 2 XYZ Plc ord and 10 UVW Plc ord).	19990909	0	5	100	220	0
108.k	Demerger. Free distribution of ord in 2 or more companies, where market values are given in month k after the event month.	In a demerger effective 19990909 holders of ord of ABC Plc received a free distribution of 2 ord of XYZ Plc for 5 ord and 10 ord of UVW Plc for 5 ord. MV 19991024: ABC Plc ord xp 100p; XYZ Plc ord 10p; UVW Plc ord 20p. Total MV of ord of demerged companies 220p = MV of 2 XYZ Plc ord and	19990909	0	5	100	220	0

109.00	Demerger. Free distribution of ord plus cash and/or other shares.	10 UVW Plc ord).	In a demerger effective 19990909 holders of ord of ABC Plc received, for every 3 ABC Plc ord, a free distribution of 2 ord of XYZ Plc plus cash and other securities with a total market value of 100p. MV 19990924: ABC Plc ord xp 200p; XYZ Plc ord 10p.	19990909	2	3	200	10	100
109.k	Demerger. Free distribution of ord plus cash and/or other shares, where market values are given in month k after the event month.		In a demerger effective 19990909 holders of ord of ABC Plc received, for every 3 ABC Plc ord, a free distribution of 2 ord of XYZ Plc plus cash and other securities with a total market value of 100p. MV 19991024: ABC Plc ord xp 200p; XYZ Plc ord 10p.	19990909	2	3	200	10	100
110.00	Capitalisation issue in pref of the same company.		Capitalisation issue of 3 pref for 2 ord, ex entitlement 19990909. MV 19990924: pref 102p; ord xp 878p.	19990909	3	2	878	102	0
110.k	Capitalisation issue in pref of the same company, where market values are given in month k after the event month.		Capitalisation issue of 3 pref for 2 ord, ex entitlement 19990909. MV 19991024: pref 102p; ord xp 878p.	19990909	3	2	878	102	0
111.00	Free issue of ord and pref in the same company.		Free issue of 3 ord and 1 pref for 10 ord, xc 19990909. MV 19990924: ord xp 40p; pref 20p.	19990909	3	10	40	20	1
111.k	Free issue of ord and pref in the same company, where market values are given in month k after the event month.		Free issue of 3 ord and 1 pref for 10 ord, xc 19990909. MV 19991024: ord xp 40p; pref 20p.	19990909	3	10	40	20	1
112.00	Capitalisation issue of loan stock, bonds, and other fixed interest securities in the same company.		Free issue of 3 pence par value of loan stock for 10 ord, ex entitlement 19990909. MV 19990924: loan stock 3 pence par value has MV 5p; ord xp 29p. Note: Bonds, loan stock etc, always given in pence.	19990909	3	10	29	5	0
112.k	Capitalisation issue of loan stock, bonds, and other fixed interest securities in the same company, where market values are given in month k after the event month.		Free issue of 3 pence par value of loan stock for 10 ord, ex entitlement 19990909. MV 19991024: loan stock 3 pence par value has MV 5p; ord xp 29p. Note: Bonds, loan stock etc, always given in pence.	19990909	3	10	29	5	0
113.00	Free issue of cash.		Free distribution of cash of 5p per 4 shares, ex entitlement 19990909. MV 19990924: ord xp 54p. This code covers all cash distributions not covered under any of the other codes. The figure entered in Column C is for information only and is not used in the returns computation. In some cases this information may be unavailable.	19990909	0	4	54	0	5
114.00	Capital repayment.		Details of the cash distribution are given in the notes column where available.	19990909	0	1	0	0	10
115.00	Liquidation distribution.		Thus, holders of ord received a cash payment of 10p for each ord.	19990909	0	1	0	0	20
116.00	Free issue of one or more shares in the same company, not treated under any other code.		Sixth liquidation distribution of 20p cash p.s., 19990909.	19990909	0	20	100	520	0
116.k	Free issue of one or more shares in the same company, not treated under any other code, where market values are given in month k after the event month.		Free issue of various shares in ABC Plc to holders of ord 25p in ABC Plc. Holders of ord 25p of ABC Plc receive a free distribution of 2 non vlg 'A' ord 20p of ABC Plc and 3 conv pref £1 of ABC Plc for every 20 ord 25p of ABC Plc held, ex entitlement 19990909. MV 19990924: ABC Plc ord 25p, 100p; ABC Plc non vlg ord 20p, 80p; ABC Plc pref 120p. The total MV of shares received is 520p (2 non vlg ord plus 3 pref).	19990909	0	20	100	520	0
117.00	Free issue of one or more shares, not treated under any other code.		Free issue of various shares in ABC Plc to holders of ord 25p in ABC Plc. Holders of ord 25p of ABC Plc receive a free distribution of 2 non vlg 'A' ord 20p of ABC Plc and 3 conv pref £1 of ABC Plc for every 20 ord 25p of ABC Plc held, ex entitlement 19990909. MV 19991024: ABC Plc ord 25p, 100p; ABC Plc non vlg ord 20p, 80p; ABC Plc pref 120p. The total MV of shares received is 520p (2 non vlg ord plus 3 pref).	19990909	0	20	100	471	0
117.k	Free issue of one or more shares, not treated under any other code, where market values are given in month k after the event month.		Free issue of various shares in XYZ Plc to holders of ord 25p in ABC Plc. Holders of ord 25p of ABC Plc receive a free distribution of 100p of convertible loan stock of XYZ Plc and 3 convertible pref £1 of XYZ Plc for every 20 ord 25p ABC Plc held, ex entitlement 19990909. MV 19990924: ABC Plc ord 25p, 100p; XYZ Plc convertible loan stock £110.50%; XYZ Plc pref 120p. The total MV of shares received is 470.5p (100p par value of loan stock with a MV of 110.5p, and 3 pref each with a MV of 120p). Typically the MV of ABC Plc ord is unavailable on the MV date, reflected in a zero entry in column C.	19990909	0	20	100	471	0
118.00	Free issue of warrants to subscribe for share yyy to holders of share xxx.		Free issue of various shares in XYZ Plc to holders of ord 25p in ABC Plc. Holders of ord 25p of ABC Plc receive a free distribution of 100p of convertible loan stock of XYZ Plc and 3 convertible pref £1 of XYZ Plc for every 20 ord 25p ABC Plc held, ex entitlement 19990909. MV 19991024: ABC Plc ord 25p, 100p; XYZ Plc convertible loan stock £110.50%; XYZ Plc pref 120p. The total MV of shares received is 470.5p (100p par value of loan stock with a MV of 110.5p, and 3 pref each with a MV of 120p). Typically the MV of ABC Plc ord is unavailable on the MV date, reflected in a zero entry in column C.	19990909	3	10	29	5	0
118.k	Free issue of warrants to subscribe for share yyy to holders of share xxx.		Free issue of 3 warrants to subscribe for 'A' ord 25p for 10 ord 25p, ex entitlement 19990909. MV 19990924: warrants 5p; ord 25p xp. 29p.	19990909	3	10	29	5	0

	share xxx, where market values are given in month k after the event month.	warrants 5p; ord 25p xp, 29p.							
