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A new value-weighted total return index for the Finnish stock market

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Peter Nyberg – Mika Vaihekoski

A new value-weighted total return index for the Finnish stock market



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The views expressed in this paper are those of the authors and do not necessarily reflect the views of the Bank of Finland.

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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, these can be used to study the development of the Finnish equity market without a break 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 new 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.

Keywords: stock market index, Finland, Helsinki Stock Exchange, Nasdaq OMX, OMXH, Unitas

JEL classification numbers: G10, N24

Uusi markkina-arvoilla painotettu tuottoindeksi Suomen osakemarkkinoille

Suomen Pankin keskustelualoitteita 21/2009

Peter Nyberg – Mika Vaihekoski
Rahapolitiikka- ja tutkimusosasto

Tiivistelmä

Tässä tutkimuksessa luodaan Suomen osakemarkkinoille uusi tuottoindeksi, joka kattaa kaikki listatut osakkeet painotettuina niiden markkina-arvon mukaisilla painoilla. Indeksillä on laskettu kuukausitasolla ja alkaa Helsingin Pörssin perustamisesta lokakuussa 1912 ja loppuu vuoden 1970 alkuun. Tämän jälkeen indeksillä voidaan jatkaa Berglundin ja muiden (1983) WI-indeksillä aina vuoteen 1990, jonka jälkeen voidaan käyttää pörssin omaa HEX-tuottoindeksiä. Yhdistetyn indeksin avulla voidaan tutkia Suomen osakemarkkinoiden kehitystä pörssin perustamisesta aina nykypäivään asti. Tutkimuksessa käydään huolellisesti läpi myös indeksin laskemismenetelmä sekä vertaillaan laskettua indeksiä aiemmin saatavilla olleisiin indekseihin. Tutkimuksessa luotu indeksi korvaa erityisesti ns. Unitas-hintaindeksin, joka on aiemmin ollut ainoa saatavilla ollut indeksi pitkän aikavälin kehitystä tarkasteleviin tutkimuksiin. Nyt luotua indeksiä voidaan käyttää myös vaihtoehtona yhtiöiden kirja-arvoilla painotetulle vuodelle 1912–1929 käsittävälle Poutvaaran (1996) hintaindeksille.

Avainsanat: osakemarkkinaindeksi, Suomi, Helsingin Pörssi, Nasdaq OMX, OMXH, Unitas

JEL-luokittelu: 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, eg 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, eg Belter, Engsted, and Tanggaard, 2005, and Frennberg and Hansson, 1992, who constructed stock market indices for Denmark and Sweden, respectively).¹ 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.

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

¹ See also Nielsen and Risager (2001) and Klovland (2004).

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 Unitas 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.² 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

² 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.

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).

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 (ie 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 643 listed securities.³ The list can be seen from Appendix A 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).⁴ Out of the series, 184 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 series in the stock exchange. Altogether, 159 companies had at least one stock series listed at the HSE some time during the period.

³ 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.

⁴ We considered companies that were listed under a new name after a merger as separate entries (eg Suomen Liittopankki and Liittopankki). Also re-listings were accounted for separately. Delisting dates from Mercator in Appendix A 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.

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.⁵ 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.⁶ From the listings, the month-end bid offer for each security was recorded and transferred to a database.⁷ If there was no bid offer available for a particular stock and it was still listed during the next month, we back-tracked the intra-month listings until an offer became available.⁸ 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) and they avoid bid-ask bounce effect altogether. Unfortunately, for some stock series there were months even without 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 author information could not be found even from other newspapers.

As a result of the data collection we had an $T \times N$ matrix of month-end bid prices, where N denotes the number of securities (643) 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.⁹ If the error was an obvious typo, it was manually corrected. Such typos included, eg missing decimal points (ie 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.

⁵ Eg 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.

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

⁷ 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 used month-end dates can be seen from Appendix C.

⁸ In these cases, the date of the used bid offer was also recorded.

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

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.¹⁰ As a result, we have two $Y \times N$ matrices for the 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).¹¹

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 – eg 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.¹² 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.¹³

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

¹⁰ In practice, we photographed the book and transferred the information to Excel.

¹¹ 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.

¹² 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).

¹³ 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.

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).¹⁴ 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. 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 (ie 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 (eg 5:1) in the matrix.¹⁵ This matrix is used to adjust the monthly price matrix when calculating monthly returns. In addition, we manually adjusted the monthly nominal values matrix to avoid sudden (incorrect) changes mid-year to the market capitalization values of the stocks.

Altogether we found only ten 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

¹⁴ 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 (eg Bank of Finland Bulletin and Mercator) for information.

¹⁵ 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.

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.¹⁶ 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. 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 companies listed at the time of the publication, respectively. For the very early part of the period we also use Poutvaara (1996).¹⁷ In addition, we went through all appearances of stock rights to the Exchange's price listing and tried to find a match for an issue from the books. In cases where the match could not be found or the information provided was only partially, we used the Iron Book.

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.¹⁸ 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 190 bonus (free) issues and 303 equity (cash / rights) issues, some of which were mixed. Overall, we believe that more than 89 per cent of the issues have been included in our analysis.¹⁹ Figure 3 shows the number of bonus and new share issues during the sample period.

¹⁶ Bonus issues, ie 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.

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

¹⁸ 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.

¹⁹ This number was estimated by calculating the number of bonus issues (15) and cash issues (45) 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.

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, ie the first ex-right month). In these cases, an adjustment factor was inserted. These matrices were then used to make corresponding adjustments in the 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 calculate 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

$$R_{it} = \frac{P_{it}^* + D_{it}}{P_{it-1}} - 1 \quad (2.1)$$

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 .²⁰ 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 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

$$P_{it}^* = P_{it} (S_{it} B_{it} + C_{it}) \quad (2.2)$$

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

²⁰ 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 (ie 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.

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 (ie 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

$$C_{it} = \frac{W_{it}}{P_{it}} = \frac{(P_{it} - M)}{P_{it}(A/B)} \quad (2.3)$$

where A , B , and M denote the terms of the issue/split (ie 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.²¹ In the case of a mixed issue of bonus and cash, equations (2.2) and (2.3) are applied separately for both issues. Directed issues (eg, 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.²²

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

$$R_t = \sum_{i=1}^{N_{t-1}} w_{it-1} R_{it} \quad (2.5)$$

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 (eg value vs equally weighted)

²¹ We also forced the positivity of C_{it} due to rationality of the investors (ie right are left unused if M is higher than the market price).

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

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 companies.²³ 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.²⁴

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 53.446. 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 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

²³ 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, 2006). 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, 2006).

²⁴ 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.

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 $t=1, 2, \dots, T$

$$I_t = 100(1 + R_1)(1 + R_2)\dots(1 + R_t) \quad (2.6)$$

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 1st 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 1st observations to proxy for March 31st. 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.²⁵ 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

²⁵ 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.

instead of the common ones, or both. A couple of these cases took place during the sample period (eg Enso, Kaukas, Kone, Kymmene, SMK, Schauman, Serlachius, Yhtyneet Paperitehtaat). A somewhat similar special situation arose when a company issued bonds to its owners (eg Nokia, Wärtsilä) or the company offered in the split a mix of new ordinary shares together with preferred shares (eg Kaukas) or even from another company (eg KOP 1952 offered shares of unlisted Rauma-Repola). These cases are handled manually by calculating the adjustment factor on the basis of the observed market value of the issued share or bond or in the case on unlisted shares, from the quoted price of the stock right (if listed). In some cases where the stock right was not listed and the issued stock class was not listed, we assumed the value to be the same as the listed shares.

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 Pantlåne 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' shares behaved slightly differently from other companies. Namely, it increased yearly as the customers (ie owners) paid their dues. The 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 12.44 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 16.37 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, 5.26 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 Uunitas-index (with some differences). The index is book equity capital weighted, and adjusted for splits as well as issues. Price observation used to calculate the index are the last monthly bid price observation.

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 (ie 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, ie the period when Poutvaara's index overlaps with our indices. The results show that the mean returns per annum has been 6.49, 8.58, 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 0.894 (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 ie PYP during 1919–1975, Suomen Yhdyspankki ie SYP during 1976–1990, Unitas during 1990–1995, and Merita during 1995–1997; now part of Nordea

Bank).²⁶ 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.²⁷

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 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.²⁸

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 (ie 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 eg Kock, 1984, and Unitas-publication in 1/1951). Beginning in 1975, the

²⁶ Several other indices have been also published, but they are typically available for a shorter period. Eg KOP Bank calculated its price indices separately for bank and industry stocks (base 1938 = 100) both of which were published eg in KOP *Taloudellinen katsaus* (first issue in 1949). However, the monthly values prior to the publication are likely to be unavailable anywhere. KOP renew 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.

²⁷ 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.

²⁸ 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 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).

weights were based on the market capitalization values adjusted manually to account for the free float and some other issues. (Unitas, 1977).

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.²⁹ 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, ie the period when the Unitas index overlaps with our indices. The results show that the mean returns per annum has been 6.16, 11.08, 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 4.63 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 0.992 (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 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 (ie they did not

²⁹ Minor differences included, eg 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).

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, ie 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.³⁰ However, the approach chosen by us is followed by many indices.³¹

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.

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

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

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.³² When combined with Poutvaara's (1996) index for 1896–1912, the WI-index for 1970–1990, and the HEX/OMX index from 1991 to 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 eg 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.

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

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Figures 1-8

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.

