

# A NEW VALUE-WEIGHTED TOTAL RETURN INDEX FOR THE FINNISH STOCK MARKET

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## *Abstract*

This paper presents a new monthly value-weighted, all-share total return index for the Finnish stock market. The index covers the period from the establishment of the Helsinki Stock Exchange in October 1912 to the beginning of 1970, after which the WI index by Berglund et al. (1983) and later in December 1990 the Exchange's own HEX index are available. When combined, they can be used to study continuously the development of the Finnish equity market from the beginning of the stock market until the present day. We also provide a detailed description of the construction methodology and a comparison between our index and those available earlier. The index replaces the Unitas price index which has been the only index available for long-term studies from 1928 onwards. The new index also provides an alternative to the book equity weighted Poutvaara (1996) price index for the period 1912-1929.

JEL-classification: G10, N24

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## 1 INTRODUCTION

Studies on the long-term development of stock markets around the world have become more popular lately as the interest on the equity risk premium has increased (see, e.g., Dimson, Marsh, and Staunton, 2002). As a result, a number of researchers have constructed local stock market indices for countries where the only available indices have not been suitable for research purposes or they have not been available at all (see, e.g., Belter, Engsted, and Tanggaard, 2005, and Frennberg and Hansson, 1992, who constructed stock market indices for Denmark and Sweden, respectively).<sup>1</sup> Studies on the long-term development of the Finnish stock market have been scarce, mainly because there has not been a total return stock market index available before 1970. The only available index, the SYP/Unitas-index (henceforth Unitas-index) is available from January 1928, but it is not exactly value-weighted, does not cover all stocks, and, most importantly, it is basically a price index as it does not capture the returns due to dividends.

The purpose of this paper is to develop a new, total return, all-share stock market index for the Finnish stock market that covers the period from the opening of the Helsinki Stock Exchange in October 1912 to the beginning of 1970, when another total return index becomes available. As a result of this study, when our index is combined with the WI-index for 1970-1990 (by Berglund, Wahlroos, Grandell, 1983), and the Helsinki Stock Exchange's own HEX yield index (later OMX Helsinki All-Share gross index, OMXH) from December 28, 1990 onward, one can create an unbroken total return stock market index for the Finnish stock market for a period of close to one hundred years. When chained with the index calculated by Poutvaara (1996), who used unofficial auction price quotations for three banks for the years 1886-1912, one can study a period lasting more than 120 years.

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<sup>1</sup> See also Nielsen and Risager (2001) and Klovland (2004).

In general, the index can be used to measure the returns an equity investor would have received on his investment in the Finnish stock market. In addition, an unbroken stream of stock market returns over a long historical period of almost 100 years allows one to study a number of questions that cannot be studied using data on shorter periods. For example, many stock market anomalies and evidence on mean reversion are easier to detect in long samples. Long-term data makes it also possible to compare the stock market development in different countries, especially outside the USA, which has been the focus in many earlier studies due to the availability of high-quality data. Furthermore, in addition to the standard total return value-weighted index, we also calculate several additional indices that can be used to augment the picture of the stock market development obtained by studying only one index. Finally, the stock market also plays a role in many economic models, and as such, the availability of stock market data collected during the index construction process for Finland can also foster further research on long-term macroeconomic issues.

The rest of this paper is organized as follows. Section 2 explains the data collection procedure and the index construction methodology. Section 3 presents the indices that we create, gives descriptive statistics for them, and compares our indices and their construction methodology against the Uunitas and Poutvaara (1996) indices. We also discuss some robustness issues in the construction process. Finally, section 4 concludes and gives suggestions for further research.

## 2 INDEX METHODOLOGY

### 2.1 Data collection procedure

#### 2.1.1 *Company and listed stock series information*

The primary aim of this paper is to construct a monthly total return (gross) all-share value-weighted index for the Finnish stock market from the opening of the Helsinki Stock Exchange (henceforth HSE) in October 1912 until the end of March 1970. The end of the period is chosen so that our index overlaps by three months the WI-index which is calculated from the beginning of 1970 (see Berglund, Wahlroos, and Grandell, 1983). In addition to the value-weighted index, we also construct an equally weighted stock market index as well as some other variations that can be used in research. All indices are created from month-end to month-end.

To get the required data for the index, we begin the process by creating a database of the stock series listed on the stock exchange any time during the sample period. In addition, we need the names of the listed companies and stock series as well as their listing and delisting dates. We use two sources of information to do this. Our first source of information is the newspaper *Mercator* which was published weekly in Finland for Swedish speaking business people throughout the sample period.<sup>2</sup> In *Mercator*, our main interest is the list of the quoted securities on the Helsinki Stock Exchange (see Figure 1 for an example). The price information on the list was provided by the HSE and it included also bonds and stock rights. Our second source of information is Kock (2006) web-pages on the listing and delisting dates for the companies at the HSE and his books on Finnish listed companies (published yearly since 1972).

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<sup>2</sup> In some cases, we also utilized the daily newspaper *Päivälehti* (later *Helsingin Sanomat*, published since 1889), the business newspaper *Kauppalehti* (published weekly since 1897, and daily since 1919), and the weekly business magazine *Talouselämä* (published since 1938) to find missing values or to double-check certain values in *Mercator*. They all published the same list, but especially in the very beginning of the analyzed period *Mercator*'s coverage was the most extensive.

Mercator was used to create a list of the names (in Swedish) of the companies and listed securities together with the first month-end appearance in the magazine as well as the last one. After this, the information provided by Kock was used to check the listing and delisting dates. His information is typically accurate to the day, but in some cases the exact day is missing (i.e., the year and the month is provided, but not the day). If the (dis)appearance of a series in Mercator does not happen at the end of the same month as indicated by Kock, we used other newspapers and sources like the stock exchange annual report and books on company history.

After going through all the month-end issues of Mercator, we found 642 listed securities.<sup>3</sup> The list can be seen from Appendix 1 with the listing and delisting dates for all the series taken both from Mercator (for all series) and Kock (for stocks used in the study).<sup>4</sup> Out of the series, 183 were listed stock rights ('teckningsrätt', 't.r.') for new issues and 81 were either corporate bonds or government debentures ('lån'). In the end, we are left with 378 stock series. Most of these series (altogether 194) were listings of short-lived newly issued shares ('nya') which typically were quoted separate from the main series if their dividend rights differed from the old shares. In the end, we have 184 stock series that were used to construct our stock market indices. These stock series can be further divided into 167 common (ordinary) shares and 17 preference shares. In 15 cases, a company had two series listed at the same time. Several companies were re-listed after being delisted either voluntarily or involuntarily – three companies even two times. Re-entries were all handled as new

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<sup>3</sup> Note that we recorded only the actual stock exchange listing. During the sample period, a separate list of quoted bonds appeared occasionally in the newspapers, but it was not recorded. The bonds recorded were always quoted together with the stocks.

<sup>4</sup> We considered companies that were listed under a new name after a merger as separate entries (e.g. Suomen Liittopankki and Liittopankki). Also re-listings were accounted for separately. Delisting dates from Mercator in Appendix 1 are recorded as the first month-end when the stock is not included in the newspaper's quote list. Listing days, on the other hand, indicate the first month-end or, if known, the first day shown on Mercator. Kock provides listing and delisting days only for the stock series. Note that the dates may differ for various reasons. Detailed listing of the series is available from the authors upon request.

series in the stock exchange. Altogether, 159 companies had at least one stock series listed at the HSE some time during the period.

### 2.1.2 *Price observations*

With the list of quoted series available to us, we began collecting price quotations for each of the series. Again Mercator was used as the main information source. It was published weekly throughout the sample period with some exceptions.<sup>5</sup> Mercator's stock exchange listings included bid offers (and at times also ask offers) for all of the listed securities typically for the whole week prior to the publication date.<sup>6</sup> From the listings, the month-end bid offer for each security was recorded and transferred to a database.<sup>7</sup> If there was no bid offer available for a particular stock and it was still listed during the next month, we backtracked the intra-month listings until an offer became available.<sup>8</sup> Bid offers were chosen as the closing prices were not available throughout the whole period. And even at times when they both were available, the bid offers reflected true changes in the valuation much faster than closing prices or ask quotations (cf., Hernesniemi, 1990). Unfortunately, for some stock series there were months without even a single bid offer. In addition, at times (rarely) a stock disappeared from Mercator for a short period, possible due to human error in compiling the list in Mercator. In those cases, we did not record any value for the stock and used the last available price observation if the corresponding information could not be found even from other newspapers.

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<sup>5</sup> E.g. during the Second World War and in the 1960s Mercator was published only twice a month and the stock exchange list covered fewer days than normally.

<sup>6</sup> The information varied slightly over the years. Occasionally also prices on closed transactions were given.

<sup>7</sup> In practice, we photographed the pages and transferred manually the prices to Excel. Note that for several months, due to publication dates, the stock listing in Mercator was not exactly for the last trading day of the month. In these cases, Talouselämä and Kauppalehti were used to get the month-end (or as close to as possible) price information. The listing of the dates used can be seen from Appendix C.

<sup>8</sup> In these cases, the date of the used bid offer was also recorded.

As a result of the data collection we had an  $N \times T$  matrix of month-end bid prices, where  $N$  denotes the number of securities (642) and  $T$  the number of months (from October 1912 to March 1970, altogether 690 months). Checking the data revealed some errors in the newspaper listings.<sup>9</sup> If the error was an obvious typo, it was manually corrected. Such typos included, e.g., missing decimal points (i.e., the recorded price was 2500 instead of 25.00), values that were switched between two consecutive series in the weekly stock market list, or values printed on wrong lines. In the end, some values were left out if judged to be erroneous or if the bid prices varied too much. All manual corrections and exclusions are documented and they are available from the authors.

### 2.1.3 *Yearly equity capital, nominal values, and number of stocks*

To calculate the value-weighted index, we also need time series for the number of stocks for each one of the listed stock series. Unfortunately, this information is not readily available as such. However, using a combination of different sources we could create the time series. Our main source of information is the so-called *iron book* (named after the iron reinforcements on the cover). It is a hand-written ledger book in which the stock exchange officials wrote certain key information for each listed company (see Figure 2). The book begins from the year 1915 and extends beyond our sample period. From the iron book, we collected the total book equity capital and the nominal (face) value of each share at the end of each year.<sup>10</sup> As a result, we have two  $Y \times N$  matrices for the

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<sup>9</sup> Naturally, we also checked for typing errors in the manual transfer of the prices from the newspaper to the database.

<sup>10</sup> In practice, we photographed the book and transferred the information to Excel.

year-end book equity values and for the nominal values of each share ( $Y$  denotes the number of years in the sample, 58, from 1912 to 1969).<sup>11</sup>

To fill in the missing information for years 1912 through 1914, we used the information provided by Kock. He provides detailed information for most of the companies listed on the stock exchange during the sample period. We also used the information provided by Kock to fill in the information for companies that were not included in the iron book. Namely, some companies that were delisted or merged before early 1920s were not covered in the iron book. In addition, some of the values were missing prior to the listing. Finally, we also utilized Poutvaara (1996) especially for the early part of our sample period. All sources were cross-checked when overlap occurred to produce the best possible picture of the book equity capital and face values. Some obvious errors were corrected manually.

If a company had multiple series listed – e.g. ordinary/common (marked as *stam*, *A*, or *I* in Appendix A) and preferred (prior, *pref*, *B*, or *II*) series – the equity capital was divided between the series if their share of the total were known.<sup>12</sup> However, for the short-lived newly issued shares, the capitalization value was always recorded to the corresponding old (permanent/main) series since the new series typically were merged to the old one after the next dividend payment and since their liquidity was low.<sup>13</sup>

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<sup>11</sup> Note that the information in the matrices extends (at least) to the year-end prior to the listing year as the year-end values from the previous year are used during the next year. This guarantees that the stocks are included in the index as soon as they become listed.

<sup>12</sup> Note that the preferred shares in Finland differ from the preferred shares in the USA. In Finland they have at least a single vote (compared to max 20 votes on common stocks), but typically the first-right to the dividend is divided up to a certain level (see Vaihekoski, 2004, for details).

<sup>13</sup> Newly issued shares did not always have the right for the (full) dividend from the issue financial year unless issued at the very beginning of the year.



Now, dividing the book equity capital with the face value of each share, we get the number of shares at the end of the year. This  $Y \times N$  matrix was then expanded into a monthly  $T \times N$  matrix by copying the year-end number of stocks to the next eleven months (unless delisted). Similarly, the yearly matrix of face values of the stock was expanded into a monthly matrix. These matrices are used as the building block for the next phase, where we adjust the matrices for mid-year changes due to splits and issues.

#### 2.1.4 *Splits and issues*

To adjust the number of stocks, face values, and ultimately the return matrices we first check the number of changes in the matrix that contains the year-end number of stocks. The check showed altogether close to 800 changes caused by changes in the face values, splits and issues (including bonus and directed issues, but excluding rare cases where a company had two or more issues during a calendar year). Unfortunately, there is no single source that would list all of them during the sample period. Instead we again have to use a combination of different sources to track them down.

To find splits and other changes in the face values, we again use the abovementioned iron book, Kock's web-pages as well as Kock (1975), KOP (1979), and Poutvaara (1996).<sup>14</sup> In addition, we manually check the price matrix and the year-end face value database for potential splits. Typically, we could spot a split by a drop in the nominal value of the stock, and then going through the price matrix, we could pinpoint the split to a certain month by observing a considerable price drop.

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<sup>14</sup> Kock lists only the year of a split prior to 1960, not the exact date. In cases where we found a discrepancy between the sources (typically between Poutvaara and Kock), we also searched within other sources (e.g. Bank of Finland Bulletin and Mercator) for information.

There were also few cases where the nominal value of the stock was increased at the same time as the number of stocks was reduced (i.e. a reverse split). In the end, we constructed a  $T \times N$  matrix filled with ones unless a split took place. If a (reverse) split took place, the split ratio was inserted (e.g., 5:1) in the matrix.<sup>15</sup> This matrix is used to adjust the monthly number of stocks and nominal values matrices as well as to adjust the price matrix when calculating monthly returns.

Altogether we found only eleven splits and ten reverse splits during the sample period. In addition, there were several cases where the company changed the face value of its shares without increasing or decreasing the number of stocks. In practice, the new face value was in most cases simply stamped on the share certificates, or simply announced. Unfortunately, it is virtually impossible to pick up the dates for the changes. Thus, as a result, corresponding changes always took place at the end of the year in the monthly matrix of face values.

During the sample period, Finnish companies were actively issuing new capital. There were typically three types of issues: cash (rights), bonus (free shares) or mixed issues, where the cash issue was combined with a bonus issue.<sup>16</sup> Unfortunately, similar to splits, we do not have a single source that would list all of the issues. As a result, we use a combination of sources. First, we use the iron book. In addition, we use the appearance of a new series on Mercator as a sign of an issue. For companies delisted before 1972, we used Kock (2004) as our main source. For others, we use Kock (1975, 1984) and KOP (1979). They give full details on all issues after 1960 and 1962 for

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<sup>15</sup> In few cases the price observation was missing during the month when the split took place. In these cases we placed the adjustment factor to the month when the first post-split/issue price observation was available.

<sup>16</sup> Bonus issues, i.e. giving away free shares, were often used to increase the equity capital and later to accompany cash issues to lower resistance against collecting new capital from the investors. Typically, the investors received new share certificates, but at least in one case, the increase was taken care of by stamping the new number of shares on the old certificates.

companies listed at the time of the publication, respectively. For the early part of the period we also use Poutvaara (1996).<sup>17</sup>

As Kock reports only the year, not the month for the issues prior to 1960, pinpointing the issues to a specific month is sometimes difficult. In these cases, we tracked the price matrix for a potential separation of the stock right from the stock as the issue typically caused a clear drop in the price.<sup>18</sup> A few errors in the source material were spotted during the process and fixed. In addition, it was common that the source material indicated the issue to take place during a certain year, but the share was listed without the right for the first time in January, or even in February next year, judged by the price reaction. If the timing of the issue was clearly unobservable or the other details of the issues could not be confirmed, we excluded the issue. In the end, we found usable information on 183 bonus (free) issues and 286 equity (rights) issues, some of which were mixed. Overall, we believe that more than 87 per cent of the issues have been included in our analysis.<sup>19</sup> Figure 3 shows the number of bonus and new share issues during the sample period.

As a result of the search, we constructed three  $T \times N$  matrices, one for bonus issues and two for equity issues. Two matrices were filled with ones unless an issue took place (or in practice, the right was separated from the listed series, i.e. the first ex-right month). In these cases, an adjustment factor was inserted. These matrices were then used to make corresponding adjustments in the

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<sup>17</sup> For those issues that Kock (2004) or any of the other sources do not provide details about (e.g., only the increase in the equity capital is recorded), we searched Mercator to find details about the issue.

<sup>18</sup> In the early part of our sample, the stocks were most likely listed with the rights until the new shares were issued causing the price reaction to take place several months after the beginning of the stock issue. Later, the rights were detached immediately causing the price reaction right after the beginning of the issue. The stock exchange started to list prices of the rights on their stock listing sent to newspapers in September 1934. Some sources indicate that the rights were traded prior to that in the stock exchange (see notes on index construction method in Unitas, 1929). In practice, the error caused by misplacing some of the issues is not a major for the long-term analysis.

<sup>19</sup> This number was estimated by calculating the number of bonus issues (16) and cash issues (49) in Kock and other sources that could not be used in the analysis due to missing or partial information regarding the issue. Directed issues are excluded from the analysis.

matrix of the monthly numbers of shares as well as in the return calculation. The third  $T \times N$  matrix is filled with zeros unless an equity issue took place. In those cases, the subscription price was inserted to the first ex-right month.

### 2.1.5 *Dividends*

The final missing piece of information, dividends, is again collected from several sources. The iron book is used as the main source of information post-1915. The dividend information in the book is given as a percentage (of a share's face value) and the dividend was typically paid during the next spring. Unfortunately, the iron book does not contain complete records for the dividends. We use Mercator and Kauppalehti to fill in the very first years and to fix some of the errors in the iron book. In addition, we use Kock (1972) to provide information on the dividends 1950-1972 (paid typically next spring) for the companies listed at the time of the publication of the book. After combining the information provided by these sources and cross-checking for errors, we filled in the missing dividend information from Mercator and Poutvaara (1996). Note that in some cases the dividend payments for the ordinary and preference shares differed. In the end, the information was collected into a  $Y \times N$  matrix of dividend percentages.

To get the actual dividend payment in Finnish currency (markka) per share, we first expanded the yearly dividend matrix into a monthly matrix. Unfortunately, the timing of the dividend payment is not revealed in any of the information sources above. As a result, we assumed that all dividends were paid in April. April was chosen because most of the general meetings took place either in March, April, or May, and because it is customary for Finnish stocks that the dividend right is separated from the stock one day after the general assembly meeting. Finally, multiplying the matrix

of month-end nominal values of the shares with the dividend percentage matrix, we get the dividend payment.

## 2.2 Index construction methodology

### 2.2.1 Returns

We calculated two return series for each stock series. The first is adjusted for dividends (used to create the yield or total return index), the second one is not (used for the price index). Monthly percentage returns for stock  $i$  are calculated using the following equation

$$R_{it} = \frac{P_{it}^* + D_{it}}{P_{it-1}} - 1, \quad (1)$$

where  $P_{it-1}$  is the price of the stock at time  $t-1$ ,  $P_{it}^*$  is the price at time  $t$  adjusted for splits and issues, and  $D_{it}$  is the cash dividend paid during time  $t$ .<sup>20</sup> The return for the price index is calculated similarly, but the dividend is assumed to be zero. Note that this equation implicitly assumes that all dividend income is re-invested in the dividend paying stock and taxes are ignored.