200.00	Rights issue in shares with the same code.	Rights 2 ord 25p for 3 ord 25p at 28p p.s., xr 19990909.	19990909	2	3	25	25		28
201.00	Offer for subscription in shares with the same code on a maximum entitlement basis	Offer for subscription on a maximum entitlement basis of 2 ord 25p for 3 ord 25p at 28p p.s., ex entitlement 19990909.	19990909	2	3	25	25		28
202.00	Offer for subscription in shares with the same code on a minimum entitlement basis	Offer for subscription on a minimum entitlement basis of 2 ord 25p for 3 ord 25p at 28p p.s., ex entitlement 19990909.	19990909	2	3	25	25		28
203.00	Offer for subscription in shares with the same code on a m for n basis.	Offer for subscription of 2 ord 25p for 3 ord 25p at 28p p.s., ex entitlement 19990909.	19990909	2	3	25	25		28
204.00	Offer for subscription or rights issue for pref in the same company on maximum entitlement basis.	Offer for subscription on a maximum entitlement basis of 4 convertible redeemable pref of 100p for 5 ord 25p at 102p p.s., ex entitlement 19990909. MV 19990924: pref 105p; ord 25p xp 37p.	19990909	4	5	37	105		102
204.k	Offer for subscription or rights issue for pref in the same company on maximum entitlement basis, where market values are given in month k after the event month.	Offer for subscription on a maximum entitlement basis of 4 convertible redeemable pref of 100p for 5 ord 25p at 102p p.s., ex entitlement 19990909. MV 19991024: pref 105p; ord 25p xp 37p.	19990909	4	5	37	105		102
205.00	Offer for subscription or rights issue for pref in the same company on minimum entitlement basis.	Offer for subscription on a minimum entitlement basis of 4 convertible redeemable pref of 100p for 5 ord 25p at 102p p.s., ex entitlement 19990909. MV 19990924: pref 105p; ord 25p xp 37p.	19990909	4	5	37	105		102
205.k	Offer for subscription or rights issue for pref in the same company on minimum entitlement basis, where market values are given in month k after the event month.	Offer for subscription on a minimum entitlement basis of 4 convertible redeemable pref of 100p for 5 ord 25p at 102p p.s., ex entitlement 19990909. MV 19991024: pref 105p; ord 25p xp 37p.	19990909	4	5	37	105		102
206.00	Offer for subscription or rights issue for pref in the same company on an n for m basis.	Offer for subscription of 4 convertible redeemable pref of 100p for 5 ord 25p at 102p p.s., ex entitlement 19990909. MV 19990924: pref 105p; ord 25p xp 37p.	19990909	4	5	37	105		102
206.k	Offer for subscription or rights issue for pref in the same company on an n for m basis, where market values are given in month k after the event month.	Offer for subscription of 4 convertible redeemable pref of 100p for 5 ord 25p at 102p p.s., ex entitlement 19990909. MV 19991024: pref 105p; ord 25p xp 37p.	19990909	4	5	37	105		102
207.00	Offer for subscription or rights issue for loan stock (loan notes, bonds, or similar) on a maximum entitlement basis. Loan stock always given in pence.	Offer for subscription on a maximum entitlement basis of 500p of loan stock for 3 ord at par, ex entitlement 19990909. MV 19990924: loan stock 550p; ord xp 60p.	19990909	500	3	60	550		500
207.k	Offer for subscription or rights issue for loan stock (loan notes, bonds, or similar) on a maximum entitlement basis, where market values are given in month k after the event month. Loan stock always given in pence.	Offer for subscription on a maximum entitlement basis of 500p of loan stock for 3 ord at par, ex entitlement 19990909. MV 19991024: loan stock 550p; ord xp 60p.	19990909	500	3	60	550		500
208.00	Offer for subscription or rights issue for loan stock (loan notes, bonds, or similar) on a minimum entitlement basis. Loan stock always given in pence.	Offer for subscription on a minimum entitlement basis of 500p of loan stock for 3 ord at par, ex entitlement 19990909. MV 19990924: loan stock 550p; ord xp 60p.	19990909	500	3	60	550		500
208.k	Offer for subscription or rights issue for loan stock (loan notes, bonds, or similar) on a minimum entitlement basis, where market values are given in month k after the event month. Loan stock always given in pence.	Offer for subscription on a minimum entitlement basis of 500p of loan stock for 3 ord at par, ex entitlement 19990909. MV 19991024: loan stock 550p; ord xp 60p.	19990909	500	3	60	550		500
209.00	Offer for subscription or rights issue for loan stock (loan notes, bonds, or similar) on a basis of xxx pence par value of loan stock for n ord at yyy pence. Loan stock always given in pence.	Offer for subscription of 500p of loan stock for 3 ord at par, ex entitlement 19990909. MV 19990924: loan stock 550p; ord xp 60p.	19990909	500	3	60	550		500
209.k	Offer for subscription or rights issue for loan stock (loan notes, bonds, or similar) on a basis of xxx pence par value of loan stock for n ord at yyy pence, where market values are given in month k after the event month. Loan stock always given in pence.	Offer for subscription of 500p of loan stock for 3 ord at par, ex entitlement 19990909. MV 19991024: loan stock 550p; ord xp 60p.	19990909	500	3	60	550		500
210.00	Offer for subscription or rights issue on a maximum entitlement basis for unusual shares not covered under any other code, or for units comprising various shares.	Offer for subscription on a maximum entitlement basis of 4 units (comprising various shares) for 5 ord at 150p per unit, ex entitlement 19990909. MV 19990924: unit 188p; ord xp 40p.	19990909	4	5	40	188		150