N:o 2		MERCATOR												43	
		Helsingfors Fondbörs.													
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
Industriaktier.															
400	0	0	A. B. Dalsbruk	440	160	300	325	290	—	—	—	290	340	290	320
2000	25	25	T:fors Linne o. Jern	6300	5000	5975	6050	6000	6060	6025	6300	6000	6300	6040	6025
200	20	—	A. B. Valkiakoski	250	75	—	90	—	—	90	—	—	—	90	
100	12	14	Finska Socker Aktieb.	188	120	183	185	183	185	182	183	182	183	185	183
300	8	8	A. B. Wärtsilä	245	135	145	160	145	—	145	169	155	165	150	—
100	8	8	Pargas kalk A. B.	85	45	70	71	69	71	70	71	70	71	70	71
500	15	15	Kymmene A. B.	950	550	560	—	560	—	570	—	586	—	601	—
1000	8	10	Maskin o. Bro	895	600	780	—	780	—	780	—	780	—	785	—
500	15	12	Läskelä Bruks A. B.	798	381	385	425	385	450	385	—	385	425	385	—
500	20	20	De Fören. Yllefab. A. B.	950	550	565	—	590	630	595	650	600	600	—	601
100	15	20	Suomen Trikootehdas	187	130	—	150	—	—	150	—	150	125	150	125
6250	32	4	Finlayson & Co A. B.	25000	15000	21000	23000	21000	23000	21000	23000	22000	23000	22500	24000
500	10	11	A. B. Ferraria	700	500	350	—	—	—	360	—	360	—	360	—
1000	12	12	A. B. Keml	1400	750	750	850	750	850	750	850	800	850	800	850
2000	10	12	Ab. Uleå Oy	3300	2500	2500	—	2500	2700	2500	2900	2105	2900	2600	2600
500	0	—	A. B. W. Gutzeit & Co	1100	210	150	—	—	—	150	200	150	200	2500	2500
500	10	10	Yhtyn. Paperiteht. O. Y.	470	275	307	—	307	—	308	350	310	—	330	370
1000	30	30	Sörnäs A. B.	1905	1650	1725	—	—	—	1725	—	—	1725	—	1780
1000	0	0	Ph. U. Strenberg & Co	1750	1000	1650	—	1650	—	1660	—	1660	1750	1660	1750
100	12	15	Högfors Bruks A. B.	300	130	192	200	195	300	200	202	205	200	—	200
500	6	0	Leppäkoski Fbr. A. B.	270	39	—	—	—	—	—	—	—	—	—	—
1000	6	0	A. B. G. Strömberg	625	200	—	240	200	240	—	—	—	—	170	—
2000	20	30	Tampereen Puuvilla	6700	5500	—	6000	—	—	—	—	—	6000	—	—
200	15	20	Wasa Bomullsm. A. B.	750	405	—	560	—	—	—	—	—	500	—	—
100	18	25	Wasa Angkvarn A. B.	200	150	—	180	—	—	—	—	—	185	250	—
100	5	12	A. B. Kervo Tegebr.	200	200	—	200	—	—	—	—	—	—	—	—
1000	20	—	A. B. Tornator	—	—	—	—	—	—	—	—	—	—	—	—
5000	4 1/2	4 1/2	Fiskars A. B.	6000	6000	—	6200	—	—	—	—	—	—	—	—
200	10	10	Billnäs Bruks Aktieb.	200	125	—	225	—	—	—	—	—	—	—	—
4000	35	30	Forssa A. B.	23500	22500	—	—	—	—	—	—	—	—	—	—
200	10	10	O. Y. Nuuni A. B. (stam)	500	275	—	—	—	—	—	—	—	—	—	—
2000	15	15	Nokia A. B. (stam)	—	—	—	—	3000	—	—	—	—	3000	—	—
1000	6	6	Ab. Crichton	—	—	—	—	1000	—	—	—	—	—	—	—
250	10	16	Finska Forcit-Dynamit	400	300	—	—	—	—	—	—	—	—	—	—
500	15	20	A. B. Silverberg & Wecksell	—	—	—	—	850	—	—	—	—	—	—	—
1000	15	15	A. B. John Barker O. Y.	1600	1500	—	—	—	—	—	—	—	—	—	—
1000	12	18	Kajaanin Puutavara Oy.	2000	1700	—	—	—	—	—	—	—	—	—	—
1000	18	20	Karhula O. Y.	1800	1500	—	1475	1550	—	—	—	1450	—	—	—
500	6	0	A. B. S. Nikolajeff J:or	500	290	—	—	—	—	—	—	—	—	—	—
Bankaktier.															
200	8	8	Fastighetsb.	140	112	138	145	—	—	—	—	—	138	—	140
100	22	18	Nordiska Fören.-Bank.	313	220 1/2	243 1/2	244	244	245	244 1/2	246	243	244	243	245
200	17	17	Kans.-Osak.-Pank.	379	325	366	367	366 1/2	370	366 1/2	372	371	375	372	375
100	8	9	Helsingf. Aktieb.	106	69	99 1/2	102	98 1/2	99 1/2	98	101	99	100	100 1/2	101
200	13	14	Tampor. O.-Pankki	303	230	290	—	291	304	292	305	294	305	300	305
100	0	6	Unionbanken	75	55	58	58 1/2	58 1/2	59	59 1/2	60	60	60 1/2	60	60 1/2
100	10	11	Suomen Kauppap.	207 1/2	130	201	—	201	207 1/2	201	205	201	—	201	202 1/2
100	10 1/2	10 1/2	Länsi Suom. Osake P.	114	94	111	—	110	—	110	—	110	112	109	108
200	0	7	Landsfastighetsbanken	80	60	60	—	60	—	60	—	60	—	60	—
100	8	8	Abolands Bank	95	78	78	80	—	80	79	81	80	—	80	78
100	0	5	Emissionsaktiebol.	70	47	45	—	45	—	45	—	45	—	40	50
100	6	0	Luotto Pankki O. Y.	69	34	57 1/2	—	57 1/2	—	57 1/2	—	57 1/2	—	57 1/2	—
100	6	0	Savo Karjalan Osake P.	55	37	50	—	50	—	50	—	50	—	50	—
200	7 1/2	0	Suomen Maatalous O-P	180	100	—	—	—	—	—	—	—	—	—	180
200	6	5	Pohjolan Osake-Pankki	160	120	135	140	135	140	135	140	135	139	132	139
100	0	5	Atlas Bank A. B.	73	70	69	—	69	—	70	—	72	—	73	—
Försäkringsaktier.															
In- bet.	mk	mk	Brändförs. A. B. Fennia	1200	1000	—	—	1000	—	—	—	—	1020	—	—
1000	100	110	Finska Sjöförsäkr. A. B.	—	—	—	—	—	—	—	—	—	—	—	—
500	50	50	Sjöförsäkr. A. B. Triton	—	—	—	—	—	—	—	—	—	—	—	—
150	10 1/2	12	Jälleenvak. O. Y. Osmo	300	300	—	—	300	—	—	—	—	300	—	—
350	30	33	Palovak. Pohjola	425	320	—	—	330	400	—	—	—	375	400	—
500	30	34	Tapaturmav. Kullervo	625	625	—	—	550	—	—	—	—	550	—	—
200	16	18	Palovakuutus Imatra	—	—	—	—	225	—	—	—	—	225	—	—
200	14	16	Brändförs. A. B. Wellamo	210	210	—	—	210	—	—	—	—	210	—	—
Kommunikationsakt.															
Nom.	%	%	Finska Angfartygs A. B.	1345	925	955	960	955	990	970	990	990	1005	995	1005
1000	15	15	Wasa Nordsjö Angbåts	145	120	120	—	120	—	125	—	—	—	—	—
200	10	18	Spårvägs- & Omnib. A. B.	598	—	—	—	500	—	—	—	—	—	—	—
Diverse aktier.															
200	10	10	Södra Finlands Int. Tel.	300	200	240	260	240	360	240	—	240	260	240	260
100	0	0	A. B. Agros	37	20	24	25	25	26	25	26	25	26	25	26
500	8	8	Hifors Magnus A. B.	—	—	—	—	25	—	—	—	—	—	—	—
800	6	6	Helsingfors Pantt A. B.	650	650	—	—	—	—	—	—	—	—	800	—
100	6	6	Helsingin Pantti O. Y.	95	95	—	—	—	—	—	—	—	—	—	—
1000	0	8	Brändö Villastad A. B.	—	—	—	—	—	—	—	—	—	—	—	—
100	0	0	A.B. Agraria O.Y.	35	32	—	—	—	—	—	—	—	—	—	—

) Utan teckningsrätt.

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.

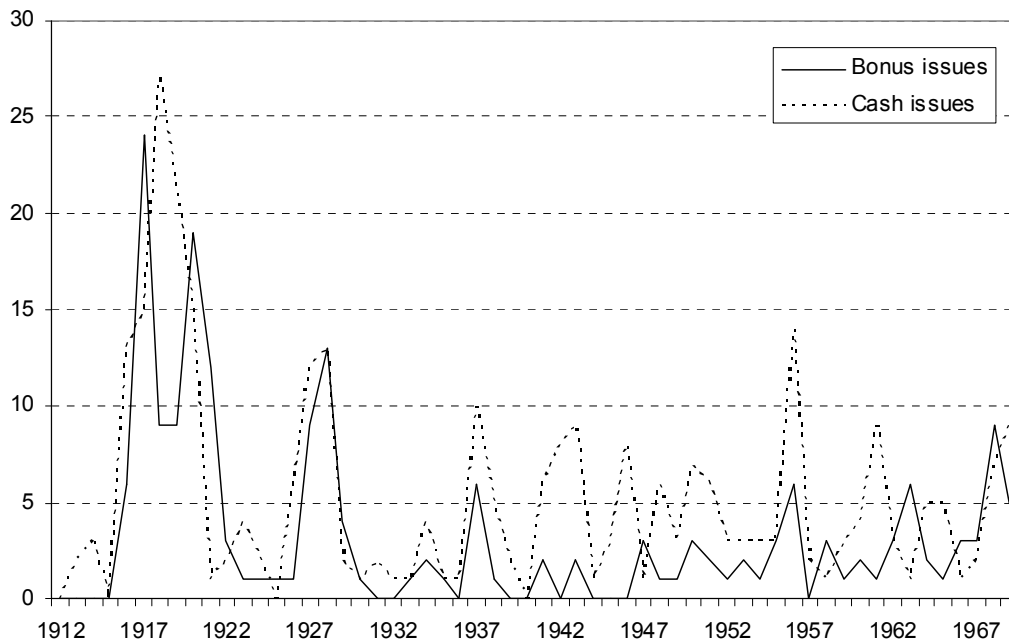


Figure 4. **Monthly number of listed stock series in the HSE from October 1912 to March 1970**

Note that only the main series are accounted for (ie so-called 'new'-series are excluded).

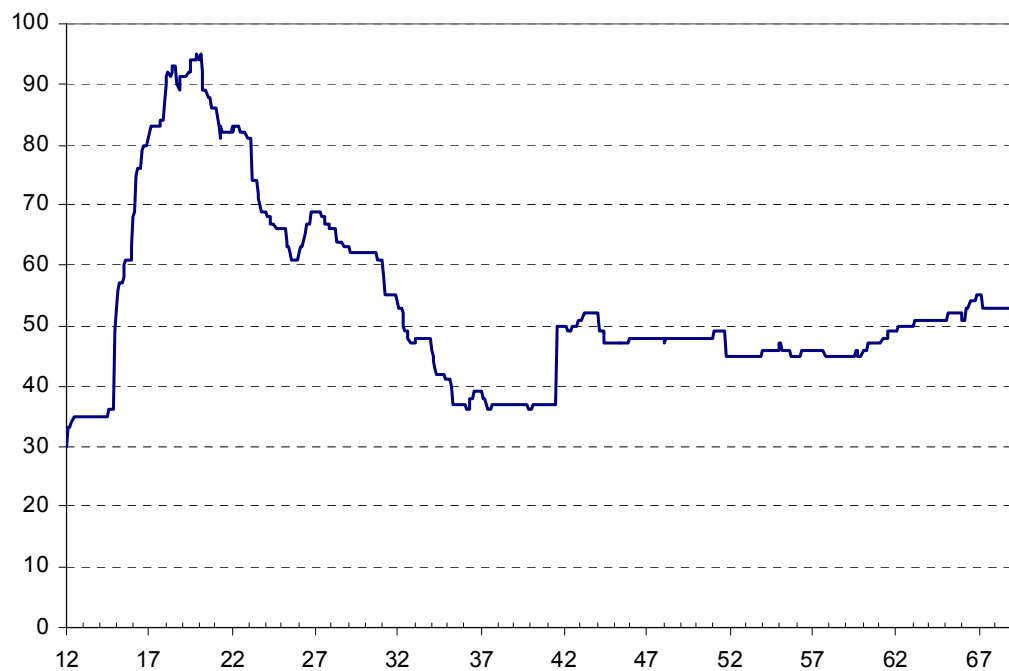


Figure 5. **Equally and value-weighted price and total return indices for the Finnish stock market**

Monthly observations from October 1912 to March 1970 (all series October 1912=100).
Logarithmic (base 10) scale used for y-axis.

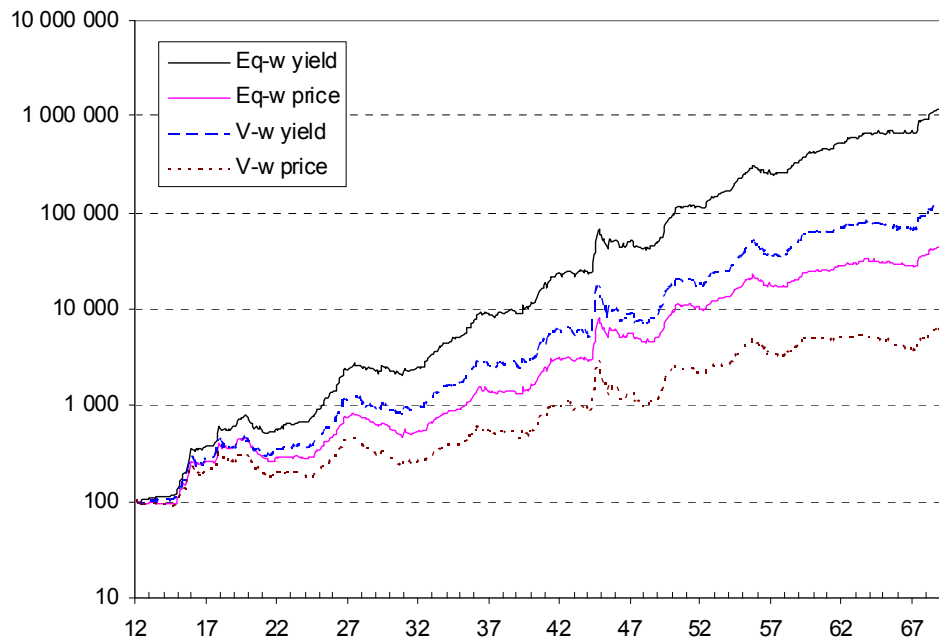


Figure 6. **Comparison of value-weighted, equally weighted, and book equity weighted all-share total return indices**

Monthly observations from October 1912 to March 1970 (all series October 1912=100).
Logarithmic (base 10) used for y-axis.