The price is adjusted for splits and issues. In the earlier literature, two main alternative approaches have been used to make the adjustment. The first one is to add back the observed market value of

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<sup>20</sup> Berglund, Wahlroos, and Grandell (1983) use a method similar to ours; the dividend is reinvested in the stock. Most Nordic stock market indices basically use the same method, even though NOREX (2005) states confusingly that the dividends are re-invested in *all* shares in the index according to their capitalization weights leaving open whether the re-investment is done every time (i.e. re-investment in the market) or ultimately throughout the year (similar to us). In addition, NOREX formula deducts the dividend  $D_{it}$  from  $P_{it-1}$  in the nominator instead of adding it to  $P_{it}$  in the denominator. In other words, it assumes that the dividend is used to buy the underlying share immediately after the dividend coupon has been detached whereas our formula assumes (more conservatively) that the dividend is used to buy the underlying share at time  $t$  as we do not know whether the dividends were available at the beginning or at the end of the month to the investors. The difference is minor for a daily index, but not necessarily for a monthly index.

the rights to the ex-rights price. The second one is similar, but instead of using the observed market price, one uses the theoretical (mathematical) value of a right. Here we have chosen to follow the latter approach as the rights were not always listed.

The adjustment for the price observation post-issue is given by the following equations

$$P_{it}^* = P_{it}(S_{it}B_{it} + C_{it}), \quad (2)$$

where  $S_{it}$ ,  $B_{it}$ , and  $C_{it}$  are adjustment factors for splits, bonus, and cash issues, respectively. The adjustment factor for splits and bonus issues is simply the number of shares after the split (bonus issue) divided by the number of shares before. Implicitly, this formulation assumes that investors do not make any additional investments – they just utilize their rights to receive the new shares. Furthermore, new shares are assumed to be similar to old ones and that the investor has received them during the month following the month of the split (bonus issue). This implies that investors are affected immediately by the price changes.

In case of a cash (rights) issue, we assume that investors sell the rights after at the end of month  $t$  (i.e., at the end of the month when the right was detached) and invest the money back to the underlying share at the same time without making any additional investments. The adjustment factor for cash issues is calculated here by solving first the mathematical value of one right as a function of the post-issue price of the stock at time  $t$  and the conditions of the issue. Dividing this value with the stock price, gives us the following adjustment factor

$$C_{it} = \frac{W_{it}}{P_{it}} = \frac{(P_{it} - M)}{P_{it}(A/B)} \quad (3)$$

where  $A$ ,  $B$ , and  $M$  denote the terms of the issue/split (i.e. for  $A$  old shares, one can purchase  $B$  new shares for  $M$  units of currency). Note that for simplicity, we have assumed that the new shares are entitled for the same dividend as the old ones.<sup>21</sup> In the case of a mixed issue of bonus and cash, equations (2) and (3) are applied separately for both issues. Directed issues (e.g., to bank's customers or in the case of a merger) are assumed to be neutral to current owners and thus no price adjustments are made.<sup>22</sup>

### 2.2.2 Index calculation

The value-weighted index is based on the market capitalization weights of the stock series listed on the Finnish stock exchange. In practice, we calculate the value-weighted return,  $R_{it}$ , for all listed shares at time  $t$  using the following equation

$$R_t = \sum_{i=1}^{N_{t-1}} w_{it-1} R_{it} , \quad (4)$$

where weights  $w_{it-1}$  sum to one, and  $N_{t-1}$  is the number of share series used to calculate the index at time  $t$ . Note that the equation is generic. For example, different weights can be used for different indices (e.g. value vs. equally weighted) and returns can include dividends (for the total return index) or not (for the price index). The weight for any given stock is calculated as the number of shares times the last available price observation (both adjusted for potential splits and issues during a month) at the end of the previous month, time  $t-1$ , divided by the market capitalization of all

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<sup>21</sup> We also forced the positivity of  $C_{it}$  due to rationality of the investors (i.e., right are left unused if  $M$  is higher than the market price).

<sup>22</sup> The number of stocks matrix is updated for the directed issues at the end of the year.

companies.<sup>23</sup> Thus the weights are updated monthly to reflect changes in the number of shares and in the prices. Weights are calculated separately for each listed series (excluding the so-called new shares which had a temporary listing period).

Our method implies that new companies are included in the index at the end of the listing month. This approach causes a slight downward bias since potential IPO-related returns, which have been found in previous research to be on average positive, are more or less excluded. On the other hand, the weight is set to zero if a company is delisted during the next month. This approach excludes delisting month returns which might cause a slight opposite bias, if the delistings were caused by poor performance of the companies or even bankruptcy. On the other hand, there might have been cases where the delisting was due to a merger or buyout offer, which typically provided for higher returns, and for which the full appreciation in price may not have been reflected during the month prior to delisting. In the end, we believe that the net effects on the index are minor.<sup>24</sup>

Figure 4 shows the monthly development in the number of listed series that are used to construct the index from 1912 to 1969. The time series average number of series available each month is 53.447. Note that before calculating the weighted returns we have applied a filter on prices, dividends, and market values using the listing and delisting dates to remove unwanted observations. The number of companies (and series) increased rapidly during the 1920s, but it came down ten

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<sup>23</sup> Note that different stock market indices use slightly different methods. Our weighting method, where the number of stocks and prices at time  $t-1$  are used to calculate the weights, follows the Paasche index methodology and it can be shown to be similar to what the Helsinki Stock Exchange uses to calculate the general index (cf., Hernesniemi, 1990, and NOREX, 2005). Stockholm Stock Exchange, on the other hand, uses a slightly different methodology and they use the number of stocks at time  $t$  in the denominator, and at time  $t-1$  in the nominator whereas the HSE uses the same number of stocks at time  $t$  in the denominator and nominator (NOREX, 2005).

<sup>24</sup> The size and sign of the net effect on the average return on the market index is difficult to estimate but it is likely to be minor. If the delisting period returns were higher than the returns on average for the other stocks at the same time in absolute terms (as is likely), the volatility of the market index is likely to be slightly downward biased.



years later mostly due to mergers among the companies. After the Second World War, the number of listed series settled to around 40-50.

In addition to the standard value-weighting scheme, we also use two other weighting schemes, namely equal-weighting and book equity weighting. In the equally weighted index, all weights are assumed to be one divided by  $N_{t-1}$ . The weights for the book equity weighted index are based on the amount of book equity for each company divided by the sum of the book equity at the end of the month  $t-1$ . Stocks are included and excluded from the index in a similar fashion to the value-weighted index. The equally weighted index can be used to find out how small companies have performed against larger companies. The book equity weighted index allows us to compare our index with the similarly weighted index created by Poutvaara (1996).

To calculate the actual index, we set the starting value to one hundred at the end of October 1912 and use the following equation to get the index values for months  $t=1, 2, \dots, T$

$$I_t = 100(1 + R_1)(1 + R_2)\dots(1 + R_t), \quad (5)$$

where  $R_t$  is the weighted average percentage returns for the stocks included in the index. As a result of the construction methodology, our all-share, value-weighted total return index is basically similar to that of the WI-index and HEX-index with the minor exceptions mentioned earlier.

### 2.2.3 *Special cases*

There are a number of cases that need special attention. First, the stock exchange was closed a couple of times during the sample period. The first closing occurred during the First World War

from August 3, 1914 to March 7, 1915 and also between June 1 and August 31, 1915. In the latter case, we use price observations from September 1<sup>st</sup> to proxy for the previous month for stocks that were truly listed prior to September. The Exchange was also closed during the Finnish Civil War (between January 27 and May 21, 1918), and as a result, price observations are missing between February and April. The stock exchange was closed for the last time during the Winter War (from November 30, 1939 to March 31, 1940). Again we use April 1<sup>st</sup> observations to proxy for March 31<sup>st</sup>. As a result, the price observations are missing between December 1939 and February 1940. When the stock exchange is closed, zero returns are used for all assets and the market values are kept constant. The dividends paid in April 1918 are assigned to May. The stock exchange was also closed several times for shorter periods, but in those cases we simply used last available prices for the month.<sup>25</sup> As a result, prices for these months do not always match the last business day for the month.

Second, the adjustment factor (3) is slightly biased if the owners of the common (ordinary) shares were given rights to subscribe to preferred shares instead of the common ones, or both. A couple of these cases took place during the sample period (e.g., Enso, Kaukas, Kone, Kymmene, SMK, Schauman, Serlachius). A somewhat similar special situation arose when a company issued bonds to its owners (e.g. Nokia, Wärtsilä) or the company offered in the split a mix of new ordinary shares together with preferred shares (e.g. Kaukas). These cases are handled manually by calculating the adjustment factor on the basis of the observed market value of the issued share or bond.

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<sup>25</sup> The stock exchange was closed during November 22-28, 1917 (general strike), from September 21 to October 7, 1931 (English pound removed from the gold standard), September 1-4, 1939 (WWII), from October 11 to November 11, 1939 (Soviet Union attacked Finland). Between May 8 and September 1, 1913 as well as June 1 and August 1, 1914, the stock exchange was open only once a week. Similarly, during the summer of 1917, the stock exchange was open only four times a week. In addition, a number of less liquid stock series were quoted only twice each week in 1920s and 30s.

Third, there were a couple of stocks that did not have even a single price observation during their listing period or the observations varied too much. These series were excluded from the index. In addition, three companies (Atlas Bank between 1-6/1931, Helsingin Panttilainakonttori and Helsingfors Pantlâne AB between 2/1938-11/1940) were assumed to be delisted even though they appeared on Mercator since no bid prices were quoted. Two companies (Serlachius Ab, Atlas Bank Ab)) were also assumed to be delisted a few months prior to their factual disappearance from the stock exchange listing in Mercator as no price observations were available.

Fourth, the nominal value of the insurance companies behaved slightly differently from other companies. Namely, it increased yearly as the customers (i.e. owners) paid their dues. The percentage dividend paid is adjusted accordingly.

Finally, one should also mention Holding Concern Company (HCC) as a special case. It was established in 1945 by the government to handle the stocks issues by large Finnish companies to the government. Namely, large companies were required to issue a certain amount of shares free of charge to the government to cover the costs caused by the areas lost to the Soviet Union in the Second World War and the migration that ensued. The HCC issued shares that quickly became among the most traded in the stock exchange. However, these shares (or to be precise, certificates) differed slightly from normal shares as the company lowered the face value each year by one tenth (with two exceptions) of the original nominal value, and the reduction was paid to the owners in July. In our analysis, we have treated this cash reimbursement as a dividend and made the appropriate adjustments to the yearly face value and monthly dividend matrices.

### **3 EMPIRICAL RESULTS**

#### **3.1 The indices**

Our main aim is to construct a value-weighted index that would reflect the true return investors have received on their investments in the Finnish equity market. Several different indices were constructed. Our main index is the all-share, value-weighted total return index. In addition, equally weighted and book equity weighted indices were also constructed, all with and without dividends. Figures 5 and 6 shows the development of the indices from October 1912 to March 1970.

Panel A in Table 1 shows descriptive statistics for the continuously compounded returns for the six indices over the full sample period. The results show that the continuously compounded mean return per annum has been 12.04 per cent per year for the value-weighted total return index. The equally weighted index has done substantially better; the average return per annum has been 16.17 per cent reflecting the better market performance of the smaller companies. Obviously, the price indices lag behind the total return indices due to missing dividends. The difference is, for example, 5.16 per cent per year for the value-weighted index which reflects the dividend yield. Table 2 shows percentage returns for the equally and value-weighted price and total return indices from 1913 to 1969.

#### **3.2 Comparison to Poutvaara's index**

Poutvaara (1996) created a monthly price index for the Finnish stock market from October 1912 to December 1929 and also for 1896-1912 (henceforth PO-index). For the earlier period (before the opening of the Helsinki Stock Exchange) he used prices from unofficial stock auctions for three

major banks. The index construction methodology resembles that of the Unitas-index (with some differences). The index is book equity capital weighted, and adjusted for splits as well as issues. Price observations used to calculate the index are the last monthly bid price observations.

Our index differs in some respects from Poutvaara's. The first main difference is that we have included all listed companies into our index, whereas Poutvaara has aimed for representativeness in his index. Thus the number of companies in our index is considerably larger, although the difference in the total capitalization value is not that large. We also avoid most of the survivorship bias in Poutvaara's index as the companies included in his index were also the companies who survived the period. In practice, the PO-index was constructed in three phases using slightly different samples of companies. The index for the first sample period, from October 1912 to October 1915, was calculated using ten companies (out of the 34 that were listed during the period). From then on the index was constructed using twelve companies until June 1918, after which the index was constructed using the same fourteen companies as included in Unitas-index from the beginning of 1929.

The second main difference is the fact that our index is a total return index whereas the PO-index takes the dividends only partially into account. Furthermore, our main index is value-weighted, not book equity weighted. There are also some other minor differences in the index construction methodology (i.e., how the issues are taken into account). Figure 7 shows the development of the Poutvaara's index during 1912-1929 against our value-weighted and book equity weighted indices.

Panel B in Table 1 shows descriptive statistics for the continuously compounded returns on book equity and value-weighted price indices as well as for the PO-index using the sample from 1912 to 1929, i.e. the period when Poutvaara's index overlaps with our indices. The results show that the

mean returns per annum has been 6.28, 8.39, and 6.26 per cent per year for our value-weighted, book equity weighted indices as well as the PO-index, respectively. The difference between the book equity weighted and PO-index is small as their weighting structure closely resembles each other. The correlation between the last two indices is 0.903 (percentage returns 0.916).

### 3.3 Comparison to the Unitas index

The only available Finnish stock market index that covers the period from 1928 onward thus far has been calculated by SYP (former Pohjoismaiden Yhdyspankki i.e. PYP during 1919-1975, Suomen Yhdyspankki i.e. SYP during 1976-1990, Unitas during 1990-1995, and Merita during 1995-1997; now part of Nordea Bank).<sup>26</sup> SYP had started to calculate its Unitas index as early as 1929 and it quickly achieved at least a semi-official status in the investment community.<sup>27</sup>

The content and the methodology used to calculate the Unitas index and its frequency have all changed over the years. At first, the monthly index was based on monthly average of the daily bid prices. Beginning in 1948, SYP also started to calculate the index weekly every Friday, and the

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<sup>26</sup> Several other indices have been also published, but they are typically available for a shorter period. E.g. KOP Bank calculated its price indices separately for bank and industry stocks (base 1938 = 100) both of which were published e.g. in *KOP Taloudellinen katsaus* (first issue in 1949). However, the monthly values prior to the publication are likely to be unavailable anywhere. KOP renewed its index methodology and began to calculate a daily index in 1979 covering period from 1970 onward (see Niemi and Valli, 1977). Talouselämä and Helsingin Sanomat have also calculated their own indices for shorter periods.

<sup>27</sup> The exact date when the index was calculated for the first time has not been verified, but an article in the PYP's quarterly publication *Unitas* (first issue in 1929) strongly suggests that the index was calculated for the first time in 1929. The *Bank of Finland Monthly Bulletin* began to report the Unitas index in February 1931 (providing monthly index values from January 1928). Prior to that (from January 1921) they reported a monthly price index calculated by the Mercator newspaper (providing monthly index values from January 1919). Mercator's index calculation method changed slightly in April 1923.

monthly index was calculated as the arithmetic average of the weekly index value. From 1970 the index has been calculated daily. Monthly index values are available from January 1928 forward.<sup>28</sup>

The base of the index was set to 100 on the basis of the companies' arithmetic average bid prices during 1926. Before 1970, the base year was changed twice – first to 1935, and then to 1948. The number of companies included in the index varied also a bit over the years. At the beginning, the index was based on the fourteen most liquid companies, but later the number of companies was changed. In all cases, the companies selected for the index were selected at least partly (i.e. several years after resetting the base year) *ex post* causing a slight survivorship bias. From the beginning of 1975 the index has included all companies.

The method used to calculate the weights for the stocks in the Unitas index has varied over the years. At first, the weights were based on the book equity values of the selected companies at the end of 1926, but later the weights were based on a combination of the market capitalization value, turnover at the stock exchange, and the amount of book equity in the last available financial statements (see e.g. Kock, 1984, and Unitas-publication in 1/1951). Beginning in 1975, the weights were based on the market capitalization values adjusted manually to account for the free float and some other issues. (Unitas, 1977).

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<sup>28</sup> The academic community in Finland has widely used the Unitas index (or actually its returns) for which monthly values have been available from January 1920 forward. The origin of the time series seems to be partly lost in the history, it seems to stem from the study by Sierimo and Virén (1995) which note that the index is taken from Mercator, Unitas, and the Bank of Finland databases. The true composition of the index has also been forgotten for the early part of the data, especially as the earliest monthly Unitas index values can be found for January 1928 (from the Bank of Finland's Monthly Bulletin) even though it seems that PYP also calculated the index backwards up to 1923 (they quote year-end values back to 1923 in their first issue of Unitas in 1929). However, comparing the index against the available indices, we find the first year of the so-called Unitas index has actually been constructed from Mercator's first index, Mercator's second index from 1921 to January 1929, and from then on from the true Unitas index (see Appendix B for the index values).

Similar to our index, the price observations used to calculate the index were bid offers. Issues were also taken into account quite similarly to our approach. Besides the weighting scheme, the largest difference between our indices and the Unitas index is the handling of the dividends.<sup>29</sup> At first when the Unitas index was calculated monthly, the dividends were taken into account when paid, but the next month, only 11/12 of the dividend is taken into account, then 10/12 etc. This method, in effect, removes the effect of the dividends in a smoothed fashion and produces spurious autocorrelation into the index. Later, beginning in 1948, the dividends were disregarded completely (see Unitas-publication 1/1951), until in 1960 they were once again included in the index.

Panel C in Table 1 shows descriptive statistics for the continuously compounded returns on our value-weighted price and total return indices as well as the Unitas index using the sample from January 1928 to 1969, i.e. the period when the Unitas index overlaps with our indices. The results show that the mean returns per annum has been 5.87, 10.66, and 6.45 per cent per year for our value-weighted price and total return indices as well as the Unitas index, respectively. The difference between the latter two is 4.21 per cent per year reflecting dividends and our decision to include also smaller companies in the index. Correlation between the Unitas and value-weighted price indices is 0.990 (returns 0.816).

### **3.4 Robustness considerations**

We made a number of simplifying assumptions during the construction process. Some of them can have a negative effect on the development of the index and the corresponding returns, some

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<sup>29</sup> Minor differences included, e.g., when newly listed companies are included in the index (Unitas: after 2-3 months) and whether or not investors are assumed to use the rights in the equity issues (Unitas: rights are sold).



positive when compared to the true stock market performance. Since it is impossible to track down all of the stock issues that took place during the sample period, some were missed by us. As a result, the index and the corresponding average returns are probably slightly lower than an investor could have achieved. Second, we were unable to track down mid-year increases in the face values and thus the corresponding change was recorded at the end of the year. However, this is likely to have a minuscule impact on the index as the increases typically did not affect the price and the only effect missed is due to rare situations when the increase took place before April and thus the dividend was determined using old face value. In addition, we assumed that the income from dividends and issues did not materialize until the end of the month (i.e. they did not were not invested during the month received). This assumption was used as a conservative measure and might have had a slightly negative effect on the index.