210.k	Offer for subscription or rights issue on a maximum entitlement basis for 4 units (comprising various shares) for 5 ord at 150p per unit, ex entitlement 19990909. MV 19991024: unit 188p; ord xp 40p.	Offer for subscription on a maximum entitlement basis of 4 units (comprising various shares) for 5 ord at 150p per unit, ex entitlement 19990909. MV 19991024: unit 188p; ord xp 40p.	19990909	4	5	40	188	150
211.00	Offer for subscription or rights issue on a minimum entitlement basis for 4 units (comprising various shares) for 5 ord at 150p per unit, ex entitlement 19990909. MV 19990924: unit 188p; ord xp 40p.	Offer for subscription on a minimum entitlement basis of 4 units (comprising various shares) for 5 ord at 150p per unit, ex entitlement 19990909. MV 19990924: unit 188p; ord xp 40p.	19990909	4	5	40	188	150
211.k	Offer for subscription or rights issue on a minimum entitlement basis for 4 units (comprising various shares) for 5 ord at 150p per unit, ex entitlement 19990909. MV 19991024: unit 188p; ord xp 40p.	Offer for subscription on a minimum entitlement basis of 4 units (comprising various shares) for 5 ord at 150p per unit, ex entitlement 19990909. MV 19991024: unit 188p; ord xp 40p.	19990909	4	5	40	188	150
212.00	Offer for subscription or rights issue for unusual shares not covered under any other code, or for units comprising various shares, on an n for m basis.	Offer for subscription of 4 units (comprising various shares) for 5 ord at 150p per unit, ex entitlement 19990909. MV 19990924: unit 188p; ord xp 40p.	19990909	4	5	40	188	150
212.k	Offer for subscription or rights issue for unusual shares not covered under any other code, or for units comprising various shares, on an n for m basis, where market values are given in month k after the event month.	Offer for subscription of 4 units (comprising various shares) for 5 ord at 150p per unit, ex entitlement 19990909. MV 19991024: unit 188p; ord xp 40p.	19990909	4	5	40	188	150
213.00	Rights issue or offer for subscription in month M to holders of X shares in company ABC for Y shares in company ABC, followed by a combination of events in month N such that holders now hold Y shares only. Information for calculating returns in month M given in terms of equivalent X shares.	Rights issue in month M of 1 ord 100p for 25 ord 10p at 200p p.s., xr 19990909. In month N consolidation of every 10 ord 10p to 1 ord 100p, 19991020. This is equivalent to a rights issue of 10 ord 10p for 25 ord 10p at 20p p.s. In month M, 19990909 the event is recorded in terms of equivalent ord 10p.	19990909	10	25	10	10	20
214.00	Rights issue or offer for subscription in month M to holders of X shares in company ABC for Y shares in company ABC, followed by a combination of events in month N such that holders now hold Y shares only. Information for calculating returns in month M given in terms of equivalent X shares.	Rights issue in month M of 1 ord 100p for 25 ord 10p at 200p p.s., xr 19990909. In month N consolidation of every 10 ord 10p to 1 ord 100p, 19991020. This is equivalent to a rights issue of 10 ord 10p for 25 ord 10p at 20p p.s. In month M, 19990909 the event is recorded in terms of equivalent ord 10p.	19991020	1	10	10	100	0
300.00	Subdivision.	Subdivision of 1 ord 10p to 5 ord 2p, 19990909.	19990909	5	1	10	2	0
301.00	Subdivision where ord are subdivided to ord plus shares which are effectively valueless and subsequently cancelled. In most cases this is effectively a reduction in nominal value of ord.	Subdivision of each ord 25p to 1 ord 10p and 3 unlisted deferred 5p, 19990909. The deferred 5p are effectively valueless.	19990909	1	1	25	10	15
400.00	Consolidation.	Consolidation of every 2 ord 5p to 1 ord 10p, 19990909.	19990909	1	2	5	10	0
500.00	Acquisition. Basic offer cash.	ABC Plc ord acquired in 19990900 by XYZ Plc for 100p cash p.s. The day of the acquisition is typically not known and is recorded as day 00.	19990900	0	1	0	0	100
501.00	Acquisition. The cash alternative presented rather than the basic offer. Information coded as in 500, except that information on the basic offer is recorded in the notes column.	ABC Plc ord acquired in 19990909 by XYZ Plc for 100p cash p.s.	19990900	0	1	0	0	100
502.00	Scheme of arrangement. Basic offer cash.	Under a scheme effective 19990909 ABC Plc ord were acquired by XYZ Plc for 100p cash p.s.	19990909	0	1	0	0	100
503.00	Acquisition where the date of the unconditional offer is given, and where information given shows acceptances greater than 50%. Cash offer. The event date is given as the date where the offer became unconditional. Otherwise coded as for 500.	Offer of 100p cash p.s. for ABC Plc ord declared unconditional 19990909 by XYZ Plc.	19990909	0	1	0	0	100
504.00	Acquisition where the date of the unconditional offer is NOT given, and where information given shows acceptances greater than 50%. Cash offer. The event date is given as the date when the offer was closed.	Offer of 100p cash p.s. for ABC Plc ord by XYZ Plc, closed 19990909.	19990909	0	1	0	0	100
505.00	Acquisition where neither the date of the unconditional offer nor	Offer of 100p cash p.s. for ABC Plc ord by XYZ Plc 19990900. Typically the day of the offer is not available,	19990900	0	1	0	0	100

	the date when the offer was closed is given, and where information given shows acceptances greater than 50%. Cash offer. The event date is given as the date of the offer.	and the day is recorded as day 00.							