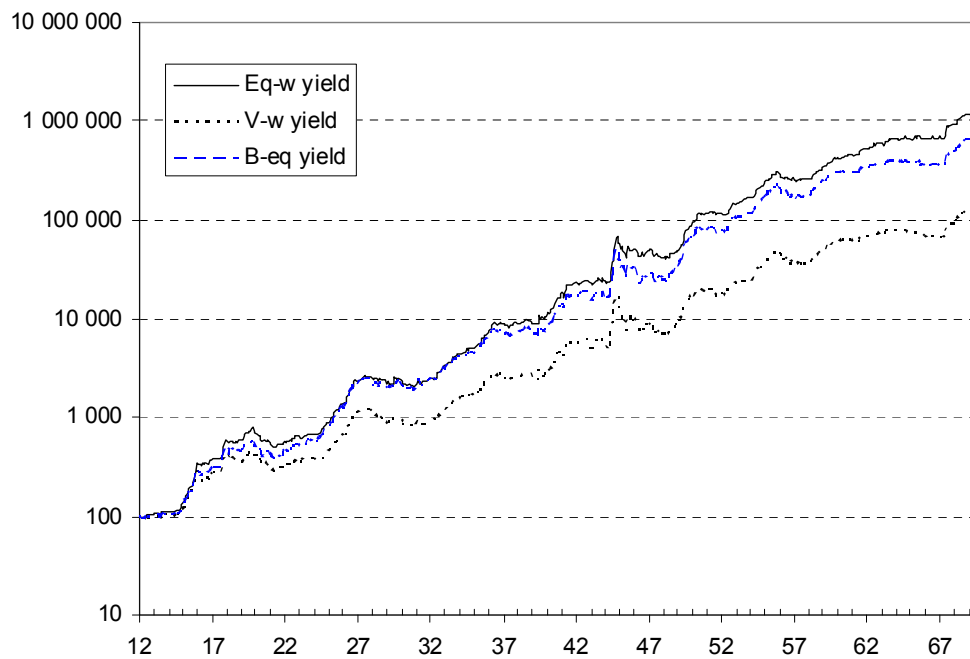


Figure 7. **Comparison of equally weighted, value-weighted and book equity weighted all-share price indices against Poutvaara (1996) book-equity weighted price index**

Sample period October 1912 to December 1929. Series scaled to October 1912=100.

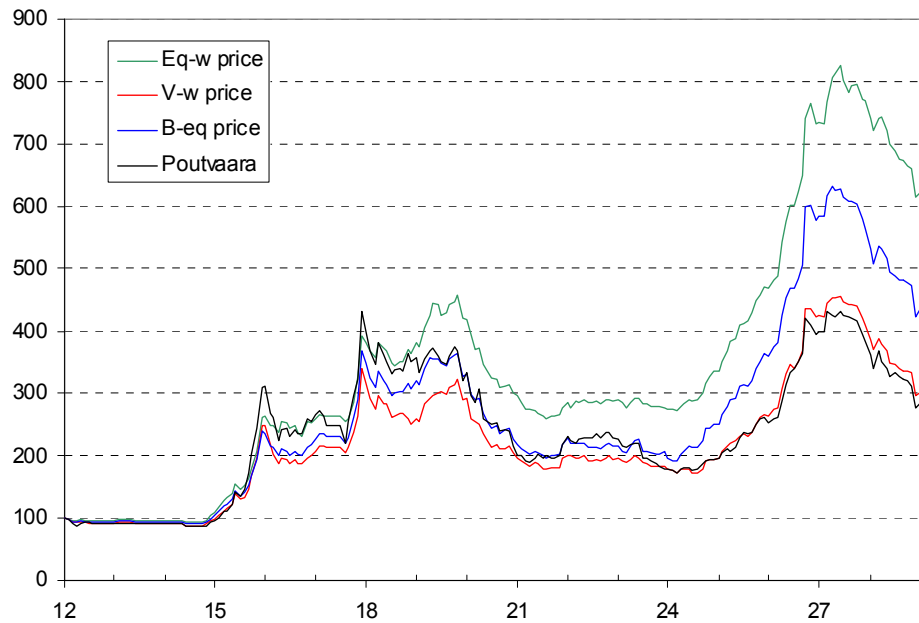
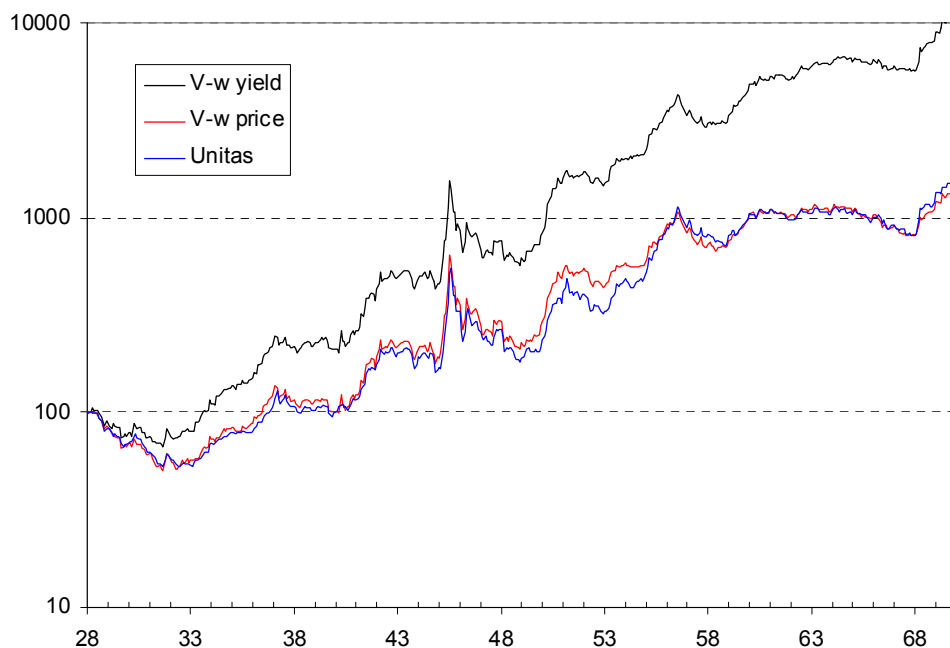


Figure 8. **Comparison of value-weighted total return and price indices against the Unitas price index**

Monthly observations from January 1928 to March 1970. All series scaled to January 1928=100. Logarithmic (base 10) scale used for y-axis.



Tables 1–2

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)	ρ_1	ρ_2	ρ_3	ρ_{12}	$Q(12)^b$
Panel A: 1912–1969										
Equally weighted (price)	10.60	14.40	1.57	8.12	<0.001	0.29*	0.11*	0.07	0.09*	<0.001
Equally weighted (total return)	16.37	15.09	1.46	6.71	<0.001	0.23*	0.10*	0.13*	0.17*	<0.001
Value-weighted (price)	7.16	18.71	1.11	8.20	<0.001	0.22*	0.03	0.01	0.04	<0.001
Value-weighted (total return)	12.42	19.05	1.07	7.65	<0.001	0.19*	0.03	0.04	0.08	<0.001
Book equity weighted (price)	8.83	18.00	1.19	6.92	<0.001	0.21*	0.05	0.03	0.06	<0.001
Book equity weighted (total return)	15.35	18.67	1.17	6.06	<0.001	0.16*	0.03	0.08*	0.13*	<0.001
Panel B: 1912–1929										
Value-weighted (price)	6.49	16.62	1.34	5.84	<0.001	0.32*	0.13	0.01	0.03	<0.001
Book equity weighted (price)	8.58	17.00	1.16	4.48	<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
Panel C: 1928–1969										
Value-weighted (price)	6.16	19.18	1.05	8.80	<0.001	0.19*	0.01	0.01	0.03	<0.001
Value-weighted (total return)	11.08	19.65	1.06	8.14	<0.001	0.16*	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

a) Autocorrelation coefficients significantly (5%) different from zero are marked with an asterisk (*).

b) 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. Numbers displayed are 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	4.20	-3.03	2.62	-2.54
1915	44.08	33.56	30.60	23.91
1916	108.57	95.34	88.49	80.15
1917	12.84	5.92	10.04	5.35
1918	43.10	34.84	33.94	27.98
1919	20.32	13.96	6.11	2.52
1920	-2.10	-8.63	-5.04	-9.49
1921	-19.24	-25.83	-21.02	-27.18
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	69.25	57.40	70.47	60.33
1928	2.37	-3.70	-7.85	-12.59
1929	-12.57	-19.31	-15.95	-21.54
1930	1.88	-6.25	-2.80	-9.45
1931	5.99	-4.01	8.02	-1.25
1932	5.57	-2.28	0.96	-6.73
1933	45.78	35.70	43.67	34.37
1934	26.25	18.62	15.47	9.27
1935	15.79	9.76	11.02	5.08
1936	50.50	43.05	45.89	39.10
1937	7.24	2.45	-1.13	-5.14
1938	6.49	1.00	2.98	-2.01
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	35.56	31.45	30.73	27.62
1943	2.01	-0.99	-1.51	-3.77
1944	5.26	1.73	-4.06	-6.69
1945	120.72	115.25	105.62	101.69
1946	-6.24	-8.81	-18.62	-20.39
1947	3.07	-0.37	-0.42	-4.51
1948	-19.19	-22.33	-24.55	-28.53
1949	29.19	21.71	41.60	32.48
1950	76.88	68.65	83.24	75.63
1951	24.31	19.09	13.57	9.20
1952	-5.03	-10.02	-12.76	-17.52
1953	35.18	27.20	36.39	28.94
1954	12.57	6.68	4.66	-0.41

	e-w yield	e-w price	v-w yield	v-w price
1955	51.10	43.66	59.46	52.81
1956	6.91	2.34	3.42	-0.14
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	19.60	13.66	14.85	9.84
1961	5.54	0.15	-0.75	-5.33
1962	18.71	12.15	14.48	8.19
1963	9.72	4.60	4.34	-0.46
1964	14.29	8.73	8.73	3.59
1965	0.89	-4.11	-5.77	-10.83
1966	0.30	-4.36	-6.15	-10.83
1967	-1.05	-6.34	-1.33	-8.08
1968	43.04	36.09	41.15	34.35
1969	22.98	16.26	27.26	19.69
Mean	20.59	13.85	16.28	10.39
Std	27.67	26.51	27.72	26.85

Appendix A

List of the available series 10/1912–3/1970

The list below gives listing and delisting dates (dd.mm.yyyy) for all securities (excluding a separate bond-quotes list) listed on the Helsinki Stock Exchange from the very beginning of October 1912 until the end of March 1970. 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 within a month the price observed is given). Kock's In-date is typically the first day when the stock was available for trading (for In-dates prior to October 7, 1912, it 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 multiple classes of shares were listed, only for the first one. If the stock series was still listed at the end of March 1970, the Out-date is left empty (unless marked). Note that Mercator provided company names in Swedish (if one was available) and they are used in the list.

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
1	Fastighetsbanken, g	7.10.1912	29.12.1944	27.9.1912	28.12.1944
2	Fastighetsbanken, n (nya)	7.10.1912	28.2.1913		
3	Föreningsbanken, g	7.10.1912	31.10.1919	27.9.1912	x.9.1919
4	Föreningsbanken, n (nya)	7.10.1912	31.3.1913		
5	(Städernas) Hypotekskassan	7.10.1912	31.12.1921	27.9.1912	x.12.1921
6	Landtmannabanken	7.10.1912	31.1.1921	27.9.1912	31.12.1920
7	Nordiska Banken	7.10.1912	31.10.1919	21.9.1912	x.9.1919
8	Nylands Aktiebank	7.10.1912	31.1.1919	21.9.1912	31.12.1918
9	Privatbanken, g	7.10.1912	31.12.1921	21.9.1912	28.12.1921
10	Privatbanken, n (nya)	7.10.1912	31.3.1913		
11	Tampereen Osakepankki	7.10.1912	28.6.1929	3.10.1912	x.6.1929
12	Wasa Aktiebank	7.10.1912	31.1.1921	27.9.1912	31.12.1920
13	Åbo Aktiebank	7.10.1912	31.1.1921	27.9.1912	31.12.1920
14	Kansallis Osake Pankki, g	7.10.1912		7.10.1912	xx.xx.1995
15	Kansallis Osake Pankki, n (nya)	7.10.1912	31.3.1913		
16	Brandförsäkrings A.B. Fennia	7.10.1912		7.10.1912	2.11.1983
17	Finska Sjöförsäkrings A.B.	7.10.1912		7.10.1912	10.12.1985
18	Jälleenvakutus OY Osmo	7.10.1912	30.4.1926	27.9.1912	15.2.1926
19	Olycksfalls Försäkrings AB Patria	7.10.1912	30.12.1920	27.9.1912	16.12.1920
20	Palovakuutus OY Pohjola	7.10.1912		7.10.1912	xx.xx.2006
21	Tapaturma OY Kullervo	7.10.1912	31.1.1968	27.9.1912	17.1.1968
22	Försäkrings AB Kaleva	7.10.1912	30.4.1923	7.10.1912	9.4.1923
23	Finska Bergningsaktiebolag Neptun	7.10.1912	31.7.1919	x.10.1912	8.1.1919
24	Helsingfors Ångfartygs AB	7.10.1912	30.11.1920	21.9.1912	x.11.1920
25	Spårvägs- och Omnibus AB	7.10.1912	27.2.1926	7.10.1912	3.12.1926
26	Helsingin Panttilainaamokonttori	7.10.1912	29.2.1936	7.10.1912	x.x.1935
27	Helsingfors Magasins AB	7.10.1912	29.12.1944	7.10.1912	28.12.1944