On the positive side is the assumption that the new shares are entitled for the same dividend as the old ones. However, the effect is mostly a matter of timing and thus negligible as the post-dividend price run-up for the new series after the merger with the old series, on the other hand, is not taken into account. In addition, we excluded the effects of the taxation. There are three types of taxes that could potentially affect investors' returns. First is the tax on transactions, i.e. the stamp duty which was paid when one purchased stocks through the stock exchange (or through issues). The second is the tax on dividends, and the third is the tax on capital gains. We could also take into account the transaction costs.<sup>30</sup> However, the approach chosen by us is followed by many indices.<sup>31</sup>

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<sup>30</sup> Stjernschantz (1987) provides detailed description on the changes for the transaction costs and stamp duty in the HSE.

<sup>31</sup> MSCI is an exception. They calculate separate net total return indices which take into account the effect of taxation on the dividends.

Finally, there are several issues that can have either positive or negative effects on the index. First, we assumed that the dividends were paid in April. Alternatively, we could have spread the dividends over three months, say 25 % in March and in May, and 50 % in April (somewhat similar to Frennberg and Hansson, 1992), randomly or not. The choice of April instead of spreading the dividends over several months is likely to have only a minor effect on the average return of the market index. The volatility of the market index returns is, on the other hand, likely to be slightly upwards biased because of stocks where the dividend was actually paid in a month other than April.

Second, we may have made errors in adjusting the number of stocks following issues and splits. To study this, we constructed the value-weighted index using the year-end number of stocks matrix, which is for the large part based on official stock exchange data, to see if the potential errors have had a major effect on the results. The results show that the indices behave similarly and the difference is minor.

#### **4 CONCLUSIONS**

This paper has constructed an all-share, total return market value-weighted index for the Finnish stock market that covers a period from the beginning of the official opening of the stock market in 1912 to the beginning of 1970 when another total return index becomes available. In addition, several different versions of the index were also constructed.<sup>32</sup> When combined with Poutvaara's (1996) index for 1896-1912, the WI-index for 1970-1990, and the HEX/OMX index from 1991 to

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<sup>32</sup> Value-weighted indices are listed in Appendix C. All other indices are available from the authors upon request.

the present day, one can analyze the development of the Finnish stock market for more than one hundred years.

The stock market index has potentially many uses. For example, it can be used to study the behavior of the Finnish equity risk premium. Furthermore, one can study the volatility of the stock market and the sources of risks that are priced on the market. Using the collected data, it is also possible to calculate other interesting variables. For example, one can calculate the monthly total market capitalization value for all of the companies (MCAP), the amount of capital raised, and e.g. a measure for the concentration on the market (say, ratio of the market cap of the largest ten companies to the MCAP). In addition, one can easily calculate a measure for the role of the stock market in the economy by dividing MCAP with the total value of the GDP. Third, the data allows one to calculate the value-weighted dividend yield for the whole market. It has been commonly used as a measure of the overall pricing level of the market and as a predictor for long-term (three to five year) asset returns. At the same time, one could also compare the magnitude of capital gains against the dividend yield over long periods. However, these questions and variables are left to future studies.

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N.v.	Dividend Procent		Avslutade köp sedan juli 1922		3/1		4/1		5/1		7/1		8/1		9/1	
	1921	1922	Högst mk	Lägst mk	Köp. mk	Sälj. mk	Köp. mk	Sälj. mk	Köp. mk	Sälj. mk	Köp. mk	Sälj. mk	Köp. mk	Sälj. mk	Köp. mk	Sälj. mk
<b>Industriaktier.</b>																
400	0	0	440	160	300	325	290	—	—	—	290	340	290	330	275	—
2000	25	25	6300	5000	5975	6050	6000	6060	6025	6200	6000	6300	6040	6100	6025	—
200	12	14	250	75	—	90	—	—	—	90	—	—	—	—	90	—
100	8	8	188	120	183	185	183	185	182	183	182	183	183	185	183	186
100	8	8	245	135	145	160	145	—	145	160	155	165	150	—	155	180
500	15	15	85	65	70	71	69	—	70	71	71	71	71	71	71	71
1000	8	10	950	550	560	—	560	—	570	—	586	—	601	—	601	—
500	15	12	895	600	780	—	780	—	780	—	780	—	780	—	785	—
500	20	20	798	381	385	425	385	450	385	—	385	425	385	—	390	425
100	15	20	950	550	565	—	590	630	595	650	600	—	600	—	601	—
6250	32	4	187	130	—	150	—	150	—	150	125	150	125	150	125	150
500	10	11	25000	15000	21000	23000	21000	23000	21000	23000	22000	23000	22500	23500	22000	24000
1000	12	12	1400	750	750	850	750	850	750	850	800	850	800	850	850	850
2000	10	12	3300	2500	2500	—	2500	2700	2500	2600	2500	2600	2500	2600	2500	2600
500	0	—	1100	210	150	—	—	—	150	200	150	—	151	200	155	—
500	10	10	470	275	307	—	307	—	308	350	310	—	330	370	335	375
1000	30	30	1905	1650	1725	—	—	—	1725	—	—	—	1725	—	1780	—
1000	0	0	1750	1000	1650	—	1650	—	1660	—	1660	1750	1660	1750	1700	1750
100	12	15	200	130	192	200	195	200	202	200	205	200	—	200	—	—
500	6	0	270	39	—	—	—	100	—	100	—	—	—	—	—	—
1000	6	0	625	200	—	240	200	—	—	—	—	—	170	—	—	—
2000	20	30	6700	5500	—	—	6000	240	—	—	—	—	6000	—	—	—
200	15	20	750	405	—	—	560	—	—	—	—	—	500	—	—	—
100	18	25	200	150	—	—	180	—	—	—	—	—	185	250	—	—
100	5	12	200	200	—	—	200	—	—	—	—	—	—	—	—	—
1000	20	—	200	130	—	—	—	—	—	—	—	—	—	—	—	—
5000	4 1/2	4 1/2	6000	6000	—	—	6200	—	—	—	—	—	—	—	—	—
200	10	10	200	125	—	—	225	—	—	—	—	—	—	—	—	—
4000	35	30	22500	22500	—	—	—	—	—	—	—	—	—	—	—	—
200	10	10	500	275	—	—	—	—	—	—	—	—	—	—	—	—
2000	15	15	—	—	—	—	—	3000	—	—	—	—	3000	—	—	—
1000	6	6	—	—	—	—	—	1000	—	—	—	—	—	—	—	—
250	10	16	400	300	—	—	—	—	—	—	—	—	—	—	—	—
500	15	20	—	—	—	—	850	—	—	—	—	—	—	—	—	—
1000	15	15	1600	1500	—	—	—	—	—	—	—	—	—	—	—	—
1000	12	18	2000	1700	—	—	—	—	—	—	—	—	—	—	—	—
1000	18	20	1800	1500	—	—	1475	1550	—	—	—	1450	—	—	—	—
500	6	0	500	290	—	—	—	—	—	—	—	—	—	—	—	—
<b>Bankaktier.</b>																
200	8	8	140	112	138	145	—	—	—	—	—	—	138	—	140	—
100	22	18	313	220 1/2	243 1/2	244	244	245	94 1/2	246	243	244	243	245	243 1/2	244 1/2
200	17	17	379	325	366	367	366 1/2	370	366 1/2	372	371	375	372	375	375 1/2	379
100	8	9	106	69	99 1/2	102	98 1/2	99 1/2	98	101	99	100	100	100 1/2	101	101 1/2
200	13	14	303	230	290	—	291	300	292	305	294	305	300	305	300	305
100	0	6	75	55	58	58 1/2	58 1/2	59	59 1/2	60	60	60 1/2	60	60 1/2	60	60 1/2
100	10	11	207 1/2	180	201	—	201	—	207 1/2	201	201	201	201	201	202 1/2	204
100	10 1/2	10 1/2	114	94	111	—	110	—	110	—	110	110	112	109	—	—
200	0	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—
100	—	—	80	60	60	—	—	60	—	60	—	60	—	60	—	—
100	8	8	95	78	78	80	—	80	79	81	80	—	80	—	78	—
103	0	5	70	47	45	—	45	—	45	—	45	—	40	50	—	50
100	6	0	69	34	57 1/2	—	57 1/2	—	57 1/2	—	57 1/2	—	57 1/2	—	57 1/2	—
100	5	0	55	37	50	—	50	—	50	—	50	—	50	—	50	—
200	7 1/2	0	180	100	—	—	—	—	—	—	—	—	—	—	—	180
200	6	5	160	120	135	140	135	140	135	140	135	139	132	139	132	139
100	0	5	73	70	69	—	69	—	70	—	72	—	73	—	73	—
<b>Försäkringsaktier.</b>																
Inbet.	mk	mk														
1000	100	110	1200	1000	—	—	1000	—	—	—	—	—	—	1020	—	—
500	50	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—
500	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
150	10 1/2	12	300	300	—	—	300	—	—	—	—	—	300	—	—	—
350	30	33	425	320	—	—	390	400	—	—	—	—	375	400	—	—
500	30	34	625	625	—	—	550	—	—	—	—	—	550	—	—	—
200	16	18	—	—	—	—	225	—	—	—	—	—	225	—	—	—
200	14	16	210	210	—	—	210	—	—	—	—	—	210	—	—	—
<b>Kommunikationsakt.</b>																
Nom.	%	%														
1000	15	15	1345	925	955	960	955	990	970	990	990	1005	995	1005	975	1010
100	15	15	145	120	120	—	—	—	125	—	—	—	—	—	—	—
200	10	18	598	598	—	—	500	—	—	—	—	—	—	—	—	—
<b>Diverse aktier.</b>																
200	10	10	300	200	240	260	240	260	240	—	240	260	240	260	240	260
100	0	0	37	20	24	25	25	26	25	26	25	26	25	26	25	26
500	8	8	—	—	—	—	28	34	—	—	—	—	—	—	—	—
800	6	6	650	650	—	—	—	—	—	—	—	—	—	—	—	—
100	6	6	95	95	—	—	—	—	—	—	—	—	—	—	—	—
1000	0	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—
100	0	0	35	32	—	—	—	—	—	—	—	—	—	—	—	—

) Utan teckningsrätt.

Figure 1. Picture of stock exchange price listing January 11, 1924 in Mercator newspaper. The listing in Mercator varied over time. The one shown is among the most complete ones. Nominal value, dividends for the past two years, bid and ask prices are provided for each series. Note that several stocks had only a bid (or ask) price or neither.



*Atlas Pankki O.Y. - Atlas Bank A.S.*  
*Atlas Pankki O.Y.*

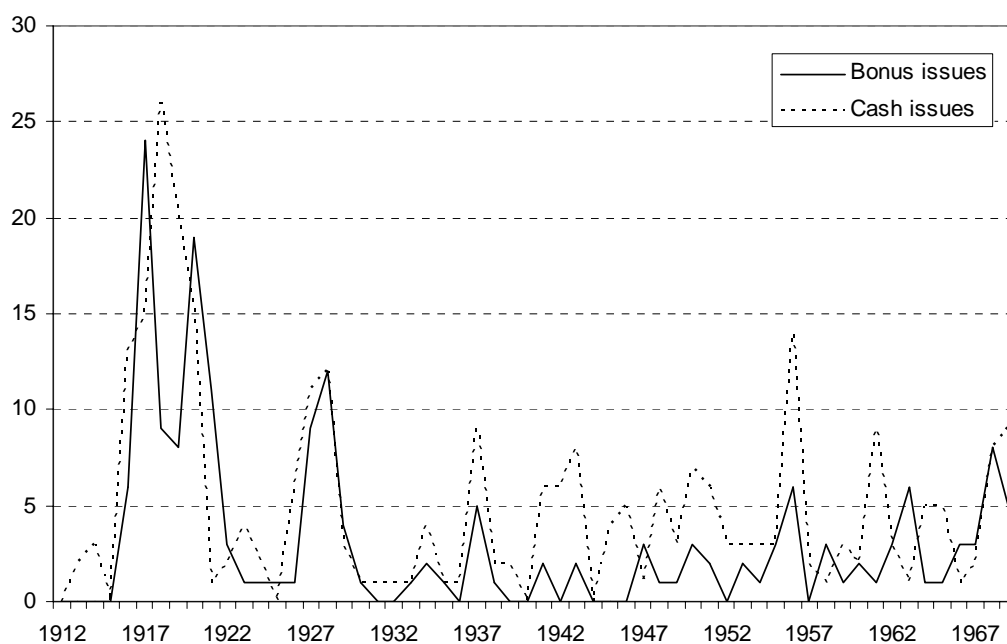
Adress *Ullinng*

Aktiebrevn nr/s Mkr. Sma Mkr.

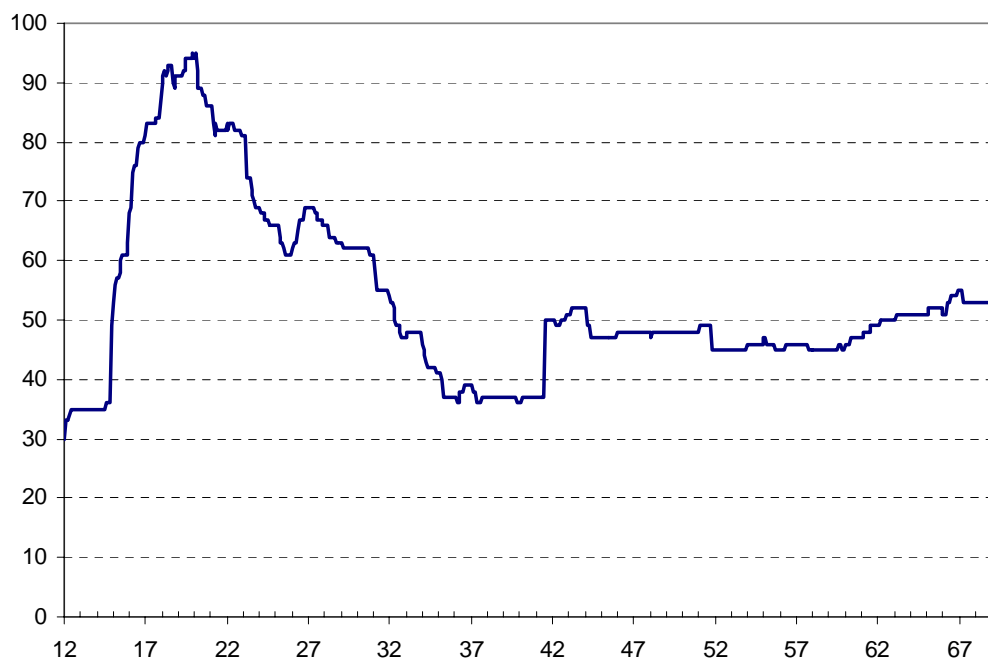
Inregistrering Aktiebrevn nr/s Mkr. Sma Mkr.

Årsberättelse eller årsredovisning	Reservm. B. fonder	Balansräkning	Nettovinst	Utdelning %	Nyemission		Aktie-Guld värde										Avstutade aktier			Anteckningar
					Mark	Kurs	K o r s					L ä g s t					Årets utvalda		Låga aktier i % av utvalda aktier	
						Nominell	H o g s t					L ä g s t					Årets utvalda			
							1 Kvartal	2 Kvartal	3 Kvartal	4 Kvartal	1 Kvartal	2 Kvartal	3 Kvartal	4 Kvartal	Uppr.	Lågt	Årets utvalda	Årets utvalda		
1922 1.000.000	250.000	16494.88577	444.8972	5			100										1615	116.755	-	50
1923 1.000.000	400.000	30479.20179	443.17816	6			100	71	73	72	72	70	70	70	72		1540	111.180		50
1924 1.000.000	500.000	33359.75370	442.51734	6			100	75	70	63	63	70	70	63	63		1010	88.550		50
1925 1.000.000	600.000	46311.62070	418.91577	-			100	63	69	67	-	62	66	65	-		835	53.945		50
1926 1.000.000	700.000	54878.49733	338.19666	7			100	70	70	82	83	68	68	81	83		995	311.275		50
1927 1.000.000	850.000	91593.28720	469.53514	8			100	114	133	150	141	100	120	120	135		916	563.418		50
1928 1.000.000	1.000.000	151618.98914	654.21074	9	6.000.000	115	100	158	171	175	163	126	165	165	150		715	1.278.375		50
1929 1.000.000	2.250.000	163146.28429	150319783	-			100	155	142	143	152	150	142	142	139		3085	448.190		50

Figure 2. Picture of a page for Atlas Pankki O.Y. from the Iron Book kept by the stock exchange. Stock exchange officials kept a list of annual information for all listed companies. The information provided for each company included e.g. the equity capital, dividend yield, and nominal value at the end of the year. In addition, trading information was provided (e.g. trading volume, highest and lowest price etc.).

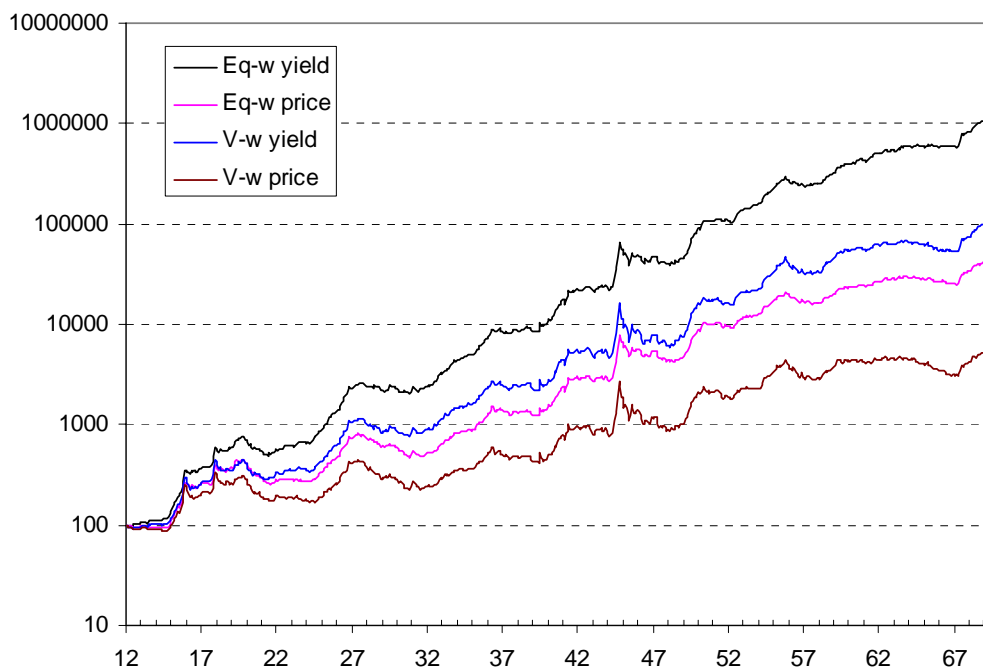


**Figure 3. Yearly number of bonus (free) and cash (equity) issues from October 1912 to December 1969.** The amount and the timing is based on the price adjustments matrices for issues used to create the index.