506.s	Acquisition. Basic offer ord shares of acquirer. MV available in the sth month after the month of acquisition.	ABC Plc ord acquired by XYZ Plc in 19990900 on a 20 for 13 basis. MV 19990924: XYZ Plc ord 289p.	19990900	20	13	0	289	0	0
507.s	Scheme of arrangement. Basic offer ord shares of acquirer. MV available in the sth month after the month of acquisition.	Under a scheme effective 19990909 holders of ABC Plc ord received in exchange for their holdings ord of XYZ Plc on a 20 for 13 basis. MV 19990924: XYZ Plc ord 289p.	19990909	20	13	0	289	0	0
508.s	Acquisition. Basic offer ord shares of acquirer plus cash.	ABC Plc acquired by XYZ Plc in 19990900 on a basis of 20 ord plus £5 cash for every 13 ord. MV 19990924: XYZ Plc ord 289p.	19990900	20	13	0	289	0	500
509.s	Scheme of arrangement. Basic offer ord shares of acquirer plus cash.	Under a scheme effective 19990909 holders of ABC Plc ord received in exchange for every 13 ord 20 ord of XYZ Plc plus £5 cash. MV 19990924: XYZ Plc ord 289p.	19990909	20	13	0	289	0	500
510.s	Acquisition where the date of the unconditional offer is given, and where information given shows acceptances greater than 50%. Basic offer ord of acquirer. Event date is date where offer becomes unconditional. MV available in the sth month after the month of acquisition.	Offer of 20 XYZ Plc ord for 13 ABC Plc ord declared unconditional 19990909. MV 19990924: XYZ Plc ord 289p.	19990909	20	13	0	289	0	0
511.s	Acquisition where the date of the unconditional offer is given, and where information given shows acceptances greater than 50%. Basic offer cash plus ord of acquirer. Event date is date where offer becomes unconditional. MV available in the sth month after the month of acquisition.	Offer of 20 XYZ Plc ord plus £5 cash for 13 ABC Plc ord declared unconditional 19990909. MV 19990924: XYZ Plc ord 289p.	19990909	20	13	0	289	0	500
512.s	Acquisition. Basic offer ordinary shares of a third company.	ABC Plc ord acquired by XYZ Plc ord 19990900. Basic offer 20 XYZ (Holdings) Plc ord per 13 ABC Plc ord. MV 19990924: XYZ (Holdings) Plc ord 289p.	19990900	20	13	0	289	0	0
513.s	Acquisition. Basic offer preference shares of acquirer.	ABC Plc acquired by XYZ Plc on a basis of 17 XYZ Plc pref per 8 ord, 19990900. MV 19990924: XYZ Plc pref 57p.	19990900	17	8	0	57	0	0
514.s	Acquisition. Basic offer preference shares of acquirer plus cash.	ABC Plc acquired by XYZ Plc on a basis of 17 XYZ Plc pref plus 500p cash per 8 ord, 19990900. MV 19990924: XYZ Plc pref 57p.	19990900	17	8	0	57	0	500
515.s	Acquisition. Basic offer ordinary shares and preference shares of acquirer.	ABC Plc acquired by XYZ Plc on a basis of 3 XYZ Plc ord and 7 XYZ Plc pref per 2 ABC Plc ord, 19990900. MV 19990924: XYZ Plc ord 50p; XYZ Plc pref 60p.	19990900	3	7	2	50	0	60
516.s	Acquisition. Basic offer loan stock of acquirer.	ABC Plc acquired by XYZ Plc on a basis of 300p of XYZ Plc loan stock per 2 ord, 19990900. MV 19990924: XYZ Plc loan stock £110%.	19990900	300	2	0	330	0	0
517.s	Acquisition. Basic offer ordinary shares and loan stock or bonds of acquirer.	ABC Plc acquired by XYZ Plc on a basis of 3 XYZ Plc ord and 700p of XYZ Plc loan stock per 2 ABC Plc ord, 19990900. MV 19990924: XYZ Plc loan stock £110%; XYZ Plc ord 50p.	19990900	3	700	2	50	0	770
518.00	Acquisition. Cash plus loan stock (or bonds) of acquirer.	ABC Plc acquired by XYZ Plc on a basis of 200p of XYZ Plc loan stock plus 10p cash per 5 ord, 19990900. MV 19990924: XYZ Plc loan stock 220p.	19990900	200	5	0	220	0	10
519.00	Scheme of arrangement. Cash plus loan stock (or bonds) of acquirer.	Under a scheme effective 19990909 holders of ABC Plc ord received in exchange for their holdings of 200p of XYZ Plc loan stock plus 10p cash per 5 ord. MV 19990924: XYZ Plc loan stock 220p.	19990909	200	5	0	220	0	10
520.s	Under a scheme where holders receive ord in exchange for their holdings on an n for m basis, and where the new shares have the same code as original ord. Market value of new shares may be given in column D. However, this information is not required for the computation of monthly returns.	Under a scheme effective 19990909 holders of ord of ABC Plc (old Co.) receive in exchange for their holdings ord of ABC Plc (new Co.) on a 3 for 2 basis. MV 19990924: ABC Plc (new Co.) 100p. The figure in column D is typically not available and is given for information only. This figure is not used in the computation of monthly returns.	19990909	3	2	0	100	0	0
521.s	Acquisition where holders receive ord in acquirer on an n for m basis, and where acquirer's ord have the same code as original ord. Market value of acquirer's ord may be given in column D. However, this information is not required for the computation of monthly returns.	Acquisition 19990900 of ord of ABC Plc (old Co.) by ABC Plc (new Co.) on a 3 for 2 basis. MV 19990924: ABC Plc (new Co.) 100p. The figure in column D is typically not available and is given for information only. This figure is not used in the computation of monthly returns.	19990909	3	2	0	100	0	0
522.s	Under a scheme of arrangement where holders receive ord in	Holders of every 9 ord in ABC Plc (old Co.) receive in consideration 8 ord of ABC Plc (new Co.) plus various	19990909	8	9	0	30	0	200

	acquirer, and where acquirer's ord have the same code as original ord. Holders may also receive additional consideration in cash or securities. Market value of acquirer's ord may be given in column D. However, this information is redundant.	other shares worth a total of 200p per 9 original ord (as at the MV date). Scheme effective 19990909. MV 19990924. ABC Plc (new Co.) ord 30p. Other market values required available by this date.						