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
28	Försäkrings AB Triton	31.10.1912	31.7.1924	25.10.1912	x.7.1924
29	Finska Ångfartygs AB	31.10.1912		18.10.1912	
30	Södra Finlands Interurb Tel	31.10.1912	31.1.1935	17.10.1912	31.10.1934
31	Tammerfors Linne & Jern Man	31.10.1912		18.10.1912	4.9.1998
32	Tampereen Puuvillateollisuus	31.10.1912	31.10.1934	17.10.1912	xx.10.1934
33	A.B. Dalsbruk	31.10.1912	31.1.1926	25.10.1912	31.12.1925
34	Helsingfors pantlåne AB	31.10.1912	29.2.1936	25.10.1912	x.x.1935
35	Suomen kauppapankki Oy	30.11.1912	31.5.1924	13.11.1912	28.2.1924
36	Billnäs Bruks AB	30.11.1912	29.9.1928	25.10.1912	25.9.1928
37	AB Kervo tegelbruk	30.11.1912	27.2.1926	13.11.1912	15.2.1926
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	Helsingfors Aktiebank AB	1.9.1915		1.9.1915	xx.xx.1985
45	Imatra	1.9.1915	28.7.1933	24.8.1915	x.7.1933
46	Wasa Nordsjö Ångbåts AB	1.9.1915	31.1.1926	24.8.1915	3.12.1925
47	AB Walkiakoski OY	1.9.1915	31.10.1934	24.8.1915	x.10.1934
48	Wasa Sockerfabriks AB	1.9.1915	27.6.1919	x.9.1915	x.6.1919
49	Wärtsilä OY AB	1.9.1915	31.12.1931	1.9.1915	8.5.1931
50	Fiskars OY AB	1.9.1915	31.5.1926	1.9.1915	28.5.1926
51	Forssa OY AB	1.9.1915	30.11.1934	24.8.1915	x.11.1934
52	Kotkan Sokeritehdas	1.9.1915	27.6.1919	x.9.1915	x.6.1919
53	Wasa Bomullsmanuf	1.9.1915	31.12.1931	24.8.1915	20.12.1931
54	Högfors Bruk och Wattola Träsliperi	1.9.1915	30.6.1933	24.8.1915	x.3.1933
55	Wasa Ångkvarns	1.9.1915	30.12.1940	24.8.1915	x.12.1940
56	Pargas Kalkbergs	1.9.1915		1.9.1915	18.12.2002
57	Nokia stam	1.9.1915		1.9.1915	
58	Nokia (prior 1886)	1.9.1915	31.5.1917		
59	Nokia (prior 1912)	1.9.1915	31.5.1917		
60	Kymmene stam	1.9.1915		1.9.1915	30.4.1996
61	Kymmene (prior)	1.9.1915	31.3.1916		
62	Maskin och Brobyggnads	1.9.1915	30.12.1936	24.8.1915	x.11.1936
63	Agros	1.9.1915	30.11.1931	24.8.1915	x.12.1931
64	Läskelä Bruks	30.9.1915	30.11.1932	24.8.1915	11.4?.1932
65	De Förenta Yllefabrikerna stam	23.10.1915	30.12.1959	20.5.1915	31.12.1959
66	De Förenta Yllefabrikerna (prior)	23.10.1915	31.8.1916	20.5.1915	
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	Brandförsäkrings Wellamo	29.4.1916	30.8.1935	14.4.1916	x.8.1935
72	Nurmi OY stam	31.5.1916	31.1.1929	16.5.1916	31.11.1928
73	Nurmi OY (prior)	31.5.1916	31.12.1917	16.5.1916	x.x.1916
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	Nylands Aktiebank, nya	30.9.1916	31.3.1917		

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
78	Länsi Suomen Osakepankki	30.9.1916	31.7.1929	2.9.1916	x.6.1929
79	Vulcan, nya	30.9.1916	27.7.1917		
80	Åbo Järnmanu	30.9.1916	31.10.1922	2.9.1916	26.9.1922
81	Åbo Järnmanu, nya	30.9.1916	30.4.1917		
82	Finska Ångf. AB, nya	1.10.1916	30.4.1917		
83	Kemi Trävaruaktiebolag	1.10.1916		3.10.1916	21.6.1990
84	Ab Uleå Oy	1.10.1916	31.1.1929	26.9.1916	31.12.1928
85	Crichton Oy Ab	1.10.1916	28.2.1925	26.9.1916	31.12.1924
86	Leppäkoski Fabr stam	1.10.1916	30.4.1924	6.10.1916	x.2.1924
87	Leppäkoski Fabr prior	1.10.1916	30.9.1918	6.10.1916	x.x.1917
88	Åstrom Fabr oy	30.10.1916	31.1.1924	10.10.1916	31.12.1923
89	Landtmannabanken, nya	30.11.1916	31.3.1917		
90	Åbo Aktiebank, nya	30.11.1916	31.3.1917		
91	Suomen Vanutehdas	30.11.1916	31.12.1921	2.11.1916	3.12.1921
92	Finska forcit dynamit	1.12.1916	29.2.1936	2.11.1916	12.2.1936
93	Harju Yllefabrik	1.12.1916	30.12.1920	2.11.1916	16.12.1920
94	Simpele	1.12.1916	30.10.1920	15.11.1916	21.10.1920
95	Sörnäs AB	1.12.1916	30.5.1925	15.11.1916	x.5.1925
96	W. Gutzeit	1.12.1916		17.11.1916	
97	Björneborg Bomulls	1.12.1916	29.7.1921	15.11.1916	x.7.1921
98	Helsingfors Aktiebank ab, nya	29.12.1916	28.2.1917		
99	Finska Sjöförsäkrings, nya	31.1.1917	31.8.1917		
100	Länsi Suomen Osakepankki, nya	28.2.1917	31.3.1917		
101	Finlayson & Co AB	28.2.1917		27.2.1917	15.10.1986
102	Suomen kauppankki, nya	30.4.1917	31.5.1917		
103	Emissionsaktiebolaget	30.4.1917	30.4.1924	31.3.1917	8.4.1924
104	Silfverbergs & Wecksells För. Hattf	30.4.1917	31.1.1927	31.3.1917	31.12.1926
105	Helios	30.4.1917	30.10.1920	31.3.1917	25.11.1920
106	Nikolajeff	30.4.1917	31.7.1924	19.4.1917	16.7.1924
107	Privatbanken, nya	31.5.1917	31.5.1918		
108	Helsingfors AB, nya	31.5.1917	31.5.1918		
109	Kangas Pappersbruks Ab	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	Fastighetsbanken (nya)	29.9.1917	31.5.1918		
115	Landtmannabanken (nya)	29.9.1917	31.5.1918		
116	Nordiska Aktiebanken (nya)	29.9.1917	31.5.1918		
117	Åbo Aktiebank (nya)	29.9.1917	31.5.1918		
118	Suomen Kauppankki (nya)	29.9.1917	28.6.1918		
119	Walkiakoski (nya)	29.9.1917	30.9.1918		
120	Strengberg	29.9.1917		18.9.1917	24.10.1985
121	Kymmene nya	30.11.1917	30.9.1918		
122	Aura Sockerbruks AB	30.11.1917	27.6.1919	22.11.1917	X.6.1919
123	Sandvikens Sockerbruk	30.11.1917	27.6.1919	22.11.1922	x.6.1919
124	KOP (nya II)	29.12.1917	28.6.1918		
125	Wasa Aktiebank nya	29.12.1917	31.5.1918		
126	Helsingfors AB nya II	29.12.1917	31.5.1918		
127	Finska Ångfartyget nya	29.12.1917	31.7.1918		

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
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	Wasa aktiebank nya	30.9.1918	31.3.1919		
133	Länsi Suomen Osakepankki nya	30.9.1918	28.2.1919		
134	Allm. Finska Försäkring	30.9.1918	30.11.1922	4.9.1918	5.5.1922
135	Åbo Jernm nya	30.9.1918	28.2.1919		
136	Strömberg	30.9.1918		10.9.1918	20.12.1982
137	Finska Agrarbyrå	30.9.1918	31.1.1921	11.9.1918	x.10.1920
138	Föreningsbanken nya	31.10.1918	31.3.1919		
139	Landtmannabanken nya	31.10.1918	31.3.1919		
140	Nylands Aktiebank nya	31.10.1918	31.1.1919		
141	Åbo Aktiebank nya	31.10.1918	31.3.1919		
142	John Barker	31.10.1918	22.2.1933	7.10.1918	26.5.1932
143	Metvik Mek. Verk.	31.10.1918	31.1.1924	7.10.1918	31.12.1923
144	Ekö Ångs & Fabr	31.10.1918	31.1.1924	30.10.1918	31.12.1923
145	Brändö Villastad	31.10.1918	30.5.1928	26.9.1918	22.5.1928
146	Tampereen Osakepankki nya	30.11.1918	31.3.1919		
147	Wasa Aktiebank nya II	30.12.1918	31.3.1919		
148	Landfastighetsbanken nya	30.12.1918	31.3.1919		
149	Pero Spikfabrik	30.12.1918	30.12.1920	4.12.1918	17.12.1920
150	Landmannabanken nya II	31.1.1919	31.3.1919		
151	Helsingfors AB nya	31.1.1919	28.2.1919		
152	Åbo Aktiebank nya II	31.1.1919	31.3.1919		
153	Länsi Suomen Osakepankki nya II	31.1.1919	28.2.1919		
154	Emissionsaktiebolaget nya	31.1.1919	31.3.1919		
155	Suomen vanutehdas nya	31.1.1919	31.7.1919		
156	Helios nya	31.1.1919	30.4.1919		
157	Kajaanin puutavara Oy	31.1.1919		11.2.1919	27.9.1989
158	Södra Finlands Int. Tel., nya	31.1.1919	30.4.1919		
159	Finska Agrarbyrå nya	31.1.1919	30.4.1919		
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	Tampereen osakepankki nya	31.5.1919	28.2.1920		
164	Leppäkoski Fabr nya	31.5.1919	31.7.1919		
165	Reposaaren Höyrysaha	31.5.1919	31.1.1922	22.5.1919	31.12.1921
166	Viipurin Saha	31.5.1919	31.1.1922	22.5.1919	31.12.1921
167	Landtmannabanken nya	27.6.1919	31.3.1920		
168	Länsi Suomen Osakepankki nya	27.6.1919	28.2.1920		
169	Handtverk. Aktiebank nya	27.6.1919	31.3.1920		
170	Palovakuutus OY Pohjola nya	27.6.1919	31.5.1920		
171	AB Valkiakoski 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	
176	Privatbanken, nya	31.10.1919	31.3.1920		
177	Pargas Kalk nya	31.10.1919	31.5.1920		

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
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	Uudenkaupungin Valtamerilaiva Oy	30.4.1920	30.4.1921	14.4.1920	14.4.1921
181	G.A. Serlachius Ab	30.4.1920	31.3.1922	16.4.1920	17.3.1922
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	Nordiska Föreningsbanken nya	30.10.1920	31.3.1921		
187	Yhtyn. Paperitehdas	30.10.1920		21.10.1920	31.12.1990
188	Kabelfabriken	30.10.1920	31.1.1924	26.10.1920	31.12.1923
189	Ab Agraria Oy	30.10.1920	29.11.1924	22.10.1920	4.10.1924
190	(Aktiebolaget) Unionbanken (i Finland)	30.12.1920	27.6.1924	1.1.1921	x.6.1924
191	Aktiebanken för Utrikeshandel	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	Savo-Karjalan Osake Pankki	30.9.1922	30.8.1940	26.9.1922	1.4.1940
194	Suomen Maatalous OP	30.9.1922	28.2.1933	25.9.1922	x.2.1933
195	Pohjolan OP	30.9.1922	30.11.1948	x.10.1922	x.11.1948
196	Pohj-Suomen Pankki OY / Atlas Bank Ab	31.7.1923	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	1.7.1924	31.7.1931	x.7.1924	30.6.1931
199	Unionbanken, nya	31.12.1924	31.3.1925		
200	Södra Finl. Bank	27.2.1926	29.2.1928	8.2.1926	31.12.1927
201	Finska Ångfartygs, prior	27.2.1926	28.3.1945		
202	Läskelä bruk, nya	30.3.1926	30.6.1926		
203	Tampereen OP, nya	30.4.1926	28.2.1927		
204	Suomen Maatalous 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	Pargas, nya	1.10.1926	29.7.1927		
210	Läskelä bruk, nya	1.10.1926	30.6.1927		
211	Kemi, prior	30.10.1926	30.12.1935		
212	Lojo Kalkverk	31.1.1927		4.1.1927	
213	Helsingin rakennusainekauppa	25.2.1927		1.3.1927	6.1.1986
214	G.A. Serlachius Ab	25.2.1927	28.3.1928	1.3.1927	16.12.1927
215	Sydfinska Kraft	28.2.1927	29.12.1934	17.1.1927	x.12.1934
216	Arabia	28.2.1927	30.9.1949	17.2.1927	31.8.1949
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	Suomen Trikootehdas, nya	30.6.1927	31.3.1928		
221	Lojo Cellulosafabrik, nya	30.6.1927	29.6.1927		
222	Lojo Cellulosafabrik, prior	29.7.1927	30.11.1931	x.x.1929	x.x.1931
223	Pohjolan OP, nya	29.7.1927	30.4.1928		
224	Pargas, prior	29.7.1927	28.5.1942		
225	Nokia, nya	30.9.1927	30.5.1928		
226	Läskelä bruk, nya	31.10.1927	30.5.1928		
227	Nordiska FB, nya	31.10.1927	30.4.1928		