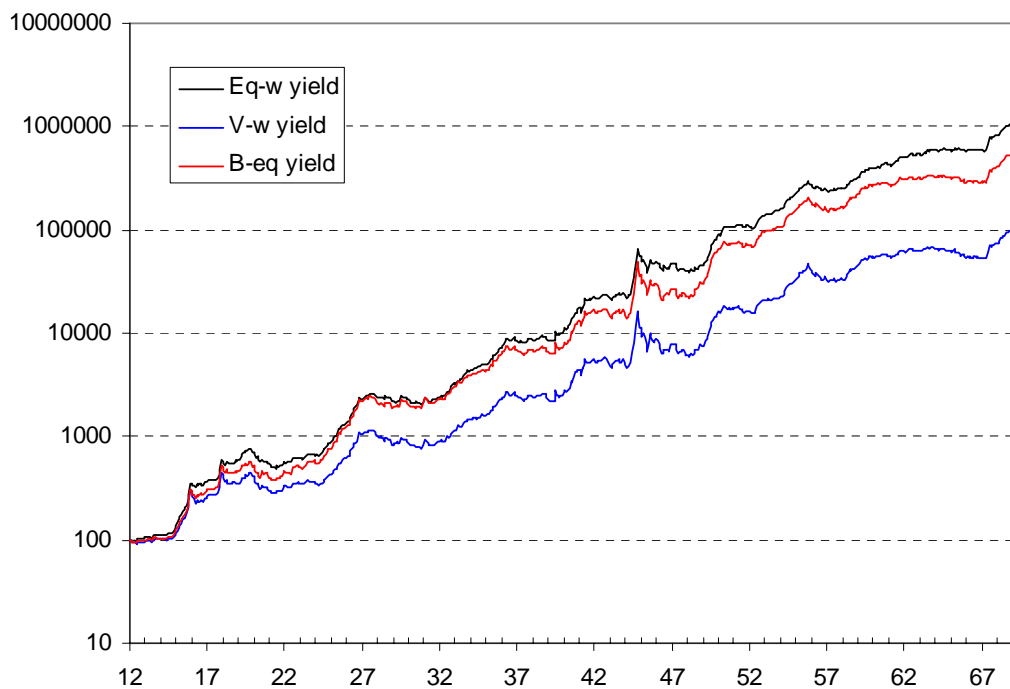


**Figure 4. Monthly number of listed stock series in the HSE from October 1912 to March 1970.** Note that only the main series are accounted for (i.e. so-called 'new'-series are excluded).





**Figure 5. Equally and value-weighted price and total return indices for the Finnish stock market.** Monthly observations from October 1912 to March 1970 (all series October 1912=100). Logarithmic (base 10) scale used for y-axis.



**Figure 6. Comparison of value-weighted, equally weighted, and book equity weighted all-share total return indices.** Monthly observations from October 1912 to March 1970 (all series October 1912=100). Logarithmic (base 10) used for y-axis.

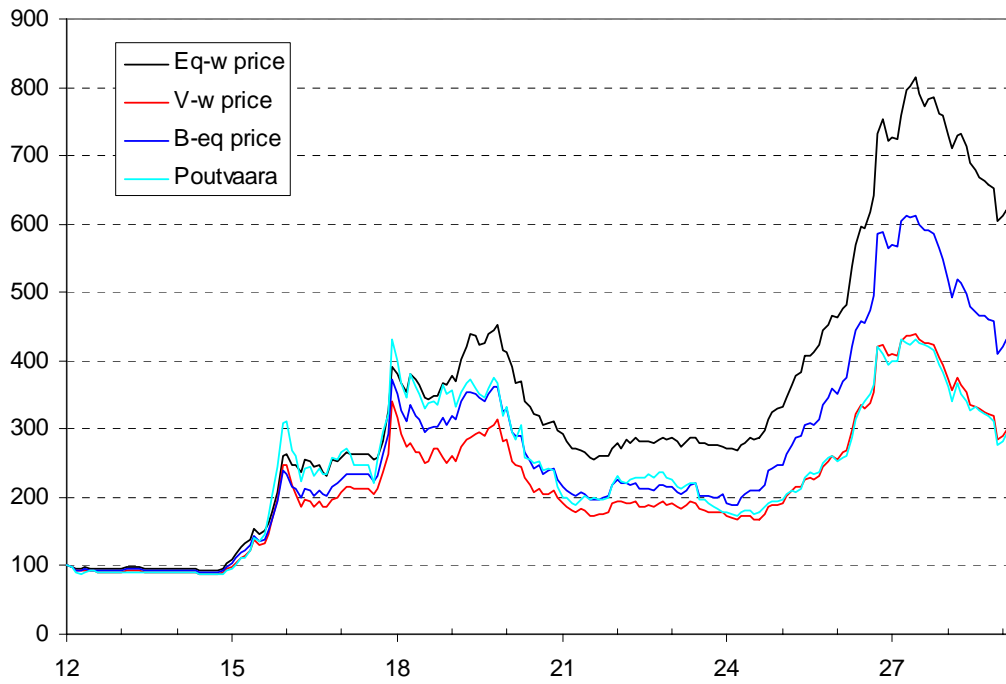


Figure 6. Comparison of equally weighted, value-weighted and book equity weighted all-share price indices against Poutvaara (1996) book-equity weighted price index. Sample period October 1912 to December 1929. Series scaled to October 1912=100.

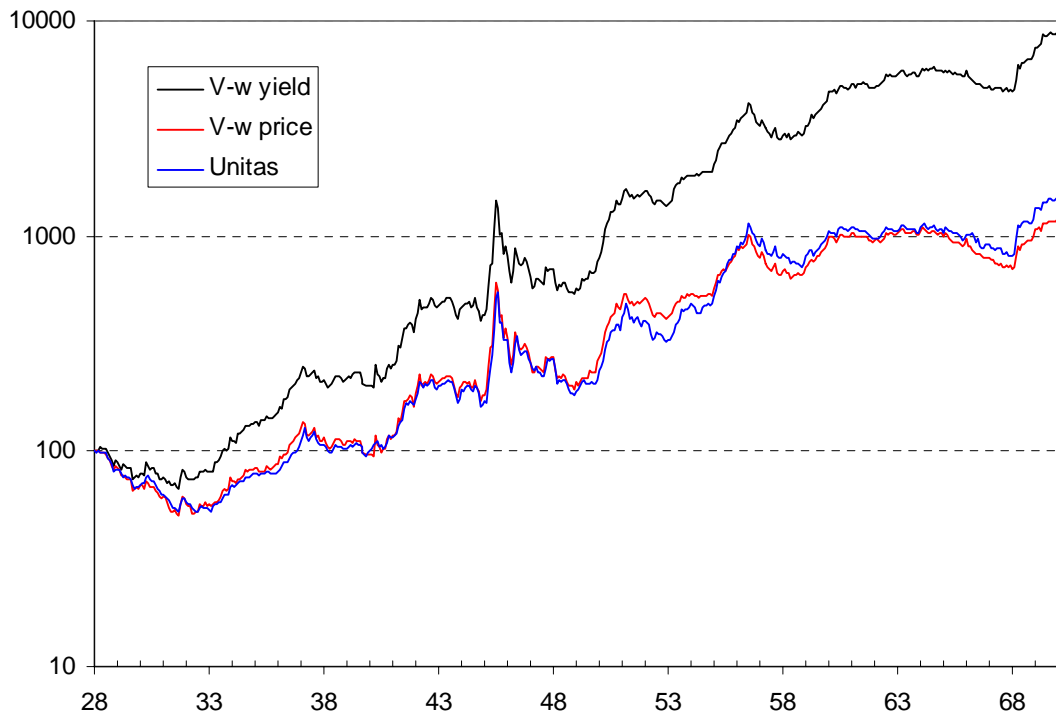


Figure 7. Comparison of value-weighted total return and price indices against the Unitas price index. Monthly observations from January 1928 to March 1970. All series scaled to January 1928=100. Logarithmic (base 10) scale used for y-axis.

**Table 1. Descriptive statistics for monthly continuously compounded index returns.**

Descriptive statistics are calculated for monthly continuously compounded returns for various stock market indices for the Finnish stock market. Panel A reports the results for the equally and value-weighted price and total return indices using the full sample when the exchange was open, 670 monthly observations from October 1912 to December 1969. Panel B compares value-weighted and book equity weighted total returns indices against Poutvaara (1996) index using a sub-sample from October 1912 to December 1929. Panel C compares value-weighted total return index against the Unitas index. The sample covers period from January 1928 to December 1969. The mean and standard deviation of the returns in the table are annualized (multiplied by 12 and the square root of 12, respectively). The  $p$ -value for the Jarque-Bera test statistic of the null hypothesis of normal distribution is provided in the table.

Asset return series	Mean (% p.a.)	Std. dev. (% p.a.)	Skewness	Excess Kurtosis	Normality ( $p$ -value)	$\rho_1$	Autocorrelation <sup>a</sup>			Q(12) <sup>b</sup>
							$\rho_2$	$\rho_3$	$\rho_{12}$	
<b>Panel A: 1912-1969</b>										
Equally weighted (price)	10.48	14.45	1.54	8.07	<0.001	0.29*	0.11*	0.07	0.09*	<0.001
Equally weighted (total return)	16.17	15.11	1.45	6.76	<0.001	0.23*	0.10*	0.13*	0.17*	<0.001
Value-weighted (price)	6.88	18.69	1.08	8.29	<0.001	0.23*	0.04	0.01	0.04	<0.001
Value-weighted (total return)	12.04	19.02	1.06	7.78	<0.001	0.20*	0.04	0.04	0.08	<0.001
Book equity weighted (price)	8.57	17.97	1.18	7.02	<0.001	0.21*	0.05	0.03	0.06	<0.001
Book equity weighted (total return)	15.02	18.62	1.18	6.18	<0.001	0.17*	0.04	0.08*	0.13*	<0.001
<b>Panel B: 1912-1929</b>										
Value-weighted (price)	6.28	16.89	1.35	5.93	<0.001	0.34*	0.13	0.01	0.04	<0.001
Book equity weighted (price)	8.39	16.53	1.19	4.61	<0.001	0.28*	0.14	0.02	0.12	<0.001
Poutvaara (1996) index	6.26	20.61	0.85	4.01	<0.001	0.23*	0.13	0.13	0.05	0.003
<b>Panel C: 1928-1969</b>										
Value-weighted (price)	5.87	19.21	1.01	8.85	<0.001	0.20*	0.02	0.01	0.04	<0.001
Value-weighted (total return)	10.66	19.62	1.04	8.28	<0.001	0.17*	0.01	0.04	0.08	<0.001
SYP/Unitas index	6.45	18.29	0.31	9.11	<0.001	0.32*	0.02	0.01	0.06	<0.001

<sup>a)</sup> Autocorrelation coefficients significantly (5%) different from zero are marked with an asterisk (\*).

<sup>b)</sup> The  $p$ -value for the Ljung and Box (1978) test statistic for the null that autocorrelation coefficients up to 12 lags are zero.

**Table 2. Mean and volatility of annual percentage returns**

Mean and standard deviation are calculated for annual percentage returns for equally weighted and value-weighted total return and price indices for the Finnish stock market from 1913 to 1969. The returns are calculated as  $(I_t/I_{t-1}) - 1$ , where  $I_{t-1}$  is the index level at the end of the previous December and  $I_t$  the corresponding index level at the current December. These numbers are displayed in percentage form.

	e-w yield	e-w price	v-w yield	v-w price
1913	9.72	1.34	5.79	0.72
1914	4.19	-3.03	2.62	-2.54
1915	44.08	33.57	30.60	23.91
1916	108.57	95.34	88.49	80.15
1917	12.84	5.92	10.04	5.35
1918	42.63	34.40	33.91	27.95
1919	19.55	13.24	2.77	-0.18
1920	-2.10	-8.63	-5.04	-9.49
1921	-19.40	-25.98	-21.11	-27.27
1922	13.66	4.91	15.14	5.65
1923	5.16	-3.65	5.99	-3.07
1924	7.86	-1.97	-0.41	-8.88
1925	47.65	35.43	36.81	25.13
1926	44.85	32.28	38.59	27.99
1927	69.09	57.26	68.99	58.94
1928	2.30	-3.84	-7.64	-12.62
1929	-12.54	-19.27	-15.94	-21.54
1930	1.88	-6.25	-2.80	-9.45
1931	5.90	-4.09	7.98	-1.29
1932	5.57	-2.29	0.96	-6.73
1933	45.78	35.70	43.67	34.37
1934	26.16	18.65	15.24	9.27
1935	15.79	9.76	11.02	5.08
1936	50.50	43.05	45.89	39.10
1937	6.24	1.48	-2.72	-6.71
1938	5.35	-0.10	0.90	-4.00
1939	-1.22	-6.15	-5.56	-9.93
1940	27.23	22.70	21.51	17.77
1941	45.35	40.13	45.68	41.21
1942	35.19	31.10	30.04	26.95
1943	1.83	-1.16	-2.16	-4.40
1944	4.42	0.92	-5.51	-8.10
1945	123.21	117.68	108.62	104.64
1946	-8.09	-10.60	-20.69	-22.41
1947	3.09	-0.37	-0.16	-4.42
1948	-19.17	-22.33	-24.44	-28.58
1949	28.33	21.71	42.46	34.00
1950	77.10	68.79	83.48	75.50
1951	25.21	19.93	13.76	9.23
1952	-5.74	-10.72	-13.34	-18.21
1953	35.30	27.23	37.68	29.59
1954	12.65	6.68	5.45	-0.01
1955	51.39	43.66	60.36	52.97

1956	7.44	2.86	3.28	-0.28
1957	-9.14	-13.01	-15.62	-19.11
1958	7.77	1.97	6.96	1.67
1959	31.95	25.03	43.18	36.27
1960	19.06	13.14	14.24	9.25
1961	5.53	0.14	-0.75	-5.33
1962	18.84	12.27	14.48	8.19
1963	5.40	5.34	0.30	0.25
1964	11.28	5.72	6.42	1.28
1965	0.89	-4.11	-5.77	-10.83
1966	-0.77	-4.97	-12.62	-14.37
1967	-1.12	-6.40	-1.33	-8.08
1968	45.18	38.05	43.53	36.53
1969	23.25	16.17	26.35	18.30
Mean	20.40	13.77	15.96	10.16
Std	28.01	26.79	28.23	27.22

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## APPENDIX A: LIST OF THE AVAILABLE SERIES 10/1912-3/1970

The list below gives listing and delisting dates for all securities listed on the Helsinki Stock Exchange from the very beginning of October 1912 through to the end of March 1970 (excluding a separate bond-listing). Two information sources are used, namely Mercator newspaper (and to some degree Kauppalehti) as well as an online database kept by Gunhard Kock. In-date for Mercator denotes the first month-end with a price observation in Mercator (in some cases the first day observed in Mercator is given). Kock's In-date is the day accepted for listing. Out-date in Mercator denotes the first month-end without price observation. Out-date in Kock denotes the last day listed. If the day (or even the month) is not known, it is marked with 'x'. Kock provides dates only for the stocks and if several listed, only for the first listed one. If the company was still listed at the end of 1969, the Out-date is left empty (unless marked). Note that Mercator provided company names in Swedish (if one was available).

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
1	(Städernas) Hypotekskassan	7.10.1912	31.12.1921	27.9.1912	x.12.1921
2	Åbo Aktiebank	7.10.1912	31.1.1921	27.9.1912	31.12.1920
3	Brandförsäkrings A.B. Fennia	7.10.1912		7.10.1912	2.11.1983
4	Fastighetsbanken, g	7.10.1912	29.12.1944	27.9.1912	28.12.1944
5	Fastighetsbanken, n (nya)	7.10.1912	28.2.1913		
6	Finska Bergningsaktiebolag Neptun	7.10.1912	31.7.1919	x.10.1912	8.1.1919
7	Finska Sjöförsäkrings A.B.	7.10.1912		7.10.1912	10.12.1985
8	Föreningsbanken, g	7.10.1912	31.10.1919	27.9.1912	x.9.1919
9	Föreningsbanken, n (nya)	7.10.1912	31.3.1913		
10	Försäkrings AB Kaleva	7.10.1912	30.4.1923	7.10.1912	9.4.1923
11	Helsingfors Ångfartygs AB	7.10.1912	30.11.1920	21.9.1912	x.11.1920
12	Helsingfors Magasins AB	7.10.1912	29.12.1944	7.10.1912	28.12.1944
13	Helsingin Panttilainak	7.10.1912	29.2.1936	7.10.1912	x.x.1935
14	Jälleenvakutus OY Osmo	7.10.1912	30.4.1926	27.9.1912	15.2.1926
15	Kansallis Osake Pankki, g	7.10.1912		7.10.1912	xx.xx.1995
16	Kansallis Osake Pankki, n (nya)	7.10.1912	31.3.1913		
17	Landtmannabanken	7.10.1912	31.1.1921	27.9.1912	31.12.1920
18	Nordiska Banken	7.10.1912	31.10.1919	21.9.1912	x.9.1919
19	Nylands Aktiebank	7.10.1912	31.1.1919	21.9.1912	31.12.1918
20	Olycksfalls försäkrings AB Patria	7.10.1912	30.12.1920	27.9.1912	16.12.1920
21	Palovakuutus OY Pohjola	7.10.1912		7.10.1912	xx.xx.2006
22	Privatbanken, g	7.10.1912	31.12.1921	21.9.1912	28.12.1921
23	Privatbanken, n (nya)	7.10.1912	31.3.1913		
24	Spårvägs- och Omnibus AB	7.10.1912	27.2.1926	7.10.1912	3.12.1926
25	Tampereen Osakepankki	7.10.1912	28.6.1929	3.10.1912	x.6.1929
26	Tapaturma OY Kullervo	7.10.1912	31.1.1968	27.9.1912	17.1.1968
27	Wasa Aktiebank	7.10.1912	31.1.1921	27.9.1912	31.12.1920
28	A.B. Dalsbruk	31.10.1912	31.1.1926	25.10.1912	31.12.1925
29	Finska Ångfartygs AB	31.10.1912		18.10.1912	
30	Försäkrings AB Triton	31.10.1912	31.7.1924	25.10.1912	x.7.1924
31	Helsingfors pantlåne AB	31.10.1912	29.2.1936	25.10.1912	x.x.1935
32	Södra Finlands Interurb Tel	31.10.1912	31.1.1935	17.10.1912	31.10.1934
33	Tammerfors Linne & Jern man	31.10.1912		18.10.1912	4.9.1998
34	Tampereen Puuvillateollisuus	31.10.1912	31.10.1934	17.10.1912	xx.10.1934
35	AB Kervo tegelbruk	30.11.1912	27.2.1926	13.11.1912	15.2.1926
36	Billnäs Bruks AB	30.11.1912	29.9.1928	25.10.1912	25.9.1928
37	Suomen kauppapankki Oy	30.11.1912	31.5.1924	13.11.1912	28.2.1924