523.s	Acquisition where holders receive ord in acquirer, and where acquirer's ord have the same code as original ord. Holders may also receive additional consideration in cash or securities. Market value of acquirer's ord may be given in column D. However, this information is redundant.	In an acquisition 19990900 holders of every 9 ord in ABC Plc (old Co.) receive in consideration 8 ord of ABC Plc (new Co.) plus various other shares worth a total of 200p per 9 original ord (as at the MV date). MV 19990924. ABC Plc (new Co.) ord 30p. Other market values required available by this date.	19990900	8	9	0	30	200
524.s	Complex acquisition where consideration may be in the form of more than one kind of share, some of which may be unlisted. Total market value of consideration estimated. See notes for details.	In an acquisition 19990900 holders of ABC Plc ord receive from XYZ Plc various shares with a total market value estimated to be 200p as at 19990924 for every 3 ord.	19990900	0	3	0	0	200
525.s	Complex acquisition under a scheme of arrangement, where consideration may be in the form of more than one kind of share, some of which may be unlisted. Total market value of consideration estimated. See notes for details.	Under a scheme effective 19990909 holders of ABC Plc ord receive from XYZ Plc various shares with a total market value estimated to be 200p as at 19990924 for every 3 ord.	19990909	0	3	0	0	200
526.s	Acquisition where the date of the unconditional offer is given, and where information given shows acceptances greater than 50%. Non-cash offer. Event date is date where offer becomes unconditional. MV of consideration received is recorded in column E where available.	Offer for ABC Plc ord declared unconditional 19990909 by XYZ Plc. Basic offer: cash and/or shares with a total market value of 200p for every 3 ABC Plc ord. MV of consideration available 19990924.	19990909	0	3	0	0	200
600.00	Listing (trading, dealings) temporarily suspended.	Listing (trading, dealings) temporarily suspended 19990909.	19990909	0	0	0	0	0
601.00	Listing (trading, dealings) temporarily suspended and restored on the same day.	Listing (trading, dealings) temporarily suspended and restored on the same day 19990909.	19990909	0	0	0	0	0
602.00	Listing cancelled (or dealings, or trading cancelled).	Listing cancelled (or dealings, or trading cancelled) 19990909.	19990909	0	0	0	0	0
603.00	U.K. dealings cancelled, dealings permitted under Rule 535.2., Rule 4.2(a), or Rule 163(2).	U.K. dealings cancelled, dealings permitted under Rule 535.2., Rule 4.2(a), or Rule 163(2) 19990909.	19990909	0	0	0	0	0
604.00	Listing cancelled and re-introduced or restored on the same day.	Listing cancelled and re-introduced or restored on the same day 19990909.	19990909	0	0	0	0	0
605.00	Listing cancelled and introduced to U.S.M. on same day.	Listing cancelled and introduced to U.S.M. on same day 19990909.	19990909	0	0	0	0	0
606.00	Trading cancelled and introduced to full market on the same day.	Trading cancelled and introduced to full market on the same day 19990909.	19990909	0	0	0	0	0
607.00	Trading cancelled and introduced to A.I.M. on the same day.	Trading cancelled and introduced to A.I.M. on the same day 19990909.	19990909	0	0	0	0	0
608.00	Trading cancelled and introduced to full market (Irish) on the same day.	Trading cancelled and introduced to full market (Irish) on the same day 19990909.	19990909	0	0	0	0	0
609.00	Trading cancelled and introduced to third market on the same day.	Trading cancelled and introduced to third market on the same day 19990909.	19990909	0	0	0	0	0
610.00	Listing restored (dealings restored, trading restored, reintroduced) following temporary suspension.	Listing restored (dealings restored, trading restored, reintroduced) following temporary suspension 19990909.	19990909	0	0	0	0	0
611.00	Re-introduced following cancellation.	Re-introduced following cancellation 19990909.	19990909	0	0	0	0	0
612.00	Introduced to full market (London).	Introduced to full market (London) 19990909.	19990909	0	0	0	0	0
613.00	Introduced to U.S.M. (London).	Introduced to U.S.M. (London) 19990909.	19990909	0	0	0	0	0
614.00	Introduced to A.I.M.	Introduced to A.I.M. 19990909.	19990909	0	0	0	0	0
615.00	Introduced to Stock Exchange Third Market.	Introduced to Stock Exchange Third Market 19990909.	19990909	0	0	0	0	0
616.00	Introduced to full market (Irish).	Introduced to full market (Irish) 19990909.	19990909	0	0	0	0	0
617.00	Introduced to U.S.M. (Irish).	Introduced to U.S.M. (Irish) 19990909.	19990909	0	0	0	0	0
618.00	Introduced to the Irish Smaller Companies Market.	Introduced to the Irish Smaller Companies Market 19990909.	19990909	0	0	0	0	0
619.00	Introduced to, listed on, or transfer of dealings to Exploration	Introduced to, listed on, or transfer of dealings to Exploration Securities Market (Irish) 19990909.	19990909	0	0	0	0	0

620.00	Securities Market (Irish).	Introduced to Third Market (Irish) 19990909.	19990909							
700.00	Capital reduction or reduction in nominal value of ord.	10p of each ord 25p was cancelled, reducing nominal value to 15p. 19990909.	19990909	1	1	25	15			0
701.00	Effectively a capital reduction, but arising as a result of a more complex capital reorganisation. Same format as code 700.	Event date 19990909. Details given in the notes column. Same format as in code 700.	19990909	1	1	25	15			0
702.00	Reduction in nominal value, and a cash payment.	Nominal value of ord reduced from 32.5p to 25p. 19990909. Repayment of 300p.	19990909	1	1	325	25			300
703.00	Redenomination from Irish Pence to Euro.	ABC Plc ord IR2.5p redenominated as Euro 0.32. 19990909.	19990909	1	1	25	0			0
704.00	Redenomination from British Pence to HK\$.	ABC Plc ord 100p redenominated as HK\$10.00. 19990909.	19990909	1	1	25	0			0
705.00	Redenomination, or redenomination from British Pence to \$US.	ABC Plc ord 25p redenominated as US\$0.25. 19990909.	19990909	1	1	25	0			0
706.00	Redesignation, or conversion of shares to shares with a different code. Details as given in the notes.	Conversion of non vig ord 10p to ord 10p on a 1 for 1 basis, 19990909.	19990909	1	1	0	0			SFD0000XXX-01
707.00	Conversion of every N shares to M shares, where the new shares have the same code as the original shares.	Holders of ord each 10p receive a special dividend that was used to subscribe for 1 'A' ord 0.1p. Ord and 'A' ord were then twinned to form a unit. Ord and 'A' ord can only be transferred together and are represented by a single share certificate.	19990909	1	1	0	0			0
708.00	Conversion of shares to ord on an N for M basis (where ord have a different code from the original shares). New ord not ranking for scrip issues, rights issues, or any other capital change affecting returns on ord in month of conversion unless stated otherwise.	Conversion of non vig ord 10p to ord 10p on a 1 for 1 basis, 19990909.	19990909	1	1	0	0			SFD0000XXX-01
709.00	Redesignation or conversion of shares to shares with a different code with a net cash receipt. Details as given in the notes.	In effect a conversion of non vig ord 10p to 'A' ord 10p (SFDCODE SFD0000XXX-01) on a 1 for 1 basis, where the holder also receives net cash or securities with a value of 100p. 19990909.	19990909	1	1	0	100			SFD0000XXX-01