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
228	KOP, 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	Valkiakoski, nya	3.10.1928	31.5.1929		
234	Nokia, nya	3.10.1928	30.4.1929		
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	
242	Wärtsilä, teckn. rätt	24.9.1934	30.11.1934		
243	Suomen Trikootehdas, nya	29.9.1934	30.3.1935		
244 ^{o)}	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	Wärtsilä, nya	30.12.1936	31.3.1937		
248	Suomen trikootehdas, teckn.rätt	30.12.1936	27.2.1937		
249	T:fors linne, teckn.rätt	30.1.1937	31.3.1937		
250	Helsingin Panttilainak	15.2.1937	28.2.1938	x.x.1937	x.x.1938
251	Helsingfors pantlåne AB	15.2.1937	28.2.1938	x.x.1937	x.x.1938
252	Suomen trikootehdas, nya	31.3.1937	31.3.1938		
253	Pargas Kalkberg, teckn.rätt	31.3.1937	30.4.1937		
254	Finlayson-Forssa, teckn.rätt	30.4.1937	30.7.1937		
255	De Fören. Yllefabr., teckn.rätt	30.4.1937	31.5.1937		
256	KOP, teckn.rätt	30.4.1937	31.5.1937		
257	Finska Ångfartyg, 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	KOP, nya	30.10.1937	31.3.1938		
263	Finska ångfartyg, nya	30.10.1937	30.4.1938		
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 Trikootehdas, teckn.rätt	31.3.1938	30.4.1938		
268	Nokia, teckn.rätt	31.5.1938	30.6.1938		
269	Ford	1.6.1938		1.6.1938	6.10.2000
270	Finska Sjöförsäkring, teckn.rätt	1.6.1938	30.9.1938		
271	Yhtyn. Paperiteht., teckn.rätt	29.7.1938	30.9.1938		
272	Nokia, nya	30.9.1938	29.4.1939		
273	Suomen trikootehdas, 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, teckn.rätt	29.4.1939	31.5.1939		
277	Finska Gummi, debentlån	29.4.1939	31.5.1939		

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
278	Pohjola, teckn.rätt	31.5.1939	30.6.1939		
279	Finska Gummi, debentlån	30.9.1939	30.11.1940		
280	Helsingin Panttilainak	31.12.1940	29.5.1964	x.x.1940	19.5.1964
281	Helsingfors pantlåne AB	31.12.1940	31.1.1968	x.x.1940	17.1.1968
282	Stenberg, teckn.rätt	28.2.1941	31.3.1941		
283	Nokia, nya	30.9.1941	30.4.1942		
284	Lojo Kalk, teckn.rätt	31.10.1941	29.11.1941		
285	Finska Ångfartyg, teckn.rätt	31.10.1941	30.12.1941		
286	Suomen Trikoo, teckn.rätt	30.12.1941	31.1.1942		
287	Finska Ångfartyg, nya	30.12.1941	30.4.1942		
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	
291	Suomen Maatalous Osakepankki	7.5.1942	31.7.1958	24.4.1942	x.7.1958
292	G.A. Serlachius	7.5.1942		2.5.1942	30.12.1986
293	Jakobstads Cellulosa	7.5.1942	29.7.1960	24.4.1942	26.7.1960
294	Kuitu Oy	7.5.1942	29.12.1944	24.4.1942	x.12.1944
295	Vasa Bomull	7.5.1942	29.4.1963	x.4.1942	24.4.1963
296	T:fors Klädesfabrik	7.5.1942		2.5.1942	
297	Hämeenlinnan Verkatehdas Oy	7.5.1942	29.8.1952	24.4.1942	12.8.1952
298	Stockmann	7.5.1942		2.5.1942	
299	Suomen Maanviljelijäin Kauppa Oy	7.5.1942		2.5.1942	31.10.2000
300	Teräs Oy	7.5.1942	28.1.1943	2.5.1942	30.12.1942
301	Kustannus Oy Otava	7.5.1942		2.5.1942	28.2.1991
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	Nordiska FB, teckn.rätt	26.8.1943	28.10.1943		
316	Pohjola, nya	26.8.1943	27.4.1944		
317	Kaukas Fabrik	26.8.1943		10.8.1943	
318	Fennia, m.o., t.r.	28.10.1943	31.12.1943		
319	Lojo Kalkverk, nya	28.10.1943	30.6.1944		
320	KOP, nya	27.1.1944	30.3.1944		
321	Fennia, nya	27.1.1944	30.6.1944		
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		

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		In	Out	In	Out
328	Arabia, nya	28.9.1945	31.5.1946		
329	H:fors AB, teckn.rätt	30.10.1945	31.12.1945		
330	Arabia, teckn.rätt	30.10.1945	31.1.1946		
331	Gummi m.o., t.r.	31.12.1945	31.1.1946		
332	Helsingfors ab, nya	31.1.1946	28.2.1946		
333	T:fors Linne o Jern, teckn.rätt	31.1.1946	29.3.1946		
334	Strömberg, 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	SMK, 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	Suomen Trikoor., nya	30.8.1946	31.3.1947		
342	SMK, nya	30.8.1946	30.4.1947		
343	Ålands AB, t.r.	29.10.1946	29.11.1946		
344	T:fors Linne o Jern, nya	29.10.1946	30.5.1947		
345	Strömberg, nya	29.10.1946	30.4.1947		
346	Holding koncernen	29.10.1946	31.7.1956	x.10.1946	x.6.1956
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	SMK, nya	30.12.1948	29.4.1949		
361	Finska forcit dynamit	30.12.1948	29.8.1952	20.12.1948	12.8.1952
362	Finska Forcit Dynamit, nya	14.2.1949	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	Pohjola, t.r.	29.9.1950	30.11.1950		
377	Tapaturmavak. OY Kullervo, t.r.	29.9.1950	30.11.1950		

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
378	Lojo Kalkverk, 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	NFB, t.r.	28.2.1951	30.4.1951		
384	Lojo Kalkverk, nya	28.2.1951	31.5.1951		
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	Suomen trikoot., nya	31.7.1951	31.3.1952		
389	Strömberg, t.r.	31.7.1951	28.9.1951		
390	Finska Socker, nya	31.8.1951	30.4.1952		
391	Fiskars OY AB	31.10.1951		26.10.1951	
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	Rauma-Repola Oy	29.10.1954		20.10.1954	30.12.1990
410	Indexlånet 54	29.10.1954	31.1.1955		
411	5 1/4% Indexlånet 1.3.54	31.1.1955	28.2.1964		
412	6% 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	Suomen trikoot., nya	31.5.1955	30.11.1955		
416	Finska Gummi, t.r.	31.5.1955	31.8.1955		
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 1.8.53	31.1.1956	31.7.1958		
423	6% Indexlånet 1.3.55	31.1.1956	31.3.1965		
424	5% Indexlånet 2.5.55 I	31.1.1956	31.5.1960		
425	5% Indexlånet 1.8.55 II	31.1.1956	28.2.1961		
426	Tammerfors Drog, t.r.	31.1.1956	30.4.1956		
427	Lojo Kalkverk, t.r.	21.2.1956	30.4.1956		

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
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	Pohjola, t.r.	30.4.1956	31.5.1956		
432	Serlachius, nya	30.4.1956	30.11.1956		
433	De före yllefabrikerna, t.r.	30.4.1956	31.5.1956		
434	Kaukas, No 1 t.r.	30.4.1956	31.5.1956		
435	Kaukas, No 2 t.r.	30.4.1956	31.5.1956		
436	Tammerfors Linne, t.r.	31.5.1956	31.7.1956		
437	Finska Socker, t.r.	31.5.1956	31.7.1956		
438	Indexlånet 2.1.56	31.5.1956	31.1.1966		
439	Tammerfors Drog, nya	31.5.1956	30.4.1957		
440	Stockmann, No 3 t.r.	31.7.1956	31.10.1956		
441	Stockmann, No 4 t.r.	31.7.1956	31.10.1956		
442	Yhtyn. Paperit., No 1 t.r.	31.7.1956	28.9.1956		
443	Yhtyn. Paperit., No 2 t.r.	31.7.1956	28.9.1956		
444	Rauma-Repola, nya	31.7.1956	30.4.1957		
445	De före yllefabrikerna, nya	31.7.1956	30.4.1957		
446	Pohjola, nya	31.7.1956	30.4.1957		
447	Fennia, t.r.	31.8.1956	31.10.1956		
448	Kajaani, t.r.	28.9.1956	31.10.1956		
449	Nokia, nya	31.10.1956	30.4.1957		
450	Enso-Gutzeit, t.r.	31.10.1956	28.12.1956		
451	Enso-Gutzeit, F, t.r.	31.10.1956	28.12.1956		
452	Finska Socker, nya	31.10.1956	30.4.1957		
453	Indexlånet 2.5.56	28.12.1956	31.5.1966		
454	Indexlånet 15.9.56 III	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	Indexlånet 2.1.57	31.1.1958	31.1.1967		
459	Enso, t.r.	30.9.1958	30.10.1958		
460	Enso F, 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	Pohjola, t.r.	30.9.1959	28.10.1959		
465	Kymmene, t.r.	30.9.1959	30.11.1959		
466	Huhtamäki yhtymä	30.12.1959		21.12.1959	
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	Indexlånet 2.1.60 I	29.2.1960	30.12.1969		
470	Rauma-Repola, t.r.	31.3.1960	31.5.1960		
471	Indexlånet 1.3.60 II	31.3.1960	25.2.1970		
472	Kesko	31.5.1960		5.5.1960	
473	Kesko, t.r.	31.5.1960	28.6.1960		
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		

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
478	Wilh. Schauman	4.10.1960		4.10.1960	31.8.1988
479	Villayhtymä, debentures lån	23.12.1960	30.12.1969		
480	Väglånet 1.9.1960	2.1.1961			
481	Lassila & Tikkanoja	22.2.1961		8.1.1961	
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	Sparlånet 1961 I	28.2.1961	29.5.1962		
485	Sparlånet 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	KOP, t.r.	4.4.1961	31.5.1961		
489	Huhtamäki, 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	NFB, nya	29.9.1961	30.3.1962		
493	Huhtamäki, nya	29.9.1961	29.5.1962		
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	NFB, t.r.	31.1.1962	30.3.1962		
500	Pohjola, t.r.	31.1.1962	28.2.1962		
501	Kemi, nya	31.1.1962	30.3.1962		
502	6 3/4% indexlånet 2.1.61	31.1.1962			
503	Indexlånet 15.2.61	31.1.1962	28.2.1966		
504	Indexlånet 1.3.61	31.1.1962	28.2.1966		
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 2.1.1962 I	31.10.1962	31.1.1967		
511	F. Statens lån 1.3.1962 II	31.10.1962	31.3.1967		
512	8 3/4% 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	8 1/4% Indexlånet 2.1.1962	31.1.1963			
517	Kaukas, Serie B	29.3.1963			
518	Lån 2.1.63 I	29.3.1963	31.1.1968		
519	Lassila & Tikkanoja, t.r.	29.3.1963	31.10.1963		
520	Helsingfors Pant, t.r.	29.3.1963	31.7.1963		
521	Strömberg, t.r.	29.3.1963	31.5.1963		
522	Nokia, t.r.	31.5.1963	31.7.1963		
523	Fiskars, t.r.	31.5.1963	31.7.1963		
524	Yhtyn. Paperiteht., t.r.	25.6.1963	30.8.1963		
525	Lån 1.3.1963 II	30.9.1963	29.3.1968		
526	Lån 1963	30.9.1963	26.7.1966		
527	Teräs	23.12.1963		11.12.1963	