38	Landtmannabanken, n (nya)	4.12.1912	31.3.1913		
39	AB Tornator OY stamaktier	31.1.1913	27.2.1935	29.1.1913	x.2.1935
40	AB Navigator OY	28.2.1913	30.4.1917	12.2.1913	x.3.1917
41	Åbo aktiebank, nya	30.9.1913	31.3.1914		
42	Södra Finlands interurb Tel, nya	30.9.1913	30.4.1914		
43	Orimattila yllefabrik	1.5.1915	29.9.1923	28.4.1915	15.9.1923
44	AB Walkiakoski OY	1.9.1915	31.10.1934	24.8.1915	x.10.1934
45	Agros	1.9.1915	30.11.1931	24.8.1915	x.12.1931
46	Fiskars OY AB	1.9.1915	31.5.1926	1.9.1915	28.5.1926
47	Forssa OY AB	1.9.1915	30.11.1934	24.8.1915	x.11.1934
48	Helsingfors Aktiebank AB	1.9.1915		1.9.1915	xx.xx.1985
49	Högfors Bruk och Wattola Träsliperi	1.9.1915	30.6.1933	24.8.1915	x.3.1933
50	Imatra	1.9.1915	28.7.1933	24.8.1915	x.7.1933
51	Kotkan Sokeritehdas	1.9.1915	27.6.1919	x.9.1915	x.6.1919
52	Kymmene (prior)	1.9.1915	31.3.1916		
53	Kymmene stam	1.9.1915		1.9.1915	30.4.1996
54	Maskin och Brobyggnads	1.9.1915	30.12.1936	24.8.1915	x.11.1936
55	Nokia (prior 1886)	1.9.1915	31.5.1917		
56	Nokia (prior 1912)	1.9.1915	31.5.1917		
57	Nokia stam	1.9.1915		1.9.1915	still listed
58	Pargas Kalkbergs	1.9.1915		1.9.1915	18.12.2002
59	Wärtsilä OY AB	1.9.1915	31.12.1931	1.9.1915	8.5.1931
60	Wasa Ångkvarns	1.9.1915	30.12.1940	24.8.1915	x.12.1940
61	Wasa Bomullsmanuf	1.9.1915	31.12.1931	24.8.1915	20.12.1931
62	Wasa Nordsjö Ångbåts AB	1.9.1915	31.1.1926	24.8.1915	3.12.1925
63	Wasa Sockerfabriks AB	1.9.1915	27.6.1919	x.9.1915	x.6.1919
64	Läskelä bruks	30.9.1915	30.11.1932	24.8.1915	11.4?.1932
65	De förenta yllefabrikerna (prior)	23.10.1915	31.8.1916	20.5.1915	
66	De förenta yllefabrikerna stam	23.10.1915	30.12.1959	20.5.1915	31.12.1959
67	Suomen Trikootehdas	22.1.1916		20.1.1916	28.2.1992
68	Ferraria	1.3.1916	31.10.1951	29.2.1916	23.10.1951
69	Vulcan	31.3.1916	31.1.1924	23.3.1916	x.12.1923
70	Kotka Järn	29.4.1916	31.1.1924	14.4.1916	31.12.1923
71	Wellamo, brandförsäkrings	29.4.1916	30.8.1935	14.4.1916	x.8.1935
72	Nurmi OY (prior)	31.5.1916	31.12.1917	16.5.1916	x.x.1916
73	Nurmi OY stam	31.5.1916	31.1.1929	16.5.1916	31.11.1928
74	Tammerfors linne & jern man, nya	21.7.1916	30.4.1917		
75	Kymmene, nya	28.7.1916	31.5.1917		
76	Agros, nya	1.8.1916	30.4.1917		
77	Åbo Järnmanu	30.9.1916	31.10.1922	2.9.1916	26.9.1922
78	Åbo järnmanu, nya	30.9.1916	30.4.1917		
79	Länsi Suomen Osakepankki	30.9.1916	31.7.1929	2.9.1916	x.6.1929
80	Nylands Aktiebank, nya	30.9.1916	31.3.1917		
81	Vulcan, nya	30.9.1916	27.7.1917		
82	Ab Uleå Oy	1.10.1916	31.1.1929	26.9.1916	31.12.1928
83	Crichton Oy Ab	1.10.1916	28.2.1925	26.9.1916	31.12.1924
84	Finska ångf. AB, nya	1.10.1916	30.4.1917		
85	Kemi trävaruaktiebolag	1.10.1916		3.10.1916	21.6.1990
86	Leppäkoski Fabr prior	1.10.1916	30.9.1918	6.10.1916	x.x.1917
87	Leppäkoski Fabr stam	1.10.1916	30.4.1924	6.10.1916	x.2.1924
88	Åstrom fabr oy	30.10.1916	31.1.1924	10.10.1916	31.12.1923
89	Åbo aktiebank, nya	30.11.1916	31.3.1917		

90	Landtmannabanken, nya	30.11.1916	31.3.1917		
91	Suomen Vanutehdas	30.11.1916	31.12.1921	2.11.1916	3.12.1921
92	Björneborg bomulls	1.12.1916	29.7.1921	15.11.1916	x.7.1921
93	Finska forcit dynamit	1.12.1916	29.2.1936	2.11.1916	12.2.1936
94	Harju yllefabrik	1.12.1916	30.12.1920	2.11.1916	16.12.1920
95	Simpele	1.12.1916	30.10.1920	15.11.1916	21.10.1920
96	Sörnäs AB	1.12.1916	30.5.1925	15.11.1916	x.5.1925
97	W. Gutzeit	1.12.1916		17.11.1916	still listed
98	Helsingfors ab, nya	29.12.1916	28.2.1917		
99	Finska sjöförsäkrings, nya	31.1.1917	31.8.1917		
100	Finlayson & Co AB	28.2.1917		27.2.1917	15.10.1986
101	Länsi Suomen Osakepankki, nya	28.2.1917	31.3.1917		
102	Emissionsaktiebolaget	30.4.1917	30.4.1924	31.3.1917	8.4.1924
103	Helios	30.4.1917	30.10.1920	31.3.1917	25.11.1920
104	Nikolajeff	30.4.1917	31.7.1924	19.4.1917	16.7.1924
105	Silfverbergs & wecksells för. Hattf	30.4.1917	31.1.1927	31.3.1917	31.12.1926
106	Suomen kauppapankki, nya	30.4.1917	31.5.1917		
107	Helsingfors ab, nya	31.5.1917	31.5.1918		
108	Privatbanken, nya	31.5.1917	31.5.1918		
109	Kangas pappersbruks	29.6.1917	31.1.1919	x.6.1917	8.1.1919
110	Suomen Vanutehdas (nya)	27.7.1917	31.7.1918		
111	KOP (nya)	31.8.1917	28.6.1918		
112	Länsi Suomen Osakepankki (nya)	31.8.1917	31.5.1918		
113	Pargas kalkbergs (nya)	31.8.1917	30.9.1918		
114	Åbo Aktiebank (nya)	29.9.1917	31.5.1918		
115	Fastighetsbanken (nya)	29.9.1917	31.5.1918		
116	Landtmannabanken (nya)	29.9.1917	31.5.1918		
117	Nordiska Aktiebanken (nya)	29.9.1917	31.5.1918		
118	Strengberg	29.9.1917		18.9.1917	24.10.1985
119	Suomen Kauppapankki (nya)	29.9.1917	28.6.1918		
120	Walkiakoski (nya)	29.9.1917	30.9.1918		
121	Aura Sockerbruks AB	30.11.1917	27.6.1919	22.11.1917	X.6.1919
122	Kymmene nya	30.11.1917	30.9.1918		
123	Sandvikens Sockerbruk	30.11.1917	27.6.1919	22.11.1922	x.6.1919
124	Finska ångfartyget nya	29.12.1917	31.7.1918		
125	Helsingfors ab nya II	29.12.1917	31.5.1918		
126	KOP (nya II)	29.12.1917	28.6.1918		
127	Wasa aktiebank nya	29.12.1917	31.5.1918		
128	Landfastighetsbanken	28.6.1918	30.9.1932	4.6.1918	x.x.1933
129	KOP nya	31.7.1918	31.1.1919		
130	Nordiska Aktiebank (nya)	31.7.1918	31.3.1919		
131	Pargas Kalk nya II	31.7.1918	30.9.1918		
132	Åbo Jernm nya	30.9.1918	28.2.1919		
133	Allm. Finska Försäkring	30.9.1918	30.11.1922	4.9.1918	5.5.1922
134	Finska Agrarbyrå	30.9.1918	31.1.1921	11.9.1918	x.10.1920
135	Länsi Suomen Osakepankki nya	30.9.1918	28.2.1919		
136	Strömberg	30.9.1918		10.9.1918	20.12.1982
137	Wasa aktiebank nya	30.9.1918	31.3.1919		
138	Åbo Aktiebank nya	31.10.1918	31.3.1919		
139	Brändö Villastad	31.10.1918	30.5.1928	26.9.1918	22.5.1928
140	Ekö Ångs & Fabr	31.10.1918	31.1.1924	30.10.1918	31.12.1923
141	Föreningsbanken nya	31.10.1918	31.3.1919		



142	John Barker	31.10.1918	22.2.1933	7.10.1918	26.5.1932
143	Landtmannabanken nya	31.10.1918	31.3.1919		
144	Metvik Mek. Verk.	31.10.1918	31.1.1924	7.10.1918	31.12.1923
145	Nylands Aktiebank nya	31.10.1918	31.1.1919		
146	Tampereen Osakepankki nya	30.11.1918	31.3.1919		
147	Landfastighetsbanken nya	30.12.1918	31.3.1919		
148	Pero Spikfabrik	30.12.1918	30.12.1920	4.12.1918	17.12.1920
149	Wasa Aktiebank nya II	30.12.1918	31.3.1919		
150	Åbo Aktiebank nya II	31.1.1919	31.3.1919		
151	Emissionsaktiebolaget nya	31.1.1919	31.3.1919		
152	Finska Agrarbyrå nya	31.1.1919	30.4.1919		
153	Helios nya	31.1.1919	30.4.1919		
154	Helsingfors AB nya	31.1.1919	28.2.1919		
155	Kajaanin puutavara Oy	31.1.1919		11.2.1919	27.9.1989
156	Landtmannabanken nya II	31.1.1919	31.3.1919		
157	Länsi Suomen Osakepankki nya II	31.1.1919	28.2.1919		
158	Södra Finlands Int. Tel., nya	31.1.1919	30.4.1919		
159	Suomen vanutehdas nya	31.1.1919	31.7.1919		
160	Kommersbanken	28.2.1919	31.8.1923	14.2.1919	24.8.1923
161	Leppäkoski Fabr nya	28.2.1919	30.4.1919		
162	Handtverk. Aktiebank	31.3.1919	28.3.1945	5.3.1919	x.2.1945
163	Leppäkoski Fabr nya	31.5.1919	31.7.1919		
164	Reposaaren Höyrysaha	31.5.1919	31.1.1922	22.5.1919	31.12.1921
165	Tampereen osakepankki nya	31.5.1919	28.2.1920		
166	Viipurin Saha	31.5.1919	31.1.1922	22.5.1919	31.12.1921
167	AB Valkiakoski nya	27.6.1919	31.5.1920		
168	Handtverk. Aktiebank nya	27.6.1919	31.3.1920		
169	Landtmannabanken nya	27.6.1919	31.3.1920		
170	Länsi Suomen Osakepankki nya	27.6.1919	28.2.1920		
171	Palovakuutus OY Pohjola nya	27.6.1919	31.5.1920		
172	Fastighetsbanken nya	31.7.1919	28.2.1920		
173	Finlandecia	30.8.1919	29.7.1921	6.8.1919	x.7.1921
174	Finska Socker AB	30.8.1919		8.8.1919	27.3.2002
175	Nordiska Föreningsbanken	1.10.1919		xx.9.1919	still listed
176	Pargas Kalk nya	31.10.1919	31.5.1920		
177	Privatbanken, nya	31.10.1919	31.3.1920		
178	Läskela bruk, nya	29.11.1919	31.3.1920		
179	Karhula	28.2.1920	31.12.1931	11.2.1920	20.12.1931
180	G.A. Serlachius Ab	30.4.1920	31.3.1922	16.4.1920	17.3.1922
181	Uudenkaupungin Valtamerilaiva Oy	30.4.1920	30.4.1921	14.4.1920	14.4.1921
182	Uudenkaupungin Valtamerilaiva, nya	30.7.1920	30.4.1921		
183	KOP, nya	30.9.1920	31.3.1921		
184	Lokomo	30.9.1920	31.1.1924	17.9.1920	15.6.1923
185	Södra Finlands Int. Tel., nya	30.9.1920	30.4.1921		
186	Ab Agraria Oy	30.10.1920	29.11.1924	22.10.1920	4.10.1924
187	Kabelfabriken	30.10.1920	31.1.1924	26.10.1920	31.12.1923
188	Nordiska Föreningsbanken nya	30.10.1920	31.3.1921		
189	Yhtyn. Paperitehdas	30.10.1920		21.10.1920	31.12.1990
190	Unionbanken	30.12.1920	x.6.1924	1.1.1921	x.6.1924
191	Aktieb. F. Utrikes	28.2.1922	31.7.1923	8.2.1922	30.6.1923
192	Luotto Pankki OY	28.2.1922	31.3.1933	8.2.1922	x.2.1933
193	Pohjolan OP	30.9.1922	30.11.1948	x.10.1922	x.11.1948

194	Savo-Karjalan Osake Pankki	30.9.1922	30.8.1940	26.9.1922	1.4.1940
195	Suomen Maatalous OP	30.9.1922	28.2.1933	25.9.1922	x.2.1933
196	Pohjois-Suomen Pankki OY / Atlas Bank	30.11.1922	31.12.1929	17.11.1922	17.12.1929
197	Åbolands Bank	31.8.1923	31.1.1933	1.9.1923	x.1.1933
198	Unionbanken	31.7.1924	31.7.1931		
199	Unionbanken, nya	31.12.1924	31.3.1925		
200	Finska Ångfartygs, prior	27.2.1926	28.3.1945		
201	Södra Finl. Bank	27.2.1926	29.2.1928	8.2.1926	31.12.1927
202	Läskelä bruk, nya	30.3.1926	30.6.1926		
203	Suomen Maatalous OP, nya	30.4.1926	28.2.1927		
204	Tampereen OP, nya	30.4.1926	28.2.1927		
205	Kymmene, nya	31.5.1926	30.4.1927		
206	Södra Finl. Bank, nya	31.5.1926	28.2.1927		
207	Kemi, nya	31.7.1926	30.10.1926		
208	Nokia, nya	17.9.1926	31.3.1927		
209	Läskelä bruk, nya	1.10.1926	30.6.1927		
210	Pargas, nya	1.10.1926	29.7.1927		
211	Kemi, prior	30.10.1926	30.12.1935		
212	Lojo Kalkverk	31.1.1927		4.1.1927	
213	G.A. Serlachius Ab	25.2.1927	28.3.1928	1.3.1927	16.12.1927
214	Helsingin rakennusainekauppa	25.2.1927		1.3.1927	6.1.1986
215	Arabia	28.2.1927	30.9.1949	17.2.1927	31.8.1949
216	Sydfinska Kraft	28.2.1927	29.12.1934	17.1.1927	x.12.1934
217	Lojo Cellulosafabrik	31.3.1927	30.11.1931	xx.3.1927	x.12.1931
218	Maskin och Bro, nya	30.4.1927	31.12.1927		
219	Suomen Maatalous OP, nya	31.5.1927	28.2.1929		
220	Lojo Cellulosafabrik, nya	30.6.1927	29.6.1927		
221	Suomen Trikootehdas, nya	30.6.1927	31.3.1928		
222	Lojo Cellulosafabrik, prior	29.7.1927	30.11.1931	x.x.1929	x.x.1931
223	Pargas, prior	29.7.1927	28.5.1942		
224	Pohjolan OP, nya	29.7.1927	30.4.1928		
225	Nokia, nya	30.9.1927	30.5.1928		
226	KOP, nya	31.10.1927	30.4.1928		
227	Läskelä bruk, nya	31.10.1927	30.5.1928		
228	Nordiska FB, nya	31.10.1927	30.4.1928		
229	Fastighetsbanken, nya	30.4.1928	28.3.1929		
230	Kymmene, nya	31.7.1928	31.5.1929		
231	Åbolands Bank, nya	29.9.1928	28.2.1929		
232	Lojo Kalkverk, nya	1.10.1928	31.5.1929		
233	Nokia, nya	3.10.1928	30.4.1929		
234	Valkiakoski, nya	3.10.1928	31.5.1929		
235	Yhtyn. Paperiteht., nya	31.10.1928	31.5.1929		
236	Suomen Trikootehdas, nya	31.12.1928	28.2.1929		
237	Lojo Kalkverk, debentlån	28.2.1929	30.4.1938		
238	Maakuntain Pankki Oy	27.6.1929	31.12.1931	x.6.1929	12.10.1931
239	Lojo Kalkverk, nya	31.10.1929	29.5.1930		
240	Finska Gummifabriks AB	31.12.1931	31.10.1966	20.12.1931	30.9.1966
241	Wärtsilä OY AB	30.11.1933		15.11.1933	still listed
242	Suomen Trikootehdas, nya	29.9.1934	30.3.1935		
243	Wärtsilä, teckn. rätt	24.9.1934	30.11.1934		
244 <sup>a)</sup>	Maskin och Bro t.r.	1.10.1934	31.10.1934		
245	Kymmene teckn. rätt	31.10.1935	30.11.1935		

246	Wärtsilä, teckn. rätt	31.7.1936	28.8.1936		
247	Suomen trikootehdas, teckn.rätt	30.12.1936	27.2.1937		
248	Wärtsilä, nya	30.12.1936	31.3.1937		
249	T:fors linne, teckn.rätt	30.1.1937	31.3.1937		
250	Helsingfors pantlåne AB	15.2.1937	31.1.1938	x.x.1937	x.x.1938
251	Helsingin Panttilainak	15.2.1937	31.1.1938	x.x.1937	x.x.1938
252	Pargas Kalkberg, teckn.rätt	31.3.1937	30.4.1937		
253	Suomen trikootehdas, nya	31.3.1937	31.3.1938		
254	De Fören. Yllefabr., teckn.rätt	30.4.1937	31.5.1937		
255	Finlayson-Forssa, teckn.rätt	30.4.1937	30.7.1937		
256	Finska Ångfartyg, teckn.rätt	30.4.1937	31.5.1937		
257	KOP, teckn.rätt	30.4.1937	31.5.1937		
258	J. Stenbergs Maskinfabrik	31.5.1937	30.12.1955	7.5.1937	x.12.1955
259	Nordiska FB, teckn.rätt	31.5.1937	31.7.1937		
260	Enso-Gutzeit, teckn.rätt	30.7.1937	30.9.1937		
261	Wärtsilä, teckn.rätt	31.8.1937	30.9.1937		
262	Finska ångfartyg, nya	30.10.1937	30.4.1938		
263	KOP, nya	30.10.1937	31.3.1938		
264	T:fors linne, nya	30.11.1937	30.4.1938		
265	Enso-Gutzeit, nya	30.12.1937	31.3.1938		
266	Nordiska FB, nya	30.12.1937	31.3.1938		
267	Suomen Trikoo, teckn.rätt	31.3.1938	30.4.1938		
268	Nokia, teckn.rätt	31.5.1938	30.6.1938		
269	Finska Sjöförsäkring, teckn.rätt	1.6.1938	30.9.1938		
270	Ford	1.6.1938		1.6.1938	6.10.2000
271	Yhtyn. Paperiteht., teckn.rätt	29.7.1938	30.9.1938		
272	Nokia, nya	30.9.1938	29.4.1939		
273	Suomen trikoot., nya	30.9.1938	31.3.1939		
274	Yhtyn. Paperit., nya	31.10.1938	31.3.1939		
275	Lojo Kalkverk, teckn.rätt	31.1.1939	28.2.1939		
276	Finska Gummi, debentlån	29.4.1939	31.5.1939		
277	Finska Gummi, teckn.rätt	29.4.1939	31.5.1939		
278	Pohjola, teckn.rätt	31.5.1939	30.6.1939		
279	Finska Gummi, debentlån	30.9.1939	30.11.1940		
280	Helsingfors pantlåne AB	31.12.1940	31.1.1968	x.x.1940	17.1.1968
281	Helsingin Panttilainak	31.12.1940	29.5.1964	x.x.1940	19.5.1964
282	Stenberg, teckn.rätt	28.2.1941	31.3.1941		
283	Nokia, nya	30.9.1941	30.4.1942		
284	Finska Ångfartyg, teckn.rätt	31.10.1941	30.12.1941		
285	Lojo Kalk, teckn.rätt	31.10.1941	29.11.1941		
286	Finska Ångfartyg, nya	30.12.1941	30.4.1942		
287	Trikoo, teckn.rätt	30.12.1941	31.1.1942		
288	KOP, teckn.rätt	28.2.1942	30.4.1942		
289	Nordiska FB, teckn.rätt	31.3.1942	28.5.1942		
290	Ålands Aktiebank	7.5.1942		2.5.1942	still listed
291	G.A. Serlachius	7.5.1942		2.5.1942	30.12.1986
292	Hämeenlinnan Verkatehdas Oy	7.5.1942	29.8.1952	24.4.1942	12.8.1952
293	Jakobstads Cellulosa	7.5.1942	31.8.1960	24.4.1942	26.7.1960
294	Kuitu Oy	7.5.1942	29.12.1944	24.4.1942	x.12.1944
295	Kustannus Oy Otava	7.5.1942		2.5.1942	28.2.1991
296	Stockmann	7.5.1942		2.5.1942	still listed
297	Suomen Maanviljelijäin Kauppa Oy	7.5.1942		2.5.1942	31.10.2000