800.00	Inland Revenue accept that shares became of negligible value FROM THE DATE in the second date column. The event date gives the fiscal year in which the decision was made. The fiscal year 1992/1993 is written 1992/0000.	Inland Revenue accept that shares became of negligible value FROM THE DATE in the second date column, 19990909. The event date gives the fiscal year in which the decision was made. The fiscal year 1992/1993 is written 1992/0000. In this example it is the fiscal year 1999/2000.	19990000	0	0	0	0			0
801.00	Inland Revenue accept that shares became of negligible value DURING THE FISCAL YEAR in the second date column. The event date gives the fiscal year the decision was made. The fiscal year 1992/1993 is written 1992/0000.	Inland Revenue accept that shares became of negligible value DURING THE FISCAL YEAR in the second date column, 1999/2000. The event date gives the fiscal year the decision was made, 2000/2001. The fiscal year 1992/1993 is written 1992/0000.	20000000	0	0	0	0			0
802.00	Administrative receivers appointed on the event date given.	Administrative receivers appointed 19990909.	19990909	0	0	0	0			0
803.00	Joint administrative receivers appointed on the event date given.	Joint administrative receivers appointed 19990909.	19990909	0	0	0	0			0
804.00	Receivers appointed on the date given in the event column.	Receivers appointed 19990909.	19990909	0	0	0	0			0
805.00	Administrators appointed on event date.	Administrators appointed 19990909.	19990909	0	0	0	0			0
806.00	Joint administrators appointed on date in event column.	Joint administrators appointed 19990909.	19990909	0	0	0	0			0
807.00	Administration order effective from event date.	Administration order effective from 19990909.	19990909	0	0	0	0			0
808.00	Receivers and managers appointed on event date.	Receivers and managers appointed 19990909.	19990909	0	0	0	0			0
809.00	Administrative receivers or similar appointed on event date. Resigned or discharged on or before date in last column.	Administrative receivers or similar appointed 19990909. Resigned or discharged on or before 2000/1024.	19990909	0	0	0	0			0
810.00	Liquidation effective from the date given in the event date column.	Liquidation effective from 19990909.	19990909	0	0	0	0			0
811.00	Liquidators appointed on event date given in the event date column.	Liquidators appointed on 19990909.	19990909	0	0	0	0			0
812.00	Compulsory liquidation effective from date in event date column.	Compulsory liquidation effective from 19990909.	19990909	0	0	0	0			0
813.00	Dissolved. Assumed valueless.	Dissolved 19990909. Assumed valueless.	19990909	0	0	0	0			0
814.00	Joint liquidators appointed on event date.	Joint liquidators appointed 19990909.	19990909	0	0	0	0			0
815.00	Members' voluntary liquidation. Effective from date given in	Members' voluntary liquidation effective from 19990909.	19990909	0	0	0	0			0

	event date column.								
816.00	Creditors' voluntary liquidation. Effective from date given in event column.	Creditors' voluntary liquidation effective from 19990909.	19990909	0	0	0	0	0	0
817.00	Members' voluntary liquidation with consideration received. Effective from date given in event date column. See notes for details.	Members' voluntary liquidation with consideration received. Effective from 19990909.	19990909	0	0	0	0	0	0
818.00	Members' voluntary winding-up effective from date given in event date column.	Members' voluntary winding-up effective 19990909.	19990909	0	0	0	0	0	0
819.00	Compulsory winding-up. Effective from date in event column.	Compulsory winding-up. Effective from 19990909.	19990909	0	0	0	0	0	0
820.00	Winding up effective from date in event column.	Winding up effective from 19990909.	19990909	0	0	0	0	0	0
821.00	Shares cancelled under a scheme, holders receiving cash and/or shares.	ABC Plc ord cancelled under a scheme effective 19990909, holders receiving cash and/or shares valued at 100p as at 19990924 per original ABC Plc ord.	19990909	0	1	0	0	0	100
822.00	Liquidation effective from date in event column, holders receiving cash and/or securities in exchange.	Liquidation of ABC Plc effective from 19990909, holders receiving in exchange cash and/or securities valued at 100p as at 19990924 per original 3 ABC Plc ord.	19990909	0	3	0	0	0	100
823.00	Members' voluntary winding-up effective from date given in event date column. Shares received in consideration. New shares listed on a foreign market.	Voluntary winding-up of ABC Plc effective 19990909. Common of XYZ, Inc. received in consideration on a 2 for 1 basis. MV 19990924: XYZ, Inc. common 32p (sterling equivalent). XYZ, Inc. listed on NYSE.	19990909	2	1	0	32	0	0
900.k	Complex capital change written in the following form.	Complex capital change written in the following form.	19990909	M	N	X	Y		P
900.s	Complex capital change written in the following form.	Complex capital change. At the start investors hold N ord with a par value of X pence and P pence cash. At the end investors hold M ord with a par value of Y pence. The X pence ord have the same code as the Y pence ord. The MV date 19990924 is the date at which the cash value of securities required to compute P is known.	19990909	M	N	X	Y		P
901.s	Complex capital change written in the following form.	Complex capital change. At the start investors hold N ord with a par value of X pence. At the end investors hold M ord with a par value of Y pence and P pence cash. The X pence ord have the same code as the Y pence ord. The MV date 19990924 is the date at which the cash value of securities required to compute P is known.	19990909	M	N	X	Y		P
1000	Capital change not covered under any other code and relevant to the computation of returns.			0	0	0	0	0	0
10000	Capital change not covered under any other code. Event ignored in computation of returns as it is deemed to be irrelevant or immaterial.	Immaterial capital change effective 19990909.	19990909	0	0	0	0	0	0
B000	Shares fully listed (London) as at 19820406.	Shares fully listed (London) as at 19820406.	19820406	0	0	0	0	0	0
B001	Shares listed on Third Market (London) as at 19820406.	Shares listed on Third Market (London) as at 19820406.	19820406	0	0	0	0	0	0
B002	Shares listed on U.S.M. (London) as at 19820406.	Shares listed on U.S.M. (London) as at 19820406.	19820406	0	0	0	0	0	0
B003	Shares listed on fully listed market (Irish) as at 19820406.	Shares listed on fully listed market (Irish) as at 19820406.	19820406	0	0	0	0	0	0
B004	Shares listed on U.S.M. (Irish) as at 19820406.	Shares listed on U.S.M. (Irish) as at 19820406.	19820406	0	0	0	0	0	0
B005	Company under administration, or similar, before 19820406 but shares not yet cancelled. No prices available.	Company under administration, or similar, before 19820406 but shares not yet cancelled. No prices available.	19820406	0	0	0	0	0	0
B100	Placing of shares on fully listed market (London).	Placing of ord 10p at 20p p.s. 19990909.	19990909	1	0	10	0	0	20
B101	Placing of shares on Third Market (London).	Placing of ord 10p on Third Market at 20p p.s. 19990909.	19990909	1	0	10	0	0	20