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
528	Indexlån 15.5.1963 III	31.1.1964	28.5.1969		
529	8 1/4% Lån 1.10.1963	31.1.1964	31.10.1967		
530	Indexlånet 2.1.1963 6,5%	31.1.1964			
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	Kesko, t.r.	30.9.1964	29.10.1964		
536	6,5 % lån 2.1.64 I	30.9.1964			
537	Kesko, nya	30.12.1964	31.5.1965		
538	Lån 2.1.64	30.12.1964	20.12.1968		
539	8.25% lån 2.3.64	30.12.1964	29.3.1968		
540	6.5% lån 1.9.64 II	30.12.1964			
541	NFB, t.r.	29.1.1965	31.5.1965		
542	KOP, t.r.	29.1.1965	31.3.1965		
543	Enso-Gutzeit, nya (A)	29.1.1965	31.5.1965		
544	Enso-Gutzeit, nya (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	Kesko Oy, debentures lån	31.3.1965			
548	7% Indexlånet 2.1.65	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	Yhtyn. Paperiteht., nya	31.1.1966	31.5.1966		
556	8 1/4 % lån 2.1.65	31.1.1966	20.12.1968		
557	Indexlån 1.3.65	31.1.1966			
558	Indexlån 1.9.65 IV	31.1.1966			
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 15.2.66 7%	31.1.1967			
571	Indexlån 15.4.66 8,25%	31.1.1967			
572	Indexlån 1.6.66 II 7%	31.1.1967			
573	Indexlån 1.11.66 7,25%	31.1.1967			
574	Indexlån 1.11.66 III 7%	31.1.1967			
575	Oy W. Rosenlew & Co Ab	31.1.1967		2.3.1967	17.12.1987
576	Kone, B	31.1.1967		2.1.1967	
577	Wärtsilä, Serie II	31.3.1967		3.4.1967	

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
578	Wilh. Schauman, t.r.	31.3.1967	31.5.1967		
579	Kesko Oy, Debentures 1967 lån 9.5%	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 2.1.68 I 7%	30.4.1968	28.5.1969		
591	Skuldsedellån 1.3.68 I 7%	30.4.1968			
592	Kesko, t.r.	31.5.1968	30.9.1968		
593	T:fors Klädesfabrik, t.r.	31.5.1968	31.7.1968		
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	Pohjola, t.r.	31.10.1968	29.11.1968		
599	Kymmene, t.r.	31.10.1968	31.1.1969		
600	Finska Ångfartyg, t.r.	29.11.1968	20.12.1968		
601	T:fors Klädesfabrik, t.r.	29.11.1968	20.12.1968		
602	Kone, t.r.	29.11.1968	31.1.1969		
603	Pohjola, nya	20.12.1968	30.4.1969		
604	Rauma-Repola, t.r. No 5	20.12.1968	21.3.1969		
605	Rauma-Repola, t.r. No 6	20.12.1968	21.3.1969		
606	Lån 7.10.68 8%	20.12.1968			
607	T:fors Klädesfabrik, nya	20.12.1968	21.3.1969		
608	Skuldsedellån 2.1.68 I 8,25%	20.12.1968			
609	H:fors Aktiebank, t.r.	31.1.1969	31.3.1969		
610	Kymmene, nya	31.1.1969	30.4.1969		
611	Teräs, nya	31.1.1969	28.5.1969		
612	Ålandsbanken, t.r.	31.3.1969	30.4.1969		
613	Kemi, t.r.	30.4.1969	27.8.1969		
614	Kajaani, t.r. No 1	30.4.1969	27.6.1969		
615	Kajaani, t.r. No 2	30.4.1969	27.6.1969		
616	Wärtsilä, t.r.	30.4.1969	24.6.1969		
617	Wärtsilä, Serie II, t.r.	30.4.1969	24.6.1969		
618	Finska Socker, t.r.	30.4.1969	27.8.1969		
619	Lån 2.1.69 8%	30.4.1969			
620	Pargas, t.r. No 14	28.5.1969	27.6.1969		
621	Pargas, t.r. No 15	28.5.1969	27.6.1969		
622	Skuldsedellån 2.1.68 I 7%	28.5.1969			
623	Lån 2.1.69 8,25%	28.5.1969			
624	H:fors Aktiebank, nya	31.7.1969	31.3.1970		
625	Lån 20.3.69 7,5%	27.8.1969			
626	Lån 2.5.69 II 8%	24.9.1969			
627	Lån 2.5.69 II 7,5%	24.9.1969			

Code #	Name (in Mercator)	Mercator		Kock	
		In	Out	In	Out
628	Finska Socker, nya	30.10.1969			
629	Ind.Hyp.b. lån 16.9.69 8%	28.11.1969			
630	Fastighetsb. lån 16.9.69 8%	28.11.1969			
631	Maa- ja teoll.kp. lån 16.9.69 8%	28.11.1969			
632	Finska Socker, t.r.	30.12.1969			
633	Lån 17.11.69 III 8%	30.12.1969			
634	Lån 17.11.69 III 7,5%	30.12.1969			
635	Metsäl. Selluloosa, etuoikeutettu	30.12.1969		1.12.1969	31.12.1986
636	Fennia, t.r.	27.2.1970			
637	Enso-Gutzeit A, t.r.	27.2.1970			
638	Enso-Gutzeit R, t.r.	27.2.1970			
639	Lån 2.1.70 8%	27.2.1970	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			
643	Finska Socker, gratis nya	31.3.1970			

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

Appendix B

Previously 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 1926–1927 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
Jan.19	300		
Feb.19	296		
Mar.19	289		
Apr.19	267		
May.19	267		
Jun.19	274		
Jul.19	276		
Aug.19	286		
Sep.19	288		
Oct.19	290		
Nov.19	286		
Dec.19	300		
Jan.20	322		
Feb.20	327		
Mar.20	331		
Apr.20	305		
May.20	284		
Jun.20	288		
Jul.20	303		
Aug.20	315		
Sep.20	296		
Oct.20	248		
Nov.20	213	175	
Dec.20	196	173	
Jan.21	214	178	
Feb.21	192	160	
Mar.21	175	150	
Apr.21	167	145	
May.21	165	148	
Jun.21	175	141	
Jul.21	169	145	
Aug.21	169	147	
Sep.21	167	138	
Oct.21		130	
Nov.21		129	
Dec.21		127	
Jan.22		128	
Feb.22		132	
Mar.22		127	
Apr.22		122	
May.22		122	
Jun.22		124	
Jul.22		125	
Aug.22		127	
Sep.22		140	
Oct.22		144	
Nov.22		142	
Dec.22		143	
Jan.23		145	
Feb.23		148	
Mar.23		142	
Apr.23		142	
May.23		144	
Jun.23		141	
Jul.23		147	
Aug.23		149	
Sep.23		144	
Oct.23		145	
Nov.23		139	
Dec.23		140	

	Mercator I	Mercator II	Unitas'26		Mercator I	Mercator II	Unitas'26
Jan.24		143		Apr.28	257	179	
Feb.24		143		May.28	255	179	
Mar.24		139		Jun.28	257	180	
Apr.24		129		Jul.28	255	178	
May.24		127		Aug.28	241	169	
Jun.24		126		Sep.28	235	163	
Jul.24		125		Oct.28	223	157	
Aug.24		125		Nov.28	213	147	
Sep.24		122		Dec.28	229	149	
Oct.24		123		Jan.29	221	150	
Nov.24		123		Feb.29	215	148	
Dec.24		122		Mar.29	200	142	
Jan.25		126		Apr.29	202	138	
Feb.25		127		May.29	199	140	
Mar.25		121		Jun.29	196	137	
Apr.25		118		Jul.29	197	136	
May.25		120		Aug.29	194	133	
Jun.25		125		Sep.29	175	126	
Jul.25		132		Oct.29	181	121	
Aug.25		134		Nov.29	188	124	
Sep.25		135		Dec.29	189	124	
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				

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; dd.mm.yyyy). Both series are set to October 1912 = 100. Note that the authors might update the index series below later on, so please contact the author(s) to get the latest series.

Date	V-w yield	V-w price	Date	V-w yield	V-w price
31.10.1912	100	100	30.10.1915	115.066	98.712
30.11.1912	98.207	98.207	30.11.1915	121.500	104.232
31.12.1912	92.920	92.920	29.12.1915	131.746	113.021
31.1.1913	92.851	92.851	29.1.1916	134.842	115.677
28.2.1913	94.118	94.118	29.2.1916	143.831	123.389
31.3.1913	91.957	91.957	29.3.1916	159.936	137.205
30.4.1913	96.482	91.857	29.4.1916	158.264	129.763
28.5.1913	95.869	91.274	31.5.1916	161.655	132.543
25.6.1913	95.517	90.938	30.6.1916	179.959	147.551
30.7.1913	95.442	90.867	28.7.1916	203.680	167.000
27.8.1913	95.422	90.848	31.8.1916	241.061	197.649
30.9.1913	95.980	91.379	30.9.1916	301.744	247.404
31.10.1913	96.300	91.684	31.10.1916	300.688	246.538
29.11.1913	97.609	92.930	30.11.1916	266.905	218.839
30.12.1913	98.302	93.590	29.12.1916	248.323	203.604
31.1.1914	98.171	93.466	31.1.1917	226.708	185.881
28.2.1914	98.684	93.954	28.2.1917	240.866	197.489
31.3.1914	95.260	90.694	31.3.1917	235.828	193.359
30.4.1914	101.086	91.397	30.4.1917	235.976	185.232
30.5.1914	100.592	90.950	31.5.1917	246.157	193.224
1.7.1914	101.146	91.451	29.6.1917	238.570	187.268
29.7.1914	100.881	91.211	27.7.1917	236.631	185.746
31.8.1914	100.881	91.211	31.8.1917	252.306	198.051
30.9.1914	100.881	91.211	29.9.1917	255.659	200.683
31.10.1914	100.881	91.211	29.10.1917	264.747	207.817
30.11.1914	100.881	91.211	30.11.1917	274.918	215.801
31.12.1914	100.881	91.211	29.12.1917	273.244	214.486
31.1.1915	100.881	91.211	23.1.1918	271.954	213.474
28.2.1915	100.881	91.211	28.2.1918	271.954	213.474
31.3.1915	97.253	87.931	31.3.1918	271.954	213.474
29.4.1915	103.073	88.423	30.4.1918	271.954	213.474
31.5.1915	102.929	88.300	31.5.1918	274.568	205.928
30.6.1915	102.929	88.300	28.6.1918	283.556	212.669
31.7.1915	102.929	88.300	31.7.1918	317.137	237.855
1.9.1915	105.486	90.493	31.8.1918	350.415	262.814
30.9.1915	110.706	94.972	30.9.1918	454.287	340.719