298	Suomen Maatalous Osakepankki	7.5.1942	31.7.1958	24.4.1942	x.7.1958
299	T:fors Klädesfabrik	7.5.1942		2.5.1942	still listed
300	Teräs Oy	7.5.1942	28.1.1943	2.5.1942	30.12.1942
301	Vasa Bomull	7.5.1942	29.4.1963	x.4.1942	24.4.1963
302	Rautatiekirjakauppa	28.5.1942	29.8.1952	XX.XX.1942	XX.XX.1952
303	KOP, nya	27.8.1942	26.3.1943		
304	Enso-Gutzeit, teckn.rätt	24.9.1942	26.11.1942		
305	Stockmann, teckn.rätt	24.9.1942	29.10.1942		
306	Fennia, teckn.rätt	29.10.1942	26.11.1942		
307	Fennia, nya	28.1.1943	27.5.1943		
308	Enso-Gutzeit, nya	18.2.1943	30.4.1943		
309	Enso-Gutzeit F series	21.4.1943		20.4.1943	
310	Pohjola, teckn.rätt	29.4.1943	27.5.1943		
311	Industri-Hypoteksbanken	25.6.1943	29.8.1952	x.6.1943	12.8.1952
312	KOP, teckn.rätt	25.6.1943	30.9.1943		
313	Lojo Kalkverk, teckn.rätt	25.6.1943	29.7.1943		
314	Arabia, teckn. rätt	29.7.1943	26.8.1943		
315	Kaukas Fabrik	26.8.1943		10.8.1943	
316	Nordiska FB, teckn.rätt	26.8.1943	28.10.1943		
317	Pohjola, nya	26.8.1943	27.4.1944		
318	Fennia, m.o., t.r.	28.10.1943	31.12.1943		
319	Lojo Kalkverk, nya	28.10.1943	30.6.1944		
320	Fennia, nya	27.1.1944	30.6.1944		
321	KOP, nya	27.1.1944	30.3.1944		
322	Finska Sjöförsäkring, nya	25.2.1944	26.5.1944		
323	Arabia, nya	30.3.1944	30.6.1944		
324	J:stads Cellulosa, teckn.rätt	26.5.1944	30.6.1944		
325	Jakobstads Cellulosa, nya	24.11.1944	28.3.1945		
326	Kemi teckn.rätt	28.3.1945	25.5.1945		
327	Arabia, teckn.rätt	29.6.1945	27.7.1945		
328	Arabia, nya	28.9.1945	31.5.1946		
329	Arabia, teckn.rätt	30.10.1945	31.1.1946		
330	H:fors AB, teckn.rätt	30.10.1945	31.12.1945		
331	Gummi m.o., t.r.	31.12.1945	31.1.1946		
332	Helsingfors ab, nya	31.1.1946	28.2.1946		
333	Strömberg, teckn.rätt	31.1.1946	29.3.1946		
334	T:fors Linne o Jern, teckn.rätt	31.1.1946	29.3.1946		
335	Arabia, nya 2	28.2.1946	31.5.1946		
336	Suomen trikoot., t.r.	28.2.1946	31.5.1946		
337	Kaukas Fabrik, t.r.	29.3.1946	31.5.1946		
338	S.M.K., t.r.	29.3.1946	30.4.1946		
339	Pohjola, nya	28.6.1946	30.4.1947		
340	Kaukas, nya	30.8.1946	31.3.1947		
341	SMK, nya	30.8.1946	30.4.1947		
342	Trikoo, nya	30.8.1946	31.3.1947		
343	Ålands AB, t.r.	29.10.1946	29.11.1946		
344	Holding koncernen	29.10.1946	31.7.1956	x.10.1946	x.6.1956
345	Strömberg, nya	29.10.1946	30.4.1947		
346	T:fors Linne o Jern, nya	29.10.1946	30.5.1947		
347	II Ersättningslånet	29.11.1946	31.8.1955		
348	Arabia, nya	31.3.1947	30.4.1947		
349	Arabia, t.r.	30.1.1948	27.2.1948		

350	Arabia, nya	31.3.1948	30.6.1948		
351	Pohjola, t.r.	30.4.1948	30.6.1948		
352	Wärtsilä, nya	30.4.1948	30.6.1948		
353	SMK, t.r.	30.9.1948	30.11.1948		
354	Fennia, t.r. 2	29.10.1948	30.12.1948		
355	Fennia, t.r. 3	29.10.1948	30.12.1948		
356	Pohjola, nya	29.10.1948	31.5.1949		
357	KOP, t.r.	30.11.1948	31.1.1949		
358	Talous-Osakekauppa	30.11.1948	31.3.1952	29.11.1948	14.3.1952
359	Fennia, nya	30.12.1948	31.5.1949		
360	Finska forcit dynamit	30.12.1948	29.8.1952	20.12.1948	12.8.1952
361	SMK, nya	30.12.1948	29.4.1949		
362	Finska Forcit Dynamit, nya	12.2.1949	31.3.1949		
363	NFB, t.r.	31.3.1949	29.4.1949		
364	Finska Sjöförsäkring, nya	29.4.1949	31.5.1949		
365	Finska Sjöförsäkring, t.r.	30.6.1949	29.7.1949		
366	NFB, nya	29.7.1949	31.3.1950		
367	Wilh. Schauman	30.9.1949	29.1.1960	3.10.1949	8.1.1960
368	KOP, t.r.	31.10.1949	30.11.1949		
369	HAB, nya	29.12.1949	31.3.1950		
370	NFB, t.r.	31.3.1950	28.4.1950		
371	Suomen trikoot., t.r.	31.3.1950	31.5.1950		
372	HAB, t.r.	28.4.1950	31.5.1950		
373	NFB, nya	29.6.1950	30.3.1951		
374	Suomen trikoot., nya	29.6.1950	30.3.1951		
375	KOP, t.r.	27.7.1950	29.9.1950		
376	Lojo Kalkverk, t.r.	29.9.1950	30.11.1950		
377	Pohjola, t.r.	29.9.1950	30.11.1950		
378	Tapaturmavak. OY Kullervo, t.r.	29.9.1950	30.11.1950		
379	SMK, nya	29.12.1950	30.4.1951		
380	KOP, nya	31.1.1951	28.2.1951		
381	Pohjola, nya	31.1.1951	30.4.1951		
382	Tapaturmavak. OY Kullervo, nya	31.1.1951	30.4.1951		
383	Lojo Kalkverk, nya	28.2.1951	31.5.1951		
384	NFB, t.r.	28.2.1951	30.4.1951		
385	Suomen trikoot., t.r.	30.3.1951	31.5.1951		
386	Finska Socker, t.r.	31.5.1951	29.6.1951		
387	NFB, nya	29.6.1951	31.3.1952		
388	Strömberg, t.r.	31.7.1951	28.9.1951		
389	Suomen trikoot., nya	31.7.1951	31.3.1952		
390	Finska Socker, nya	31.8.1951	30.4.1952		
391	Fiskars OY AB	31.10.1951		26.10.1951	still listed
392	Säteri AB	30.11.1951		26.11.1951	xx.5.1975
393	Strömberg, nya	30.11.1951	29.2.1952		
394	Strömberg, t.r.	31.1.1952	30.4.1952		
395	KOP, t.r.	29.2.1952	30.5.1952		
396	Säteri, t.r.	31.3.1952	30.5.1952		
397	Strömberg, nya	31.3.1952	30.4.1952		
398	Finska Gummi, t.r.	30.4.1952	27.6.1952		
399	Finska Gummi, nya	30.9.1952	30.4.1953		
400	Säteri, nya	31.10.1952	31.3.1953		
401	Lojo Kalkverk, t.r.	28.8.1953	30.9.1953		

402	Indexlånet 51	30.11.1953	30.12.1953		
403	Indexlånet 53	30.12.1953	31.1.1955		
404	KOP, t.r.	31.3.1954	31.5.1954		
405	Lojo Kalkverk, nya	31.3.1954	28.6.1955		
406	NFB, t.r.	30.4.1954	29.6.1954		
407	KOP, nya	30.9.1954	25.2.1955		
408	H:fors Aktiebank, t.r.	29.10.1954	30.11.1954		
409	Indexlånet 54	29.10.1954	31.1.1955		
410	Rauma-Repola Oy	29.10.1954		20.10.1954	30.12.1990
411	Indexlånet 1.3.54	31.1.1955	28.2.1964		
412	Indexlånet 1.8.54	31.1.1955	29.1.1960		
413	Suomen trikoot. No 3 t.r.	25.2.1955	31.3.1955		
414	Suomen trikoot. No 4 t.r.	25.2.1955	31.3.1955		
415	Finska Gummi, t.r.	31.5.1955	31.8.1955		
416	Suomen trikoot., nya	31.5.1955	30.11.1955		
417	Fennia, t.r.	28.6.1955	30.9.1955		
418	J:stads Cellulosa, t.r.	31.10.1955	30.11.1955		
419	Tammerfors Drog	31.10.1955		17.10.1955	3.3.1987
420	Maatalous OP, nya	30.12.1955	21.2.1956		
421	Serlachius, t.r.	30.12.1955	21.2.1956		
422	Indexlånet 1.3.55	31.1.1956	31.3.1965		
423	Indexlånet 1.8.53	31.1.1956	31.7.1958		
424	Indexlånet 1.8.55	31.1.1956	28.2.1961		
425	Indexlånet 2.5.55	31.1.1956	31.5.1960		
426	Tammerfors Drog, t.r.	31.1.1956	30.4.1956		
427	Lojo Kalkverk, t.r.	21.2.1956	30.4.1956		
428	Nokia, No 7 t.r.	28.3.1956	31.5.1956		
429	Nokia, No 8 t.r.	28.3.1956	31.5.1956		
430	Rauma-Repola, t.r.	28.3.1956	31.5.1956		
431	De före yllefabrikerna, t.r.	30.4.1956	31.5.1956		
432	Kaukas, No 1 t.r.	30.4.1956	31.5.1956		
433	Kaukas, No 2 t.r.	30.4.1956	31.5.1956		
434	Pohjola, t.r.	30.4.1956	31.5.1956		
435	Serlachius, nya	30.4.1956	30.11.1956		
436	Finska Socker, t.r.	31.5.1956	31.7.1956		
437	Indexlånet 2.1.56	31.5.1956	31.1.1966		
438	Tammerfors Drog, nya	31.5.1956	30.4.1957		
439	Tammerfors Linne, t.r.	31.5.1956	31.7.1956		
440	De före yllefabrikerna, nya	31.7.1956	30.4.1957		
441	Pohjola, nya	31.7.1956	30.4.1957		
442	Rauma-Repola, nya	31.7.1956	30.4.1957		
443	Stockmann, No 3 t.r.	31.7.1956	31.10.1956		
444	Stockmann, No 4 t.r.	31.7.1956	31.10.1956		
445	Yhtyn. Paperit., No 1 t.r.	31.7.1956	28.9.1956		
446	Yhtyn. Paperit., No 2 t.r.	31.7.1956	28.9.1956		
447	Fennia, t.r.	31.8.1956	31.10.1956		
448	Kajaani, t.r.	28.9.1956	31.10.1956		
449	Enso-Gutzeit, F, t.r.	31.10.1956	28.12.1956		
450	Enso-Gutzeit, t.r.	31.10.1956	28.12.1956		
451	Finska Socker, nya	31.10.1956	30.4.1957		
452	Nokia, nya	31.10.1956	30.4.1957		
453	Indexlånet 2.5.56	28.12.1956	31.5.1966		

454	Indexlånnet 15.9.56	28.2.1957	30.9.1966		
455	Talous-Osake-Kauppa	28.2.1957		6.2.1957	10.9.1990
456	Yhtyn. Paperit., nya	29.3.1957	31.5.1957		
457	Tapaturmavak. OY Kullervo, t.r.	25.6.1957	31.7.1957		
458	Indexlånnet 2.1.57	31.1.1958	31.1.1967		
459	Enso F, t.r.	30.9.1958	30.10.1958		
460	Enso, t.r.	30.9.1958	30.10.1958		
461	Wärtsilä, t.r.	30.9.1958	30.10.1958		
462	Finska Gummi, t.r.	27.2.1959	29.4.1959		
463	Finska Socker, t.r.	30.6.1959	28.8.1959		
464	Kymmene, t.r.	30.9.1959	30.11.1959		
465	Pohjola, t.r.	30.9.1959	28.10.1959		
466	Huhtamäki yhtymä	30.12.1959		21.12.1959	still listed
467	Huhtamäki yhtymä, nya	29.1.1960	31.3.1960		
468	Villayhtymä Oy	29.1.1960	28.11.1969	1.1.1960	23.12.1969
469	Indexlånnet 2.1.60	29.2.1960	30.12.1969		
470	Indexlånnet 1.3.60	31.3.1960	25.2.1970		
471	Rauma-Repola, t.r.	31.3.1960	31.5.1960		
472	Kesko	31.5.1960		5.5.1960	still listed
473	Kesko, t.r.	31.5.1960	26.7.1960		
474	T:fors Drog, t.r.	31.5.1960	28.6.1960		
475	Kesko, em kup t.r.	30.9.1960	31.10.1960		
476	Tampella, em kup 6 t.r.	30.9.1960	30.11.1960		
477	Tampella, em kup 7 t.r.	30.9.1960	30.11.1960		
478	Wilh. Schauman	4.10.1960		4.10.1960	31.8.1988
479	Villayhtymä, debentures lån	23.12.1960	30.12.1969		
480	Väglånnet	2.1.1961			
481	Lassila & Tikkanoja	22.2.1961		8.1.1961	still listed
482	Enso-Gutzeit, t.r. A	28.2.1961	28.4.1961		
483	Enso-Gutzeit, t.r. B	28.2.1961	28.4.1961		
484	Sparlånnet 1961 I	28.2.1961	29.5.1962		
485	Sparlånnet 1961 II	28.2.1961	29.5.1962		
486	Kemi, t.r.	22.3.1961	31.5.1961		
487	NFB, t.r.	29.3.1961	31.5.1961		
488	Huhtamäki, t.r.	4.4.1961	31.5.1961		
489	KOP, t.r.	4.4.1961	31.5.1961		
490	Tapaturmavak. OY Kullervo, t.r.	28.4.1961	25.7.1961		
491	KOP, nya	31.8.1961	28.2.1962		
492	Huhtamäki, nya	29.9.1961	29.5.1962		
493	NFB, nya	29.9.1961	30.3.1962		
494	T:fors Klädesfabrik, kup 1 t.r.	31.10.1961	30.11.1961		
495	T:fors Klädesfabrik, kup 2 t.r.	31.10.1961	30.11.1961		
496	Serlachius, t.r.	30.11.1961	31.5.1962		
497	T:fors Klädesfabrik, nya	22.12.1961	30.3.1962		
498	Kone Oy	27.12.1961		27.12.1961	31.12.1975
499	Indexlånnet 1.3.61	31.1.1962	28.2.1966		
500	Indexlånnet 15.2.61	31.1.1962	28.2.1966		
501	Indexlånnet 2.1.61	31.1.1962			
502	Kemi, nya	31.1.1962	30.3.1962		
503	NFB, t.r.	31.1.1962	30.3.1962		
504	Pohjola, t.r.	31.1.1962	28.2.1962		
505	H:fors AB, t.r.	28.2.1962	30.3.1962		

506	Stockmann, t.r.	27.4.1962	29.5.1962		
507	Serlachius, serie B	3.5.1962			
508	Finska Socker, t.r.	29.5.1962	31.7.1962		
509	Indexlånet 2.1.62	29.5.1962	31.1.1963		
510	F. Statens lån 1962 I	31.10.1962	31.1.1967		
511	F. Statens lån 1962 II	31.10.1962	31.3.1967		
512	Indexlånet 1.9.62	31.10.1962			
513	Autoteollisuus	18.12.1962		14.12.1962	xx.12.1974
514	Finska Socker, nya	31.1.1963	29.4.1963		
515	Finska Socker, t.r.	31.1.1963	29.4.1963		
516	Indexlånet 1962	31.1.1963			
517	Helsingfors Pant, t.r.	29.3.1963	31.7.1963		
518	Kaukas, Serie B	29.3.1963			
519	Lån 2.1.63	29.3.1963	31.1.1968		
520	Lassila & Tikkanoja, t.r.	29.3.1963	31.10.1963		
521	Strömberg, t.r.	29.3.1963	31.5.1963		
522	Fiskars, t.r.	31.5.1963	31.7.1963		
523	Nokia, t.r.	31.5.1963	31.7.1963		
524	Yhtyn. Paperiteht., t.r.	25.6.1963	30.8.1963		
525	Lån 1963	30.9.1963	26.7.1966		
526	Lån 1963 II	30.9.1963	29.3.1968		
527	Teräs	23.12.1963		11.12.1963	
528	Indexlånet 1963 6,5%	31.1.1964			
529	Lån 1963 8,25	31.1.1964	31.10.1967		
530	Lån 1963 III	31.1.1964	28.5.1969		
531	SMK, prioritets	29.5.1964		5.5.1964	
532	Wärtsilä, t.r.	30.6.1964	30.9.1964		
533	Enso-Gutzeit A, t.r.	28.8.1964	29.10.1964		
534	Enso-Gutzeit R, t.r.	28.8.1964	29.10.1964		
535	Indexlån 2.1.64	30.9.1964			
536	Kesko, t.r.	30.9.1964	29.10.1964		
537	Indexlån 1.9.64	30.12.1964			
538	Indexlån 2.1.64b	30.12.1964	20.12.1968		
539	Indexlån 2.3.64	30.12.1964	29.3.1968		
540	Kesko, nya	30.12.1964	31.5.1965		
541	Enso-Gutzeit, nya (A)	29.1.1965	31.5.1965		
542	Enso-Gutzeit, nya (R)	29.1.1965	31.5.1965		
543	KOP, t.r.	29.1.1965	31.3.1965		
544	NFB, t.r.	29.1.1965	31.5.1965		
545	H:fors Aktiebank, t.r. Kup 7	31.3.1965	31.5.1965		
546	H:fors Aktiebank, t.r. Kup 8	31.3.1965	31.5.1965		
547	Indexlånet 2.1.65	31.3.1965			
548	Kesko Oy, debentures lån	31.3.1965			
549	Huhtamäki, t.r.	29.4.1965	30.6.1965		
550	KOP, nya	30.6.1965	29.3.1966		
551	Pargas, t.r.	30.6.1965	30.9.1965		
552	H:fors Aktiebank, nya	30.11.1965	29.3.1966		
553	NFB, nya	23.12.1965	29.3.1966		
554	NFB, pref	23.12.1965		16.12.1965	
555	Indexlån 1.3.65	31.1.1966			
556	Indexlån 1.9.65	31.1.1966			
557	Indexlån 2.1.65 (8,25%)	31.1.1966	20.12.1968		