B102	Placing of shares on U.S.M. (London).	Placing of ord 10p on U.S.M. at 20p p.s. 19990909.	19990909	1	0	10	0	0	20
B103	Placing of shares on A.I.M. (London).	Placing of ord on A.I.M. 10p at 20p p.s. 19990909.	19990909	1	0	10	0	0	20
B104	Placing of shares on fully listed market (Irish).	Placing of ord IR10p on Irish market at 20p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	0	20
B105	Placing of shares on Third Market (Irish).	Placing of ord IR10p on Third Market (Irish) at 20p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	0	20
B106	Placing of shares on U.S.M. (Irish).	Placing of ord IR10p on U.S.M. (Irish) at 20p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	0	20
B200	Offer for sale of shares on fully listed market (London).	Offer for sale of ord 10p on fully listed market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	0	100
B201	Offer for sale of shares on Third Market (London).	Offer for sale of ord 10p on Third Market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	0	100
B202	Offer for sale of shares on U.S.M. (London).	Offer for sale of ord 10p on U.S.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	0	100
B203	Offer for sale of shares on A.I.M. (London).	Offer for sale of ord 10p on A.I.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	0	100

B255	Privatisation. Offer for sale of shares on Third Market (Irish).	Privatisation. Offer for sale of ord IR 10p on Third Market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B256	Privatisation. Offer for sale of shares on U.S.M. (Irish).	Privatisation. Offer for sale of ord IR 10p on U.S.M. (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B260	Rights issue or offer for subscription to holders of existing shares, of shares on fully listed market (London).	Rights issue or offer for subscription of ord 10p to holders of existing shares, of shares on fully listed market (London) at 100p p.s. 19990909.	19990909	0	0	0	0	0
B261	Rights issue or offer for subscription to holders of existing shares, of shares on Third Market (London).	Rights issue or offer for subscription of ord 10p to holders of existing shares, of shares on Third Market (London) at 100p p.s. 19990909.	19990909	0	0	0	0	0
B262	Rights issue or offer for subscription to holders of existing shares, of shares on U.S.M. (London).	Rights issue or offer for subscription of ord 10p to holders of existing shares, of shares on U.S.M. (London) at 100p p.s. 19990909.	19990909	0	0	0	0	0
B263	Rights issue or offer for subscription to holders of existing shares, of shares on A.I.M. (London).	Rights issue or offer for subscription of ord 10p to holders of existing shares, of shares on A.I.M. (London) at 100p p.s. 19990909.	19990909	0	0	0	0	0
B264	Rights issue or offer for subscription to holders of existing shares, of shares on fully listed market (Irish).	Rights issue or offer for subscription of ord IR 10p to holders of existing shares, of shares on fully listed market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	0	0	0	0	0
B265	Rights issue or offer for subscription to holders of existing shares, of shares on Third Market (Irish).	Rights issue or offer for subscription of ord IR 10p to holders of existing shares, of shares on Third Market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	0	0	0	0	0
B266	Rights issue or offer for subscription to holders of existing shares, of shares on U.S.M. (Irish).	Rights issue or offer for subscription of ord IR 10p to holders of existing shares, of shares on U.S.M. (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	0	0	0	0	0
B270	Demutualisation. Offer for sale or introduction of shares on fully listed market (London).	Demutualisation. Offer for sale or introduction of ord 10p on fully listed market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B271	Demutualisation. Offer for sale or introduction of shares on Third Market (London).	Demutualisation. Offer for sale or introduction of ord 10p on Third Market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B272	Demutualisation. Offer for sale or introduction of shares on U.S.M. (London).	Demutualisation. Offer for sale or introduction of ord 10p on U.S.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B273	Demutualisation. Offer for sale or introduction of shares on A.I.M. (London).	Demutualisation. Offer for sale or introduction of ord 10p on A.I.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B274	Demutualisation. Offer for sale or introduction of shares on fully listed market (Irish).	Demutualisation. Offer for sale or introduction of ord IR 10p on fully listed market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B275	Demutualisation. Offer for sale or introduction of shares on Third Market (Irish).	Demutualisation. Offer for sale or introduction of ord IR 10p on Third Market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B276	Demutualisation. Offer for sale or introduction of shares on U.S.M. (Irish).	Demutualisation. Offer for sale or introduction of ord IR 10p on U.S.M. (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B300	Placing and intermediaries offer of shares on fully listed market (London).	Placing and intermediaries offer of ord 10p on fully listed market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B301	Placing and intermediaries offer of shares on Third Market (London).	Placing and intermediaries offer of ord 10p on Third Market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B302	Placing and intermediaries offer of shares on U.S.M. (London).	Placing and intermediaries offer of ord 10p on U.S.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B303	Placing and intermediaries offer of shares on A.I.M. (London).	Placing and intermediaries offer of ord 10p on A.I.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B304	Placing and intermediaries offer of shares on fully listed market (Irish).	Placing and intermediaries offer of ord IR 10p on fully listed market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B305	Placing and intermediaries offer of shares on Third Market (Irish).	Placing and intermediaries offer of ord IR 10p on Third Market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B306	Placing and intermediaries offer of shares on U.S.M. (Irish).	Placing and intermediaries offer of ord IR 10p on U.S.M. (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B310	Placing and offer for sale of shares on fully listed market (London).	Placing and offer for sale of ord 10p on fully listed market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B311	Placing and offer for sale of shares on Third Market (London).	Placing and offer for sale of ord 10p on Third Market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B312	Placing and offer for sale of shares on U.S.M. (London).	Placing and offer for sale of ord 10p on U.S.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B313	Placing and offer for sale of shares on A.I.M. (London).	Placing and offer for sale of ord 10p on A.I.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B314	Placing and offer for sale of shares on fully listed market (Irish).	Placing and offer for sale of ord IR 10p on fully listed market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100