Date	V-w yield	V-w price	Date	V-w yield	V-w price
31.10.1918	422.774	317.084	31.1.1923	336.823	196.802
30.11.1918	389.423	292.070	28.2.1923	339.588	198.418
30.12.1918	365.992	274.497	31.3.1923	329.564	192.561
31.1.1919	393.933	295.453	30.4.1923	358.377	191.501
28.2.1919	377.206	282.908	31.5.1923	365.051	195.067
31.3.1919	375.072	281.307	29.6.1923	356.787	190.651
30.4.1919	360.623	261.313	31.7.1923	367.215	196.223
31.5.1919	365.277	264.685	31.8.1923	372.313	198.948
27.6.1919	371.240	269.006	29.9.1923	365.835	195.486
31.7.1919	371.172	268.957	31.10.1923	366.928	196.070
30.8.1919	356.287	258.171	30.11.1923	356.292	190.386
30.9.1919	345.234	250.162	31.12.1923	355.462	189.943
31.10.1919	357.930	259.362	31.1.1924	364.950	195.013
29.11.1919	352.878	255.701	29.2.1924	375.630	200.720
30.12.1919	388.366	281.416	31.3.1924	369.473	197.430
31.1.1920	402.950	291.983	30.4.1924	385.466	188.458
28.2.1920	409.129	296.461	31.5.1924	381.433	186.486
31.3.1920	416.391	301.723	27.6.1924	376.967	184.303
30.4.1920	438.070	302.549	31.7.1924	374.323	183.010
31.5.1920	433.290	299.248	29.8.1924	373.339	182.529
30.6.1920	445.803	307.890	30.9.1924	375.895	183.779
30.7.1920	456.714	315.425	31.10.1924	363.603	177.769
31.8.1920	465.388	321.416	29.11.1924	360.650	176.325
30.9.1920	419.867	289.978	31.12.1924	354.019	173.083
30.10.1920	425.290	293.723	31.1.1925	363.704	177.818
30.11.1920	374.148	258.402	28.2.1925	364.159	178.041
30.12.1920	368.811	254.716	31.3.1925	362.730	177.342
31.1.1921	363.379	250.965	30.4.1925	384.260	171.818
28.2.1921	340.320	235.039	30.5.1925	386.773	172.942
31.3.1921	324.604	224.185	30.6.1925	401.297	179.436
30.4.1921	334.730	213.137	31.7.1925	426.031	190.496
31.5.1921	344.330	219.250	28.8.1925	433.257	193.727
30.6.1921	332.008	211.404	30.9.1925	437.497	195.623
29.7.1921	329.263	209.656	31.10.1925	442.736	197.965
31.8.1921	339.504	216.177	30.11.1925	463.279	207.151
30.9.1921	320.864	204.308	31.12.1925	484.346	216.571
31.10.1921	309.891	197.321	30.1.1926	493.971	220.875
30.11.1921	301.319	191.863	27.2.1926	497.931	222.646
31.12.1921	291.283	185.472	30.3.1926	520.055	232.538
31.1.1922	289.247	184.176	30.4.1926	569.965	235.370
28.2.1922	298.043	189.777	31.5.1926	563.489	232.696
31.3.1922	294.014	187.212	30.6.1926	576.925	238.244
29.4.1922	306.439	179.049	31.7.1926	607.690	250.949
31.5.1922	303.469	177.314	31.8.1926	630.183	260.237
30.6.1922	308.238	180.101	30.9.1926	646.858	267.123
28.7.1922	309.724	180.969	30.10.1926	637.186	263.129
31.8.1922	311.992	182.294	30.11.1926	661.174	273.035
30.9.1922	335.100	195.796	31.12.1926	671.238	277.191
31.10.1922	342.804	200.297	31.1.1927	744.683	307.521
30.11.1922	340.773	199.110	28.2.1927	799.485	330.151
31.12.1922	335.370	195.954	31.3.1927	839.497	346.675

Date	V-w yield	V-w price	Date	V-w yield	V-w price
30.4.1927	879.377	341.555	31.7.1931	819.573	240.019
31.5.1927	905.781	351.811	28.8.1931	795.432	232.949
30.6.1927	948.653	368.462	18.9.1931	777.312	227.642
29.7.1927	1 124.145	436.624	31.10.1931	871.165	255.128
31.8.1927	1 127.213	437.816	30.11.1931	962.059	281.747
30.9.1927	1 089.333	423.103	31.12.1931	930.558	272.522
31.10.1927	1 098.034	426.483	30.1.1932	881.687	258.209
30.11.1927	1 087.181	422.268	29.2.1932	863.057	252.754
31.12.1927	1 144.238	444.429	31.3.1932	852.838	249.761
31.1.1928	1 164.974	452.483	30.4.1932	863.858	233.711
29.2.1928	1 165.356	452.631	31.5.1932	857.796	232.071
31.3.1928	1 175.679	456.641	30.6.1932	874.431	236.572
30.4.1928	1 210.674	446.034	29.7.1932	884.448	239.282
30.5.1928	1 200.793	442.393	31.8.1932	942.648	255.028
29.6.1928	1 200.249	442.193	30.9.1932	931.769	252.084
31.7.1928	1 192.853	439.468	31.10.1932	938.595	253.931
31.8.1928	1 139.105	419.666	30.11.1932	960.864	259.956
29.9.1928	1 111.676	409.561	30.12.1932	939.528	254.184
31.10.1928	1 050.320	386.956	31.1.1933	941.053	254.596
30.11.1928	1 003.599	369.744	28.2.1933	940.728	254.508
31.12.1928	1 054.400	388.460	31.3.1933	944.225	255.454
31.1.1929	1 025.258	377.723	29.4.1933	1 037.458	262.523
28.2.1929	999.169	368.111	31.5.1933	1 029.228	260.441
28.3.1929	947.582	349.106	30.6.1933	1 061.830	268.691
30.4.1929	1 007.166	346.358	28.7.1933	1 098.623	278.001
31.5.1929	992.282	341.240	31.8.1933	1 162.466	294.156
28.6.1929	976.614	335.851	30.9.1933	1 195.850	302.603
31.7.1929	973.999	334.952	31.10.1933	1 177.216	297.888
30.8.1929	966.580	332.401	30.11.1933	1 198.457	303.263
30.9.1929	861.603	296.300	30.12.1933	1 349.777	341.554
31.10.1929	876.208	301.322	31.1.1934	1 286.093	325.439
30.11.1929	900.384	309.636	28.2.1934	1 301.259	329.277
31.12.1929	886.240	304.772	29.3.1934	1 279.875	323.865
31.1.1930	919.151	316.090	30.4.1934	1 411.417	337.969
28.2.1930	909.469	312.761	31.5.1934	1 396.363	334.364
31.3.1930	889.258	305.810	29.6.1934	1 441.087	345.073
30.4.1930	1 027.018	329.026	31.7.1934	1 471.007	352.238
28.5.1930	995.876	319.049	31.8.1934	1 535.208	367.611
27.6.1930	961.936	308.176	29.9.1934	1 518.194	363.536
31.7.1930	969.322	310.542	31.10.1934	1 539.626	368.669
29.8.1930	968.042	310.132	30.11.1934	1 556.964	372.820
30.9.1930	919.447	294.564	29.12.1934	1 558.626	373.218
31.10.1930	909.475	291.369	31.1.1935	1 582.976	379.049
29.11.1930	866.363	277.557	27.2.1935	1 580.332	378.416
31.12.1930	861.438	275.979	30.3.1935	1 530.728	366.538
31.1.1931	872.155	279.413	30.4.1935	1 616.522	366.376
28.2.1931	867.635	277.965	31.5.1935	1 620.945	367.378
31.3.1931	820.424	262.840	28.6.1935	1 621.464	367.496
30.4.1931	836.999	245.122	31.7.1935	1 694.782	384.113
30.5.1931	812.784	238.031	30.8.1935	1 676.682	380.011
30.6.1931	809.700	237.127	30.9.1935	1 649.566	373.865

Date	V-w yield	V-w price	Date	V-w yield	V-w price
31.10.1935	1 670.108	378.521	31.1.1940	2 427.454	456.735
30.11.1935	1 695.033	384.170	29.2.1940	2 427.454	456.735
30.12.1935	1 730.344	392.173	1.4.1940	2 373.028	446.494
31.1.1936	1 750.705	396.787	30.4.1940	3 075.684	560.880
29.2.1936	1 873.251	424.562	31.5.1940	2 730.917	498.008
31.3.1936	1 853.955	420.189	29.6.1940	2 687.091	490.016
30.4.1936	2 021.066	436.737	31.7.1940	2 556.089	466.127
30.5.1936	2 037.380	440.263	30.8.1940	2 666.019	486.173
30.6.1936	2 078.440	449.135	30.9.1940	2 671.094	487.099
31.7.1936	2 258.715	488.091	31.10.1940	2 953.691	538.633
28.8.1936	2 280.019	492.695	30.11.1940	3 042.293	554.790
30.9.1936	2 354.490	508.788	30.12.1940	2 949.690	537.903
31.10.1936	2 410.285	520.844	31.1.1941	3 048.283	555.883
30.11.1936	2 507.582	541.870	28.2.1941	3 070.819	559.992
30.12.1936	2 524.467	545.518	31.3.1941	3 196.595	582.929
30.1.1937	2 693.884	582.128	30.4.1941	3 756.077	663.917
27.2.1937	2 859.074	617.824	31.5.1941	3 639.779	643.360
31.3.1937	2 815.729	608.458	27.6.1941	4 029.218	712.197
30.4.1937	2 609.566	541.034	31.7.1941	4 517.671	798.535
31.5.1937	2 636.091	546.533	29.8.1941	4 526.223	800.047
30.6.1937	2 673.786	554.349	30.9.1941	4 686.386	828.357
30.7.1937	2 754.139	571.008	31.10.1941	4 831.948	854.086
31.8.1937	2 852.590	591.420	29.11.1941	4 712.388	832.953
30.9.1937	2 604.910	540.069	30.12.1941	4 297.238	759.572
30.10.1937	2 620.190	543.237	31.1.1942	4 979.318	880.135
30.11.1937	2 486.252	515.468	28.2.1942	5 337.192	943.392
30.12.1937	2 496.001	517.489	31.3.1942	6 087.725	1 076.055
31.1.1938	2 555.550	529.835	30.4.1942	5 530.976	954.413
28.2.1938	2 447.731	507.481	28.5.1942	5 614.673	968.856
31.3.1938	2 362.077	489.723	30.6.1942	5 701.652	983.865
30.4.1938	2 429.482	479.274	30.7.1942	5 607.307	967.585
31.5.1938	2 483.381	489.907	27.8.1942	5 926.069	1 022.589
30.6.1938	2 588.956	510.734	30.9.1942	6 219.566	1 073.235
29.7.1938	2 662.661	525.274	29.10.1942	6 104.415	1 053.365
31.8.1938	2 668.889	526.503	30.11.1942	5 746.290	991.567
30.9.1938	2 690.881	530.842	30.12.1942	5 617.649	969.369
31.10.1938	2 635.078	519.833	29.1.1943	5 783.541	997.995
30.11.1938	2 558.315	504.690	25.2.1943	5 846.602	1 008.877
30.12.1938	2 570.451	507.084	31.3.1943	6 006.226	1 036.421
31.1.1939	2 648.959	522.571	29.4.1943	6 082.053	1 025.468
28.2.1939	2 681.181	528.928	31.5.1943	6 255.620	1 054.732
31.3.1939	2 651.719	523.116	30.6.1943	6 269.721	1 057.109
29.4.1939	2 740.980	515.726	29.7.1943	6 214.679	1 047.829
31.5.1939	2 832.350	532.917	31.8.1943	6 083.239	1 025.668
30.6.1939	2 793.148	525.542	30.9.1943	5 646.950	952.107
28.7.1939	2 802.017	527.210	30.10.1943	5 216.699	879.564
31.8.1939	2 794.013	525.704	30.11.1943	5 038.012	849.437
30.9.1939	2 585.689	486.507	31.12.1943	5 532.550	932.818
10.10.1939	2 485.585	467.672	31.1.1944	5 696.707	960.496
29.11.1939	2 427.454	456.735	29.2.1944	5 873.864	990.366
31.12.1939	2 427.454	456.735	30.3.1944	5 882.695	991.855