558	Yhtyn. Paperiteht., nya	31.1.1966	31.5.1966		
559	Pargas, nya	28.2.1966	28.6.1966		
560	Indexlån 1.2.66 I 7,5%	28.6.1966	31.1.1969		
561	Indexlån 1966 II 8,25%	28.6.1966	25.2.1970		
562	Indexlån 1966 I 8,25%	26.7.1966	30.12.1969		
563	Indexlån 1966 II 7,5%	26.7.1966	30.4.1969		
564	Nokia, kup 10 t.r.	31.8.1966	31.10.1966		
565	Nokia, kup 11 t.r.	31.8.1966	31.10.1966		
566	Wärtsilä, t.r.	31.8.1966	30.9.1966		
567	Nokia, debentures lån	31.10.1966			
568	Indexlån 1966 III 7,5%	29.11.1966	30.4.1969		
569	Indexlån 3.1.1966	20.12.1966			
570	Indexlån 1.11.66 7,25%	31.1.1967			
571	Indexlån 1.11.66 III 7%	31.1.1967			
572	Indexlån 1.6.66 II 7%	31.1.1967			
573	Indexlån 15.2.66 7%	31.1.1967			
574	Indexlån 15.4.66 8,25%	31.1.1967			
575	Kone, B	31.1.1967		2.1.1967	still listed
576	Oy W. Rosenlew & Co Ab	31.1.1967		2.3.1967	17.12.1987
577	Wärtsilä, Serie II	31.3.1967		3.4.1967	
578	Wilh. Schauman, t.r.	31.3.1967	31.5.1967		
579	Kesko Oy, Debentures 1967 lån	31.5.1967			
580	Finlayson, t.r.	31.8.1967	31.10.1967		
581	Lojo Kalkverk, t.r.	31.8.1967	30.11.1967		
582	Skuldsedellån 1967 I 9%	31.8.1967	28.6.1968		
583	Skuldsedellån 1967 II 7,5%	31.8.1967	28.5.1969		
584	Wilh. Schauman, pref	29.9.1967		14.9.1967	31.8.1988
585	Rauma-Repola, t.r. No 3	30.11.1967	29.2.1968		
586	Rauma-Repola, t.r. No 4	30.11.1967	29.2.1968		
587	Indexlån 2.1.67 7,5%	31.1.1968			
588	Indexlån 2.1.67 8,75%	31.1.1968			
589	Kone, t.r.	31.1.1968	29.2.1968		
590	Skuldsedellån 1.3.68 I 7%	30.4.1968			
591	Skuldsedellån 2.1.68 I 7%	30.4.1968	28.5.1969		
592	Kesko, t.r.	31.5.1968	30.9.1968		
593	T:fors Klädesfabrik, t.r.	31.5.1968	30.8.1968		
594	Lån 2.5.68 II 8,25%	28.6.1968			
595	Teräs, t.r.	28.6.1968	31.10.1968		
596	Tampella, t.r.	30.8.1968	31.10.1968		
597	Huhtamäki, t.r.	30.9.1968	20.12.1968		
598	Kymmene, t.r.	31.10.1968	31.1.1969		
599	Pohjola, t.r.	31.10.1968	29.11.1968		
600	Finska Ångfartyg, t.r.	29.11.1968	20.12.1968		
601	Kone, t.r.	29.11.1968	31.1.1969		
602	T:fors Klädesfabrik, t.r.	29.11.1968	20.12.1968		
603	Lån 7.10.68 8%	20.12.1968			
604	Pohjola, nya	20.12.1968	30.4.1969		
605	Rauma-Repola, t.r. No 5	20.12.1968	21.3.1969		
606	Rauma-Repola, t.r. No 6	20.12.1968	21.3.1969		
607	Skuldsedellån 2.1.68 I 8,25%	20.12.1968			
608	T:fors Klädesfabrik, nya	20.12.1968	21.3.1969		
609	H:fors Aktiebank, t.r.	31.1.1969	30.4.1969		

610	Kymmene, nya	31.1.1969	30.4.1969	
611	Teräs, nya	31.1.1969	28.5.1969	
612	Finska Socker, t.r.	30.4.1969	27.8.1969	
613	Kajaani, t.r. No 1	30.4.1969	31.7.1969	
614	Kajaani, t.r. No 2	30.4.1969	31.7.1969	
615	Kemi, t.r.	30.4.1969	27.8.1969	
616	Lån 2.1.69 8%	30.4.1969		
617	Wärtsilä, Serie II, t.r.	30.4.1969	24.6.1969	
618	Wärtsilä, t.r.	30.4.1969	24.6.1969	
619	Lån 2.1.69 8,25%	28.5.1969		
620	Pargas, t.r. No 14	28.5.1969	31.7.1969	
621	Pargas, t.r. No 15	28.5.1969	31.7.1969	
622	Skuldsedellån 2.1.68 I 7%	28.5.1969		
623	H:fors Aktiebank, nya	31.7.1969	25.2.1970	
624	Lån 20.3.69 7,5%	27.8.1969		
625	Finska Socker, nya	24.9.1969		
626	Lån 2.5.69 II 7,5%	24.9.1969		
627	Lån 2.5.69 II 8%	24.9.1969		
628	Fastighetsb. lån 16.9.69 8%	28.11.1969		
629	Ind.Hyp.b. lån 16.9.69 8%	28.11.1969		
630	Maa- ja teoll.kp. lån 16.9.69 8%	28.11.1969		
631	Finska Socker, t.r.	30.12.1969		
632	Lån 17.11.69 III 7,5%	30.12.1969		
633	Lån 17.11.69 III 8%	30.12.1969		
634	Metsäll. Selluloosa	30.12.1969		1.12.1969 31.12.1986
635	Fennia, t.r.	28.1.1970		
636	Enso-Gutzeit, t.r.	25.2.1970		
637	Enso-Gutzeit, t.r.	25.2.1970		
638	Lån 2.1.70 8%	25.2.1970	31.3.1970	
639	Finska Socker, gratis nya	31.3.1970		
640	Kemi, nya	31.3.1970		
641	Rauma-Repola, t.r. No 7	31.3.1970		
642	Rauma-Repola, t.r. No 8	31.3.1970		

a) This series was not listed in Mercator, only in Kauppalehti.

## APPENDIX B: PRVIOUSLY AVAILABLE STOCK INDEX SERIES 1/1919-12/1929

The stock market index series below are taken from the Bank of Finland Monthly Bulletin (published since 1921). Mercator indices are calculated by the Mercator weekly business magazine (first mentioned September 19th, 1919). Mercator I-index is based on monthly trading price averages for eight banks', eight industrial companies', and three other companies' stocks. Index value is the average of the price-to-nominal value ratios. Mercator II-index uses bid prices at the end of the month and its weighting is based on capitalization value of the company. Base values are not known for the Mercator indices. Unitas'26 index is described in the text (for 1926-27 only the year-end values are available). Note that all available index values from the Bulletin have been reported (Unitas publication provides also yearly averages for the Unitas index: 1923=84, 1924=79, 1925=79, 1926=100, 1927=152, and 1928=170).

	Mercator I	Mercator II	Unitas'26		
				Apr.22	122
Jan.19	300			May.22	122
Feb.19	296			Jun.22	124
Mar.19	289			Jul.22	125
Apr.19	267			Aug.22	127
May.19	267			Sep.22	140
Jun.19	274			Oct.22	144
Jul.19	276			Nov.22	142
Aug.19	286			Dec.22	143
Sep.19	288			Jan.23	145
Oct.19	290			Feb.23	148
Nov.19	286			Mar.23	142
Dec.19	300			Apr.23	142
Jan.20	322			May.23	144
Feb.20	327			Jun.23	141
Mar.20	331			Jul.23	147
Apr.20	305			Aug.23	149
May.20	284			Sep.23	144
Jun.20	288			Oct.23	145
Jul.20	303			Nov.23	139
Aug.20	315			Dec.23	140
Sep.20	296			Jan.24	143
Oct.20	248			Feb.24	143
Nov.20	213	175		Mar.24	139
Dec.20	196	173		Apr.24	129
Jan.21	214	178		May.24	127
Feb.21	192	160		Jun.24	126
Mar.21	175	150		Jul.24	125
Apr.21	167	145		Aug.24	125
May.21	165	148		Sep.24	122
Jun.21	175	141		Oct.24	123
Jul.21	169	145		Nov.24	123
Aug.21	169	147		Dec.24	122
Sep.21	167	138		Jan.25	126
Oct.21		130		Feb.25	127
Nov.21		129		Mar.25	121
Dec.21		127		Apr.25	118
Jan.22		128		May.25	120
Feb.22		132		Jun.25	125
Mar.22		127		Jul.25	132

			Dec.29	189	124
Aug.25	134				
Sep.25	135				
Oct.25	136				
Nov.25	141				
Dec.25	147				
Jan.26	144				
Feb.26	147				
Mar.26	152				
Apr.26	154				
May.26	153				
Jun.26	157				
Jul.26	164				
Aug.26	172				
Sep.26	175				
Oct.26	172				
Nov.26	177				
Dec.26	178	109			
Jan.27	198				
Feb.27	211				
Mar.27	222				
Apr.27	219				
May.27	224				
Jun.27	233				
Jul.27	265				
Aug.27	256				
Sep.27	248				
Oct.27	250				
Nov.27	253				
Dec.27	270	173			
Jan.28	270	181			
Feb.28	265	177			
Mar.28	267	182			
Apr.28	257	179			
May.28	255	179			
Jun.28	257	180			
Jul.28	255	178			
Aug.28	241	169			
Sep.28	235	163			
Oct.28	223	157			
Nov.28	213	147			
Dec.28	229	149			
Jan.29	221	150			
Feb.29	215	148			
Mar.29	200	142			
Apr.29	202	138			
May.29	199	140			
Jun.29	196	137			
Jul.29	197	136			
Aug.29	194	133			
Sep.29	175	126			
Oct.29	181	121			
Nov.29	188	124			

## APPENDIX C: VALUE-WEIGHTED TOTAL RETURN AND PRICE STOCK INDICES FROM OCTOBER 1912 TO MARCH 1970

Total return (yield) and price stock market indices calculated in this paper are provided below for the Finnish stock market. Both indices are value-weighted. Indices are based on month-end bid prices when available (used dates provided). Both series set to October 1912 = 100. *Please note that the series below are preliminary; changes are likely. Please contact the author(s) for potentially updated series.*

Date	V-w yield	V-w price			
			31.5.1916	161,780	132,646
31.10.1912	100	100	30.6.1916	180,098	147,665
30.11.1912	98,045	98,045	28.7.1916	203,838	167,130
31.12.1912	92,992	92,992	31.8.1916	241,248	197,802
31.1.1913	92,923	92,923	30.9.1916	301,978	247,596
28.2.1913	94,191	94,191	31.10.1916	300,921	246,729
31.3.1913	92,028	92,028	30.11.1916	267,112	219,009
30.4.1913	96,557	91,928	29.12.1916	248,516	203,761
28.5.1913	95,944	91,345	31.1.1917	226,883	186,025
25.6.1913	95,591	91,009	28.2.1917	241,053	197,642
30.7.1913	95,516	90,938	31.3.1917	236,011	193,509
27.8.1913	95,496	90,918	30.4.1917	236,159	185,376
30.9.1913	96,055	91,450	31.5.1917	246,347	193,373
31.10.1913	96,375	91,755	29.6.1917	238,754	187,413
29.11.1913	97,685	93,002	27.7.1917	236,814	185,890
30.12.1913	98,378	93,663	31.8.1917	252,501	198,204
31.1.1914	98,248	93,538	29.9.1917	255,857	200,838
28.2.1914	98,761	94,027	29.10.1917	264,952	207,978
31.3.1914	95,334	90,764	30.11.1917	275,131	215,968
30.4.1914	101,164	91,468	29.12.1917	273,456	214,653
30.5.1914	100,670	91,021	23.1.1918	272,165	213,639
1.7.1914	101,224	91,522	28.2.1918	272,165	213,639
29.7.1914	100,959	91,282	31.3.1918	272,165	213,639
31.8.1914	100,959	91,282	30.4.1918	272,165	213,639
30.9.1914	100,959	91,282	31.5.1918	274,780	206,087
31.10.1914	100,959	91,282	28.6.1918	283,776	212,834
30.11.1914	100,959	91,282	31.7.1918	316,705	237,531
31.12.1914	100,959	91,282	31.8.1918	350,801	263,103
31.1.1915	100,959	91,282	30.9.1918	454,053	340,543
28.2.1915	100,959	91,282	31.10.1918	423,265	317,452
31.3.1915	97,328	87,999	30.11.1918	390,693	293,023
29.4.1915	103,152	88,492	30.12.1918	366,179	274,637
31.5.1915	103,008	88,368	31.1.1919	372,519	279,392
30.6.1915	103,008	88,368	28.2.1919	356,690	267,520
31.7.1915	103,008	88,368	31.3.1919	354,867	266,153
1.9.1915	105,567	90,563	30.4.1919	343,607	250,307
30.9.1915	110,792	95,045	31.5.1919	347,204	252,927
30.10.1915	115,155	98,788	27.6.1919	371,691	270,765
30.11.1915	121,594	104,312	31.7.1919	371,736	270,798
29.12.1915	131,848	113,109	30.8.1919	355,980	259,320
29.1.1916	134,946	115,767	30.9.1919	344,328	250,832
29.2.1916	143,942	123,484	31.10.1919	356,656	259,812
29.3.1916	160,060	137,311	29.11.1919	347,682	253,275
29.4.1916	158,387	129,864	30.12.1919	376,334	274,147

31.1.1920	390,465	284,441	31.5.1924	369,177	181,454
28.2.1920	396,453	288,803	27.6.1924	364,854	179,329
31.3.1920	403,491	293,930	31.7.1924	362,294	178,071
30.4.1920	424,497	294,734	29.8.1924	361,342	177,603
31.5.1920	419,866	291,519	30.9.1924	363,816	178,819
30.6.1920	431,991	299,937	31.10.1924	351,920	172,972
30.7.1920	442,564	307,278	29.11.1924	349,061	171,567
31.8.1920	450,969	313,114	31.12.1924	342,643	168,412
30.9.1920	406,859	282,488	31.1.1925	352,017	173,019
30.10.1920	412,113	286,136	28.2.1925	352,457	173,236
30.11.1920	362,556	251,727	31.3.1925	351,075	172,556
30.12.1920	357,379	248,133	30.4.1925	371,913	167,182
31.1.1921	352,116	244,479	30.5.1925	374,345	168,275
28.2.1921	329,772	228,965	30.6.1925	388,402	174,594
31.3.1921	314,543	218,391	31.7.1925	412,341	185,355
30.4.1921	324,354	207,629	28.8.1925	419,335	188,499
31.5.1921	333,657	213,583	30.9.1925	423,439	190,343
30.6.1921	321,717	205,941	31.10.1925	428,509	192,623
29.7.1921	319,058	204,238	30.11.1925	448,392	201,561
31.8.1921	328,981	210,590	31.12.1925	468,782	210,726
30.9.1921	310,918	199,028	30.1.1926	478,098	214,914
31.10.1921	300,286	192,222	27.2.1926	481,931	216,637
30.11.1921	291,637	186,685	30.3.1926	503,344	226,263
31.12.1921	281,923	180,467	30.4.1926	551,650	229,018
31.1.1922	279,953	179,206	31.5.1926	545,382	226,416
28.2.1922	288,466	184,656	30.6.1926	558,387	231,815
31.3.1922	284,567	182,159	31.7.1926	588,163	244,176
29.4.1922	296,592	174,217	31.8.1926	609,933	253,214
31.5.1922	293,717	172,529	30.9.1926	626,072	259,914
30.6.1922	298,334	175,240	30.10.1926	616,711	256,028
28.7.1922	299,771	176,085	30.11.1926	639,928	265,667
31.8.1922	301,967	177,374	31.12.1926	649,668	269,710
30.9.1922	324,332	190,512	31.1.1927	720,754	299,222
31.10.1922	331,789	194,892	28.2.1927	773,794	321,241
30.11.1922	329,822	193,737	31.3.1927	805,458	334,387
31.12.1922	324,594	190,665	30.4.1927	843,721	329,448
31.1.1923	325,999	191,491	31.5.1927	869,055	339,341
28.2.1923	328,676	193,063	30.6.1927	910,188	355,402
31.3.1923	318,974	187,364	29.7.1927	1078,564	421,148
30.4.1923	346,861	186,333	31.8.1927	1081,507	422,297
31.5.1923	353,321	189,803	30.9.1927	1045,164	408,106
29.6.1923	345,323	185,506	31.10.1927	1053,512	411,366
31.7.1923	355,415	190,928	30.11.1927	1043,099	407,300
31.8.1923	360,349	193,578	31.12.1927	1097,842	428,675
29.9.1923	354,079	190,210	31.1.1928	1117,737	436,444
31.10.1923	355,137	190,778	29.2.1928	1118,104	436,587
30.11.1923	344,843	185,248	31.3.1928	1128,008	440,455
31.12.1923	344,040	184,817	30.4.1928	1164,584	430,223
31.1.1924	353,223	189,750	30.5.1928	1155,080	426,712
29.2.1924	363,560	195,303	29.6.1928	1154,247	426,405
31.3.1924	357,600	192,102	31.7.1928	1147,135	423,777
30.4.1924	373,080	183,372	31.8.1928	1095,446	404,682