B315	Placing and offer for sale of shares on Third Market (Irish).	Placing and offer for sale of ord IR 10p on Third Market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B316	Placing and offer for sale of shares on U.S.M. (Irish).	Placing and offer for sale of ord IR 10p on U.S.M. (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B320	Placing and offer for subscription of shares on fully listed market (London).	Placing and offer for subscription of ord 10p on fully listed market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B321	Placing and offer for subscription of shares on Third Market (London).	Placing and offer for subscription of ord 10p on Third Market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B322	Placing and offer for subscription of shares on U.S.M. (London).	Placing and offer for subscription of ord 10p on U.S.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B323	Placing and offer for subscription of shares on A.I.M. (London).	Placing and offer for subscription of ord 10p on A.I.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B324	Placing and offer for subscription of shares on fully listed market (Irish).	Placing and offer for subscription of ord IR 10p on fully listed market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B325	Placing and offer for subscription of shares on Third Market (Irish).	Placing and offer for subscription of ord IR 10p on Third Market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B326	Placing and offer for subscription of shares on U.S.M. (Irish).	Placing and offer for subscription of ord IR 10p on U.S.M. (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B330	Placing and public offer for sale of shares on fully listed market (London).	Placing and public offer for sale of ord 10p on fully listed market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B331	Placing and public offer for sale of shares on Third Market (London).	Placing and public offer for sale of ord 10p on Third Market (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B332	Placing and public offer for sale of shares on U.S.M. (London).	Placing and public offer for sale of ord 10p on U.S.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B333	Placing and public offer for sale of shares on A.I.M. (London).	Placing and public offer for sale of ord 10p on A.I.M. (London) at 100p p.s. 19990909.	19990909	1	0	10	0	100
B334	Placing and public offer for sale of shares on fully listed market (Irish).	Placing and public offer for sale of ord IR 10p on fully listed market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B335	Placing and public offer for sale of shares on Third Market (Irish).	Placing and public offer for sale of ord IR 10p on Third Market (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B336	Placing and public offer for sale of shares on U.S.M. (Irish).	Placing and public offer for sale of ord IR 10p on U.S.M. (Irish) at 100p p.s. (sterling equivalent) 19990909.	19990909	1	0	10	0	100
B400	Demerger	In a demerger effective 19990909 holders of XYZ Plc ord received a free distribution of ord 10p in ABC Plc on a 1 for 10 basis. MV 19990924: ABC Plc ord 100p.	19990909	1	0	10	0	100
B500	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to fully listed market (London).	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to fully listed market (London).	19990909	0	0	10	0	0
B501	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to Third Market (London).	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to Third Market (London).	19990909	0	0	10	0	0
B502	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to U.S.M. (London).	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to U.S.M. (London).	19990909	0	0	10	0	0
B503	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to A.I.M. (London).	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to A.I.M. (London).	19990909	0	0	10	0	0
B504	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to fully listed market (Irish).	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to fully listed market (Irish).	19990909	0	0	10	0	0
B505	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to Third Market (Irish).	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to Third Market (Irish).	19990909	0	0	10	0	0
B506	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to U.S.M. (Irish).	Issued on conversion or redesignation of existing securities, or in a capital reorganisation to U.S.M. (Irish).	19990909	0	0	10	0	0
B600	Issued under a scheme to fully listed market (London).	Issued under a scheme to fully listed market (London).	19990909	0	0	10	0	0
B601	Issued under a scheme to Third Market (London).	Issued under a scheme to Third Market (London).	19990909	0	0	10	0	0
B602	Issued under a scheme to U.S.M. (London).	Issued under a scheme to U.S.M. (London).	19990909	0	0	10	0	0
B603	Issued under a scheme to A.I.M. (London).	Issued under a scheme to A.I.M. (London).	19990909	0	0	10	0	0
B604	Issued under a scheme to fully listed market (Irish).	Issued under a scheme to fully listed market (Irish).	19990909	0	0	10	0	0
B605	Issued under a scheme to Third Market (Irish).	Issued under a scheme to Third Market (Irish).	19990909	0	0	10	0	0
B606	Issued under a scheme to U.S.M. (Irish).	Issued under a scheme to U.S.M. (Irish).	19990909	0	0	10	0	0

B700	Introduced to fully listed market (London).	Introduced to fully listed market (London) 19990909.	19990909	0	0	0	0	0	0
B701	Introduced to Third Market (London).	Introduced to Third Market (London) 19990909.	19990909	0	0	0	0	0	0
B702	Introduced to U.S.M. (London).	Introduced to U.S.M. (London) 19990909.	19990909	0	0	0	0	0	0
B703	Introduced to A.I.M. (London).	Introduced to A.I.M. (London) 19990909.	19990909	0	0	0	0	0	0
B704	Introduced to fully listed market (Irish).	Introduced to fully listed market (Irish) 19990909.	19990909	0	0	0	0	0	0
B705	Introduced to Third Market (Irish).	Introduced to Third Market (Irish) 19990909.	19990909	0	0	0	0	0	0
B706	Introduced to U.S.M. (Irish).	Introduced to U.S.M. (Irish) 19990909.	19990909	0	0	0	0	0	0
B707	Introduced to Irish Smaller Companies Market.	Introduced to Irish Smaller Companies Market 19990909.	19990909	0	0	0	0	0	0
B800	Issued in acquisition to fully listed market (London).	Issued in acquisition to fully listed market (London).	19990909	0	0	0	0	0	0
B801	Issued in acquisition to Third Market (London).	Issued in acquisition to Third Market (London).	19990909	0	0	0	0	0	0
B802	Issued in acquisition to U.S.M. (London).	Issued in acquisition to U.S.M. (London).	19990909	0	0	0	0	0	0
B803	Issued in acquisition to A.I.M. (London).	Issued in acquisition to A.I.M. (London).	19990909	0	0	0	0	0	0
B804	Issued in acquisition to fully listed market (Irish).	Issued in acquisition to fully listed market (Irish).	19990909	0	0	0	0	0	0
B805	Issued in acquisition to Third Market (Irish).	Issued in acquisition to Third Market (Irish).	19990909	0	0	0	0	0	0
B806	Issued in acquisition to U.S.M. (Irish).	Issued in acquisition to U.S.M. (Irish).	19990909	0	0	0	0	0	0