Date	V-w yield	V-w price	Date	V-w yield	V-w price
29.4.1944	5 987.869	981.938	30.7.1948	7 599.156	1 086.215
31.5.1944	6 115.796	1 002.916	31.8.1948	7 177.218	1 025.904
30.6.1944	5 699.693	934.680	30.9.1948	6 873.667	982.515
28.7.1944	5 766.290	945.602	29.10.1948	6 879.787	983.389
31.8.1944	6 257.444	1 026.145	30.11.1948	6 843.423	978.192
29.9.1944	5 704.745	935.509	30.12.1948	6 672.480	953.757
30.10.1944	5 492.891	900.767	31.1.1949	7 185.077	1 027.027
30.11.1944	4 969.265	814.899	28.2.1949	6 946.314	992.899
30.12.1944	5 307.790	870.413	31.3.1949	7 104.295	1 015.480
30.1.1945	5 285.833	866.812	29.4.1949	7 892.457	1 073.689
28.2.1945	5 585.169	915.900	31.5.1949	7 801.835	1 061.361
30.3.1945	7 173.456	1 176.360	30.6.1949	7 883.188	1 072.428
30.4.1945	8 892.859	1 430.488	29.7.1949	7 884.573	1 054.420
31.5.1945	9 101.741	1 464.088	31.8.1949	8 600.830	1 150.206
29.6.1945	13 111.049	2 109.018	30.9.1949	8 452.534	1 130.374
31.7.1945	18 047.275	2 903.050	31.10.1949	8 446.763	1 129.603
31.8.1945	16 524.943	2 658.170	30.11.1949	8 506.871	1 137.641
28.9.1945	12 555.372	2 019.633	29.12.1949	9 448.379	1 263.551
31.10.1945	12 653.847	2 035.473	31.1.1950	9 842.426	1 316.248
30.11.1945	10 012.241	1 610.550	28.2.1950	10 380.643	1 388.224
31.12.1945	10 913.707	1 755.558	31.3.1950	11 504.325	1 538.497
31.1.1946	10 006.118	1 609.565	28.4.1950	13 530.214	1 749.506
28.2.1946	8 626.410	1 387.628	31.5.1950	14 398.726	1 861.808
29.3.1946	7 625.548	1 226.631	29.6.1950	15 190.066	1 964.131
30.4.1946	8 717.963	1 371.934	27.7.1950	16 287.917	2 087.739
31.5.1946	11 122.413	1 750.318	31.8.1950	16 324.814	2 092.468
28.6.1946	10 289.686	1 619.273	29.9.1950	16 791.652	2 152.306
30.7.1946	9 355.470	1 472.257	31.10.1950	18 528.191	2 374.891
30.8.1946	9 203.802	1 448.389	30.11.1950	17 585.123	2 254.011
30.9.1946	9 463.307	1 489.227	29.12.1950	17 313.420	2 219.185
29.10.1946	9 871.666	1 553.490	31.1.1951	18 573.083	2 380.645
29.11.1946	9 499.075	1 494.856	28.2.1951	20 126.007	2 579.694
30.12.1946	8 881.055	1 397.599	30.3.1951	20 352.600	2 608.738
31.1.1947	8 045.717	1 266.143	30.4.1951	19 708.958	2 446.643
28.2.1947	7 240.352	1 139.404	31.5.1951	18 933.586	2 350.389
31.3.1947	7 282.393	1 146.020	29.6.1951	19 298.165	2 395.648
30.4.1947	7 919.285	1 212.814	31.7.1951	18 536.637	2 284.576
30.5.1947	7 929.957	1 214.449	31.8.1951	18 920.933	2 331.940
27.6.1947	7 734.068	1 184.449	28.9.1951	19 303.460	2 379.085
31.7.1947	7 668.529	1 157.167	31.10.1951	18 979.808	2 339.196
29.8.1947	7 488.842	1 130.052	30.11.1951	19 359.949	2 386.047
30.9.1947	8 937.326	1 348.626	28.12.1951	19 663.002	2 423.397
31.10.1947	8 634.154	1 302.878	31.1.1952	20 098.240	2 477.039
28.11.1947	8 753.860	1 320.941	29.2.1952	19 924.686	2 455.649
30.12.1947	8 843.975	1 334.539	31.3.1952	19 315.041	2 380.512
30.1.1948	8 791.336	1 326.596	30.4.1952	18 943.629	2 222.879
27.2.1948	7 622.580	1 150.233	30.5.1952	17 926.810	2 103.564
31.3.1948	7 037.980	1 062.018	27.6.1952	17 361.225	2 037.197
30.4.1948	7 492.250	1 089.166	31.7.1952	18 123.624	2 111.871
31.5.1948	7 311.402	1 062.876	29.8.1952	18 434.388	2 148.083
30.6.1948	7 625.421	1 108.526	30.9.1952	18 359.723	2 139.383

Date	V-w yield	V-w price	Date	V-w yield	V-w price
31.10.1952	17 975.014	2 094.555	31.1.1957	39 298.261	3 811.427
28.11.1952	17 637.103	2 055.179	28.2.1957	42 127.463	4 085.824
30.12.1952	17 153.216	1 998.794	29.3.1957	40 499.147	3 927.898
30.1.1953	17 411.493	2 028.890	30.4.1957	38 980.109	3 623.845
27.2.1953	17 794.847	2 073.560	31.5.1957	37 241.692	3 462.231
31.3.1953	18 303.428	2 132.823	25.6.1957	36 415.486	3 385.421
30.4.1953	20 456.286	2 269.460	31.7.1957	35 405.912	3 291.565
29.5.1953	21 492.496	2 384.420	30.8.1957	37 254.091	3 463.384
30.6.1953	21 903.891	2 430.061	30.9.1957	38 922.770	3 618.515
31.7.1953	22 111.553	2 435.752	31.10.1957	35 287.970	3 280.600
28.8.1953	23 477.452	2 586.216	29.11.1957	34 281.563	3 187.038
30.9.1953	22 907.221	2 523.401	28.12.1957	34 073.894	3 167.732
30.10.1953	22 919.409	2 524.744	31.1.1958	35 921.401	3 339.488
30.11.1953	23 446.159	2 582.769	28.2.1958	36 242.210	3 369.312
30.12.1953	23 395.687	2 577.209	31.3.1958	35 105.275	3 263.616
29.1.1954	23 843.098	2 626.495	30.4.1958	36 568.355	3 231.524
26.2.1954	23 513.212	2 590.155	30.5.1958	34 589.007	3 056.610
31.3.1954	23 388.281	2 576.393	27.6.1958	35 430.027	3 130.931
30.4.1954	24 044.978	2 533.490	31.7.1958	35 729.969	3 157.436
31.5.1954	23 850.645	2 513.014	29.8.1958	35 691.676	3 154.052
29.6.1954	24 034.221	2 532.357	30.9.1958	37 002.804	3 269.916
30.7.1954	24 299.501	2 547.051	30.10.1958	36 330.513	3 210.506
31.8.1954	24 402.147	2 557.810	28.11.1958	35 745.107	3 158.774
30.9.1954	24 369.970	2 554.437	30.12.1958	36 446.644	3 220.768
29.10.1954	24 646.865	2 583.461	30.1.1959	39 321.492	3 474.817
30.11.1954	24 558.065	2 574.153	27.2.1959	39 921.337	3 527.825
30.12.1954	24 485.206	2 566.516	31.3.1959	41 482.236	3 665.761
31.1.1955	26 225.656	2 748.949	29.4.1959	44 843.128	3 771.480
28.2.1955	27 842.335	2 918.407	29.5.1959	43 366.757	3 647.311
31.3.1955	30 649.120	3 212.612	30.6.1959	44 808.985	3 768.608
29.4.1955	31 718.715	3 193.498	31.7.1959	46 105.787	3 877.674
31.5.1955	33 238.106	3 346.473	28.8.1959	46 866.536	3 941.656
30.6.1955	33 378.169	3 360.575	30.9.1959	48 118.489	4 046.950
29.7.1955	33 056.134	3 320.431	29.10.1959	49 468.040	4 160.453
31.8.1955	34 197.117	3 435.040	30.11.1959	50 801.959	4 272.641
30.9.1955	35 849.058	3 600.975	30.12.1959	52 184.596	4 388.926
31.10.1955	36 136.235	3 629.821	29.1.1960	56 898.256	4 785.363
30.11.1955	37 474.043	3 764.202	29.2.1960	57 104.801	4 802.734
30.12.1955	39 044.229	3 921.924	31.3.1960	57 501.395	4 836.089
31.1.1956	42 147.931	4 233.686	29.4.1960	58 051.130	4 669.268
29.2.1956	41 000.974	4 118.476	31.5.1960	56 260.080	4 525.207
28.3.1956	42 934.745	4 312.720	30.6.1960	59 388.839	4 776.865
30.4.1956	43 543.580	4 223.169	29.7.1960	61 280.086	4 928.985
31.5.1956	44 590.285	4 324.686	31.8.1960	60 871.921	4 896.155
29.6.1956	45 624.831	4 425.023	30.9.1960	59 458.242	4 782.447
31.7.1956	50 709.856	4 918.206	31.10.1960	60 527.882	4 868.483
31.8.1956	49 445.259	4 795.556	30.11.1960	59 397.349	4 777.550
28.9.1956	46 017.310	4 463.089	30.12.1960	59 935.201	4 820.811
31.10.1956	44 482.683	4 314.250	31.1.1961	62 021.664	4 988.633
30.11.1956	41 591.741	4 033.865	28.2.1961	62 265.551	5 008.250
28.12.1956	40 379.761	3 916.319	29.3.1961	59 966.220	4 823.306

Date	V-w yield	V-w price	Date	V-w yield	V-w price
28.4.1961	63 013.523	4 834.492	30.7.1965	74 571.880	4 650.275
31.5.1961	62 500.235	4 795.112	31.8.1965	73 982.250	4 613.506
30.6.1961	62 555.840	4 799.378	30.9.1965	73 988.859	4 613.918
28.7.1961	63 264.499	4 853.747	29.10.1965	73 041.255	4 554.826
31.8.1961	62 824.619	4 819.999	30.11.1965	71 443.771	4 455.207
29.9.1961	62 378.578	4 785.778	30.12.1965	72 806.023	4 540.157
31.10.1961	60 456.538	4 638.316	31.1.1966	75 529.027	4 709.962
30.11.1961	60 079.497	4 609.389	28.2.1966	74 428.088	4 641.308
29.12.1961	59 486.319	4 563.879	29.3.1966	73 415.359	4 578.155
31.1.1962	60 593.626	4 648.834	29.4.1966	75 231.854	4 457.326
28.2.1962	61 486.923	4 717.369	31.5.1966	72 160.970	4 275.383
30.3.1962	60 853.899	4 668.802	30.6.1966	68 264.073	4 044.500
27.4.1962	62 589.289	4 538.154	29.7.1966	69 894.306	4 141.088
29.5.1962	64 452.742	4 673.267	31.8.1966	69 795.782	4 135.250
29.6.1962	66 168.612	4 797.679	30.9.1966	67 392.591	3 992.866
31.7.1962	69 443.605	5 035.139	31.10.1966	66 736.331	3 953.984
31.8.1962	68 471.187	4 964.632	29.11.1966	68 379.993	4 051.368
28.9.1962	68 614.430	4 975.018	30.12.1966	68 330.214	4 048.419
31.10.1962	68 537.731	4 969.457	31.1.1967	69 395.310	4 111.523
30.11.1962	67 498.901	4 894.134	28.2.1967	67 664.998	4 009.006
28.12.1962	68 102.312	4 937.886	31.3.1967	66 978.968	3 968.360
31.1.1963	69 332.873	5 027.110	28.4.1967	68 841.441	3 799.720
26.2.1963	70 841.946	5 136.528	31.5.1967	68 712.377	3 792.596
29.3.1963	72 935.307	5 288.311	30.6.1967	68 050.906	3 756.086
29.4.1963	74 895.111	5 180.561	28.7.1967	68 630.207	3 788.061
31.5.1963	71 790.416	4 965.807	31.8.1967	66 443.923	3 667.388
25.6.1963	71 426.390	4 940.627	29.9.1967	66 584.860	3 675.167
31.7.1963	72 156.450	4 991.125	31.10.1967	67 867.825	3 745.981
30.8.1963	72 580.083	5 020.429	30.11.1967	66 021.502	3 644.073
30.9.1963	73 161.368	5 060.636	29.12.1967	67 419.905	3 721.258
31.10.1963	73 248.187	5 066.642	31.1.1968	65 764.570	3 629.891
29.11.1963	70 935.074	4 906.642	29.2.1968	67 234.013	3 710.998
30.12.1963	71 059.077	4 915.219	29.3.1968	74 734.740	4 125.002
31.1.1964	74 105.376	5 125.934	30.4.1968	87 183.262	4 580.104
28.2.1964	75 960.830	5 254.278	31.5.1968	83 698.596	4 397.039
31.3.1964	75 688.340	5 235.429	28.6.1968	88 035.732	4 624.887
29.4.1964	78 773.947	5 191.222	30.7.1968	89 580.870	4 706.060
29.5.1964	77 129.870	5 082.876	30.8.1968	90 685.613	4 764.097
30.6.1964	78 118.607	5 148.034	30.9.1968	92 162.228	4 841.670
31.7.1964	78 625.696	5 181.452	31.10.1968	93 355.703	4 904.368
28.8.1964	79 155.839	5 216.388	29.11.1968	92 557.018	4 862.410
30.9.1964	77 100.374	5 080.933	30.12.1968	95 163.864	4 999.358
29.10.1964	76 564.810	5 045.639	31.1.1969	104 509.183	5 490.307
30.11.1964	76 632.593	5 050.106	26.2.1969	104 974.454	5 514.750
30.12.1964	77 263.943	5 091.712	31.3.1969	103 800.573	5 453.081
29.1.1965	74 496.795	4 909.356	30.4.1969	108 721.419	5 371.685
26.2.1965	77 257.356	5 091.278	28.5.1969	121 686.904	6 012.281
31.3.1965	75 711.142	4 989.382	27.6.1969	116 267.906	5 744.541
29.4.1965	76 383.679	4 763.258	31.7.1969	117 457.992	5 803.340
31.5.1965	75 819.228	4 728.059	27.8.1969	121 439.565	6 000.061
30.6.1965	74 021.933	4 615.980	30.9.1969	121 128.810	5 984.707

Date	V-w yield	V-w price
31.10.1969	121 534.591	6 004.756
28.11.1969	121 012.540	5 978.963
30.12.1969	121 106.780	5 983.619
30.1.1970	126 837.467	6 266.759
27.2.1970	129 497.140	6 398.168
31.3.1970	127 120.933	6 280.765

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