29.9.1928	1069,069	394,938	31.1.1933	904,735	245,438
31.10.1928	1010,065	373,140	28.2.1933	904,423	245,353
30.11.1928	965,134	356,542	31.3.1933	907,785	246,265
31.12.1928	1013,988	374,590	29.4.1933	997,419	253,080
31.1.1929	985,963	364,237	31.5.1933	989,507	251,072
28.2.1929	960,873	354,968	30.6.1933	1020,852	259,026
28.3.1929	911,264	336,641	28.7.1933	1056,225	268,001
30.4.1929	968,564	333,991	31.8.1933	1117,603	283,575
31.5.1929	954,251	329,056	30.9.1933	1149,699	291,719
28.6.1929	939,183	323,860	31.10.1933	1131,784	287,173
31.7.1929	936,764	323,026	30.11.1933	1152,206	292,355
30.8.1929	929,628	320,565	30.12.1933	1297,685	329,268
30.9.1929	828,665	285,750	31.1.1934	1236,459	313,733
31.10.1929	842,711	290,593	28.2.1934	1251,040	317,432
30.11.1929	865,963	298,611	29.3.1934	1230,481	312,216
31.12.1929	852,360	293,921	30.4.1934	1355,980	326,248
31.1.1930	884,013	304,835	31.5.1934	1341,517	322,768
28.2.1930	874,701	301,624	29.6.1934	1384,484	333,106
31.3.1930	855,263	294,922	31.7.1934	1413,230	340,022
30.4.1930	987,757	317,311	31.8.1934	1474,908	354,862
28.5.1930	957,805	307,689	29.9.1934	1458,563	350,929
27.6.1930	925,162	297,203	31.10.1934	1479,153	355,883
31.7.1930	932,266	299,485	30.11.1934	1493,849	359,419
29.8.1930	931,035	299,090	29.12.1934	1495,444	359,802
30.9.1930	884,297	284,075	31.1.1935	1518,807	365,423
31.10.1930	874,707	280,995	27.2.1935	1516,270	364,813
29.11.1930	833,243	267,675	30.3.1935	1468,677	353,362
31.12.1930	828,506	266,153	30.4.1935	1550,993	353,206
31.1.1931	838,813	269,464	31.5.1935	1555,237	354,172
28.2.1931	834,151	267,966	28.6.1935	1555,735	354,286
31.3.1931	788,762	253,385	31.7.1935	1626,081	370,305
30.4.1931	804,697	236,305	30.8.1935	1608,714	366,351
30.5.1931	781,416	229,468	30.9.1935	1582,698	360,426
30.6.1931	778,451	228,598	31.10.1935	1602,407	364,914
31.7.1931	787,943	231,385	30.11.1935	1626,321	370,360
28.8.1931	764,734	224,570	30.12.1935	1660,201	378,076
18.9.1931	747,313	219,454	31.1.1936	1679,737	382,524
31.10.1931	837,544	245,951	29.2.1936	1797,315	409,300
30.11.1931	924,930	271,612	31.3.1936	1778,802	405,084
31.12.1931	894,645	262,719	30.4.1936	1939,138	421,038
30.1.1932	847,660	248,921	30.5.1936	1954,791	424,437
29.2.1932	829,750	243,662	30.6.1936	1994,186	432,991
31.3.1932	819,925	240,777	31.7.1936	2167,154	470,546
30.4.1932	830,519	225,305	28.8.1936	2187,594	474,985
31.5.1932	824,691	223,724	30.9.1936	2259,046	490,499
30.6.1932	840,684	228,062	31.10.1936	2312,579	502,122
29.7.1932	850,315	230,675	30.11.1936	2405,932	522,391
31.8.1932	906,269	245,854	30.12.1936	2422,133	525,909
30.9.1932	895,809	243,017	30.1.1937	2584,682	561,203
31.10.1932	902,372	244,797	27.2.1937	2743,175	595,616
30.11.1932	923,781	250,605	31.3.1937	2701,588	586,586
30.12.1932	903,269	245,040	30.4.1937	2477,306	515,837

31.5.1937	2502,487	521,081	30.9.1941	4334,429	769,405
30.6.1937	2538,271	528,532	31.10.1941	4469,058	793,304
30.7.1937	2587,995	538,886	29.11.1941	4358,478	773,674
31.8.1937	2680,507	558,149	30.12.1941	3974,506	705,515
30.9.1937	2459,067	512,040	31.1.1942	4605,361	817,499
30.10.1937	2473,492	515,043	28.2.1942	4935,754	876,147
30.11.1937	2347,053	488,715	31.3.1942	5629,162	999,234
30.12.1937	2356,255	490,632	30.4.1942	5115,119	886,382
31.1.1938	2412,471	502,337	28.5.1942	5167,523	895,463
28.2.1938	2310,688	481,143	30.6.1942	5247,302	909,287
31.3.1938	2206,471	459,443	30.7.1942	5160,562	894,256
30.4.1938	2266,075	448,940	27.8.1942	5453,627	945,041
31.5.1938	2316,350	458,900	30.9.1942	5723,465	991,800
30.6.1938	2414,824	478,410	29.10.1942	5615,710	973,128
29.7.1938	2483,571	492,029	30.11.1942	5286,566	916,091
31.8.1938	2489,381	493,180	30.12.1942	5168,439	895,621
30.9.1938	2488,790	493,063	29.1.1943	5320,675	922,002
31.10.1938	2437,178	482,838	25.2.1943	5378,751	932,066
30.11.1938	2366,180	468,773	31.3.1943	5525,432	957,484
30.12.1938	2377,405	470,996	29.4.1943	5595,022	947,353
31.1.1939	2450,016	485,382	31.5.1943	5754,780	974,404
28.2.1939	2479,819	491,286	30.6.1943	5767,766	976,602
31.3.1939	2452,569	485,887	29.7.1943	5717,213	968,043
29.4.1939	2535,126	479,023	31.8.1943	5596,222	947,556
31.5.1939	2619,634	494,991	30.9.1943	5161,049	873,873
30.6.1939	2583,377	488,141	30.10.1943	4767,739	807,277
28.7.1939	2591,579	489,690	30.11.1943	4604,248	779,595
31.8.1939	2584,177	488,292	31.12.1943	5056,670	856,199
30.9.1939	2391,498	451,884	31.1.1944	5206,707	881,604
10.10.1939	2298,912	434,390	29.2.1944	5368,627	909,020
29.11.1939	2245,147	424,231	30.3.1944	5376,697	910,386
31.12.1939	2245,147	424,231	29.4.1944	5472,825	901,284
31.1.1940	2245,147	424,231	31.5.1944	5589,748	920,539
29.2.1940	2245,147	424,231	30.6.1944	5209,437	857,908
1.4.1940	2194,809	414,719	28.7.1944	5270,305	867,932
30.4.1940	2844,694	520,964	31.8.1944	5719,213	941,860
31.5.1940	2525,819	462,566	29.9.1944	5210,477	858,080
29.6.1940	2485,284	455,143	30.10.1944	5016,978	826,214
31.7.1940	2364,121	432,954	30.11.1944	4538,720	747,452
30.8.1940	2465,795	451,574	29.12.1944	4778,039	786,864
30.9.1940	2470,489	452,434	30.1.1945	4827,829	795,064
31.10.1940	2731,862	500,300	28.2.1945	5101,229	840,088
30.11.1940	2813,810	515,308	30.3.1945	6551,895	1078,989
30.12.1940	2728,162	499,623	30.4.1945	8122,316	1312,082
31.1.1941	2819,350	516,322	31.5.1945	8313,099	1342,902
28.2.1941	2840,193	520,139	29.6.1945	11975,011	1934,449
31.3.1941	2956,524	541,444	31.7.1945	16483,526	2662,756
30.4.1941	3473,987	616,668	31.8.1945	15093,100	2438,146
31.5.1941	3366,424	597,575	28.9.1945	11442,429	1848,415
27.6.1941	3726,615	661,512	31.10.1945	11532,175	1862,913
31.7.1941	4178,384	741,706	30.11.1945	9144,631	1477,228
29.8.1941	4186,294	743,110	31.12.1945	9967,981	1610,232



31.1.1946	9128,610	1474,640	31.5.1950	12728,590	1654,608
28.2.1946	7734,511	1249,436	29.6.1950	13428,141	1745,544
29.3.1946	6755,327	1091,258	27.7.1950	14419,557	1855,395
30.4.1946	7723,077	1220,526	31.8.1950	14467,889	1861,614
31.5.1946	9853,133	1557,151	29.9.1950	14893,568	1916,387
28.6.1946	9115,436	1440,569	31.10.1950	16463,942	2118,450
30.7.1946	8327,613	1316,064	30.11.1950	15855,379	2040,145
30.8.1946	8192,608	1294,728	29.12.1950	15587,652	2005,696
30.9.1946	8423,602	1331,234	31.1.1951	16721,754	2151,623
29.10.1946	8787,096	1388,679	28.2.1951	18119,886	2331,524
29.11.1946	8455,440	1336,265	30.3.1951	18323,893	2357,774
30.12.1946	7905,320	1249,327	30.4.1951	17744,408	2211,273
31.1.1947	7161,759	1131,817	31.5.1951	17046,323	2124,279
28.2.1947	6444,877	1018,524	29.6.1951	17374,562	2165,183
31.3.1947	6482,299	1024,438	31.7.1951	16712,927	2064,797
30.4.1947	7049,217	1084,146	31.8.1951	17054,498	2106,996
30.5.1947	7058,717	1085,607	28.9.1951	17387,115	2148,089
27.6.1947	6884,350	1058,790	31.10.1951	17095,933	2112,115
31.7.1947	6837,148	1034,402	30.11.1951	17445,299	2155,278
29.8.1947	6677,891	1010,308	28.12.1951	17732,300	2190,735
30.9.1947	7970,058	1205,802	31.1.1952	18118,712	2238,475
31.10.1947	7699,824	1164,917	29.2.1952	17962,252	2219,145
28.11.1947	7809,904	1181,572	31.3.1952	17316,778	2139,400
30.12.1947	7892,610	1194,084	30.4.1952	16983,791	1997,733
30.1.1948	7845,634	1186,977	30.5.1952	16072,168	1890,502
27.2.1948	6802,603	1029,176	27.6.1952	15565,097	1830,858
31.3.1948	6280,890	950,245	31.7.1952	16276,866	1897,969
30.4.1948	6686,293	974,536	29.8.1952	16517,784	1926,061
31.5.1948	6524,899	951,012	30.9.1952	16448,704	1918,006
30.6.1948	6805,139	991,858	31.10.1952	16107,111	1878,174
30.7.1948	6795,889	971,895	28.11.1952	15815,983	1844,227
31.8.1948	6411,596	916,937	30.12.1952	15366,463	1791,811
30.9.1948	6138,153	877,831	30.1.1953	15597,837	1818,790
29.10.1948	6145,342	878,859	27.2.1953	15941,260	1858,835
30.11.1948	6115,552	874,599	31.3.1953	16396,864	1911,961
30.12.1948	5963,446	852,846	30.4.1953	18325,471	2034,449
31.1.1949	6421,573	918,363	29.5.1953	19253,745	2137,504
28.2.1949	6208,181	887,846	30.6.1953	19622,288	2178,418
31.3.1949	6349,374	908,038	28.7.1953	19658,886	2157,601
29.4.1949	7010,354	960,088	28.8.1953	21116,257	2317,550
31.5.1949	6961,950	953,459	30.9.1953	20659,256	2267,393
30.6.1949	7028,613	962,589	30.10.1953	20712,948	2273,286
29.7.1949	7058,334	949,504	30.11.1953	21177,778	2324,302
31.8.1949	7687,006	1034,074	30.12.1953	21157,195	2322,043
30.9.1949	7556,487	1016,516	29.1.1954	21561,798	2366,449
31.10.1949	7556,169	1016,474	26.2.1954	21263,476	2333,708
30.11.1949	7623,340	1025,510	31.3.1954	21150,498	2321,308
29.12.1949	8495,643	1142,854	30.4.1954	21744,362	2282,653
31.1.1950	8849,956	1190,517	31.5.1954	21568,624	2264,204
28.2.1950	9333,901	1255,618	29.6.1954	21734,634	2281,631
31.3.1950	10344,275	1391,536	30.7.1954	22050,387	2294,871
28.4.1950	11960,819	1554,804	31.8.1954	22154,622	2305,719

30.9.1954	22187,706	2309,162	30.1.1959	35981,582	3142,505
29.10.1954	22445,310	2335,972	27.2.1959	36530,477	3190,443
30.11.1954	22385,672	2329,765	31.3.1959	37958,795	3315,187
30.12.1954	22310,036	2321,893	29.4.1959	41034,318	3410,796
31.1.1955	23895,872	2486,938	29.5.1959	39683,345	3298,502
25.2.1955	25255,654	2628,456	30.6.1959	41003,076	3408,199
31.3.1955	27926,373	2906,408	31.7.1959	42189,733	3506,835
29.4.1955	28900,949	2889,116	28.8.1959	42885,866	3564,698
31.5.1955	30285,363	3027,510	30.9.1959	44031,482	3659,922
28.6.1955	30325,141	3031,487	29.10.1959	45266,408	3762,570
26.7.1955	30283,827	3006,400	30.11.1959	46487,029	3864,029
31.8.1955	31583,846	3135,459	30.12.1959	47752,230	3969,193
30.9.1955	33102,541	3286,226	29.1.1960	52065,529	4327,717
31.10.1955	33338,719	3309,672	29.2.1960	52254,530	4343,427
30.11.1955	34552,422	3430,161	31.3.1960	52617,439	4373,592
30.12.1955	35777,417	3551,772	29.4.1960	53120,483	4222,725
31.1.1956	38621,434	3834,109	31.5.1960	51481,558	4092,441
21.2.1956	37855,459	3758,068	28.6.1960	53067,704	4218,529
28.3.1956	39286,919	3900,174	26.7.1960	55588,978	4418,954
30.4.1956	39844,027	3819,190	31.8.1960	55606,975	4420,385
31.5.1956	40801,801	3910,996	30.9.1960	54315,568	4317,726
26.6.1956	41740,737	4000,996	31.10.1960	55090,203	4379,305
31.7.1956	46401,726	4447,768	30.11.1960	54061,235	4297,508
31.8.1956	45244,565	4336,850	30.12.1960	54550,767	4336,423
28.9.1956	42071,721	4032,722	31.1.1961	56449,788	4487,383
31.10.1956	40704,389	3901,658	28.2.1961	56671,764	4505,028
30.11.1956	38058,999	3648,089	29.3.1961	54579,000	4338,667
28.12.1956	36949,963	3541,784	28.4.1961	57352,540	4348,729
31.1.1957	35960,324	3446,923	31.5.1961	56885,365	4313,306
28.2.1957	38549,218	3695,078	27.6.1961	56942,766	4317,658
29.3.1957	37059,209	3552,255	25.7.1961	57665,962	4372,494
30.4.1957	35669,195	3277,281	31.8.1961	57179,834	4335,634
31.5.1957	34078,437	3131,122	29.9.1961	56773,870	4304,852
25.6.1957	33322,408	3061,658	31.10.1961	55024,525	4172,209
31.7.1957	32398,585	2976,777	30.11.1961	54681,361	4146,188
30.8.1957	34089,783	3132,164	29.12.1961	54141,480	4105,252
30.9.1957	35616,727	3272,460	31.1.1962	55149,296	4181,669
31.10.1957	32290,661	2966,861	28.2.1962	55962,330	4243,317
29.11.1957	31369,737	2882,247	30.3.1962	55386,183	4199,631
28.12.1957	31179,708	2864,787	27.4.1962	56965,649	4082,112
31.1.1958	32870,290	3020,118	29.5.1962	58661,671	4203,647
28.2.1958	33163,850	3047,090	26.6.1962	59554,651	4267,637
31.3.1958	32123,484	2951,501	31.7.1962	63204,105	4529,154
30.4.1958	33462,293	2922,479	31.8.1962	62319,059	4465,733
30.5.1958	31651,067	2764,293	28.9.1962	62449,432	4475,075
27.6.1958	32420,652	2831,505	31.10.1962	62379,624	4470,073
31.7.1958	32695,117	2855,476	30.11.1962	61434,132	4402,320
29.8.1958	32660,078	2852,416	28.12.1962	61983,327	4441,674
30.9.1958	33859,840	2957,199	31.1.1963	63103,323	4521,932
30.10.1958	33244,652	2903,471	26.2.1963	64338,694	4610,458
28.11.1958	32708,970	2856,686	29.3.1963	66256,888	4747,914
30.12.1958	33350,919	2912,752	29.4.1963	65539,947	4694,093

31.5.1963	62754,332	4494,582	29.9.1967	53086,976	3125,840
25.6.1963	62417,282	4470,442	31.10.1967	54109,863	3186,069
31.7.1963	63024,409	4513,925	30.11.1967	52637,821	3099,393
30.8.1963	63313,931	4534,661	29.12.1967	53752,744	3165,041
30.9.1963	63901,364	4576,734	31.1.1968	52432,974	3087,331
31.10.1963	63911,998	4577,496	29.2.1968	53604,535	3156,314
29.11.1963	61921,766	4434,952	29.3.1968	59584,737	3508,437
30.12.1963	62167,632	4452,561	30.4.1968	69798,797	3909,557
31.1.1964	64832,756	4643,442	31.5.1968	67210,072	3764,558
28.2.1964	66456,042	4759,705	28.6.1968	70692,797	3959,631
31.3.1964	66217,647	4742,631	26.7.1968	71793,914	4021,307
29.4.1964	67453,604	4597,761	30.8.1968	72820,709	4078,819
29.5.1964	66045,791	4501,802	30.9.1968	73803,087	4133,844
30.6.1964	66892,440	4559,512	31.10.1968	74869,209	4193,560
31.7.1964	67326,656	4589,109	29.11.1968	74228,681	4157,683
28.8.1964	67780,614	4620,051	30.12.1968	77150,062	4321,314
30.9.1964	66020,534	4500,081	31.1.1969	84520,192	4734,129
29.10.1964	65561,934	4468,822	26.2.1969	84623,015	4739,888
30.11.1964	65619,976	4472,778	21.3.1969	86245,283	4830,754
30.12.1964	66160,597	4509,628	30.4.1969	87984,350	4614,425
29.1.1965	63791,107	4348,119	28.5.1969	95967,114	5033,089
26.2.1965	66154,956	4509,243	24.6.1969	94971,786	4980,888
31.3.1965	64830,944	4418,996	31.7.1969	94577,609	4960,215
29.4.1965	65406,833	4218,723	27.8.1969	97740,764	5126,110
31.5.1965	64923,497	4187,548	24.9.1969	97924,880	5135,766
30.6.1965	63384,486	4088,282	31.10.1969	97816,257	5130,069
30.7.1965	63855,401	4118,656	28.11.1969	97401,518	5108,318
31.8.1965	63350,505	4086,090	30.12.1969	97476,386	5112,244
30.9.1965	63356,165	4086,455	28.1.1970	103160,292	5410,342
29.10.1965	62544,737	4034,118	25.2.1970	102510,797	5376,279
30.11.1965	61176,822	3945,888	31.3.1970	102117,763	5355,666
30.12.1965	62343,310	4021,126			
31.1.1966	65216,948	4206,475			
28.2.1966	61296,159	3953,585			
29.3.1966	60381,050	3894,561			
29.4.1966	59571,854	3765,224			
31.5.1966	58001,710	3665,983			
28.6.1966	56641,495	3580,011			
26.7.1966	57178,136	3613,929			
31.8.1966	56917,934	3597,483			
30.9.1966	55879,891	3531,874			
31.10.1966	54269,937	3430,117			
29.11.1966	54781,289	3462,437			
30.12.1966	54478,517	3443,301			
31.1.1967	55327,701	3496,973			
28.2.1967	53948,152	3409,779			
31.3.1967	53401,192	3375,209			
28.4.1967	54886,110	3231,775			
31.5.1967	54783,210	3225,716			
30.6.1967	54255,830	3194,663			
25.7.1967	54828,169	3228,364			
31.8.1967	52974,610	3119,223			