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CIBEM WORKING PAPER SERIES
Copenhagen Business School

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CIBEM Working Paper Series
September 2010

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The Value Premium on the Danish Stock Market: 1950-2008*

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Abstract:
A number of influential studies have documented a considerable value premium for US stocks over long periods of time. Value stocks, defined as companies that trade at low price-earnings or price-book values, are reported to have given a higher mean return than growth stocks trading at high multiples. Outside the US, there is also robust evidence of a value premium for the UK, but otherwise the evidence is more uncertain due to data shortages. Studies of continental European and Asian markets are, for example, based on data that typically only covers 20 years of market history. The purpose of this paper is to report evidence for the Danish market using a consistent data set that extends over the period 1950-2008. On the basis of these data the paper investigates whether the value premium is a stylized fact or just a phenomenon that pops up every few decades only to disappear again. The results show that the Danish value premium exists and is significant over the long run. However, this paper also shows that the premium is not a simple constant but is volatile even across decades.

***JELCODE*:** N14; N20

***Keywords*:** Value and growth stocks, total returns, dividend and capital gains.

***** This paper has been presented at a number of conferences and universities including Agder University, Norway; the Copenhagen Business School and LD-Invest, both in Denmark; Lund University, Sweden; and at the International Atlantic Economic Conference, New York. I thank seminar participants and in particular Jeppe Christiansen, Jens Gammelgaard, Aleksandra Gregoric, Bjoern Hansson , Bersant Hobdari, Kurt Kara, Thomas Poulsen and Trond Randø for comments and suggestions. I am also grateful to Søren Lehnert and Emil Verner for assistance in compiling and managing the data and to "Account-CBS" and "Erhvervs & Selskabsstyrelsen" for giving me access to hard copies of firms' financial reports.

Introduction

Graham and Dodd (1934) were among the first to argue that value companies, which are firms that trade at low price-earnings ratios in the stock market, are likely to offer investors a higher return than the more glamorous growth companies, usually trading at high multiples. Graham and Dodd therefore recommended investors "to look for value", which is also the conclusion Keynes arrived at in 1938, when he took the opportunity to reflect on his investment career (Moggridge (1983) and Skidelsky (1992)).

A number of influential studies have now also documented that there is a significant excess return on US value stocks over long time periods (Fama and French (1992 and 2008), Davis, Fama and French (2000), and Lakonishok, Shleifer and Vishny (1994)). Stocks with low price multiples and other measures of value are reported to have given a higher mean return than stocks with high valuation ratios and high growth (Cooper, Gulen and Schill (2008)). These results are in line with previous findings by Basu (1997). Hence, the existence of a value premium, using a phrase from Fama and French (1992), is now a stylized fact in empirical finance.

Notwithstanding that value stocks frequently outperform growth stocks, there are, of course, time periods with a negative premium. The US value premium disappeared for example in the late 1990s. Chan et al. (2000) argued in a paper written before the bursting of the bubble that this reflects that investors under the boom became too excited about growth stocks, including IT and internet stocks. Anticipating the dramatic fall in stock prices, they predicted that the excess return on value stocks would soon be reestablished. The evidence accumulated since then proves that they were right in this prediction as US value stocks posted higher returns than growth stocks during all years from 2000 to 2006. However, in 2007, the first year of the financial crisis, growth stocks again outperformed value stocks, albeit only for a short while as the US value premium reappeared in 2008.[1]

Outside the US, the evidence on the value premium is more uncertain due to data shortages. With a few exceptions, the studies of European and Asian markets are based on data sets which only extend over a few decades; see Risager (2009) for a survey.[2] And since the value premium is volatile this renders the evidence less robust.

[1] The value premium equals 2 percent this year according to Russell, a well known and leading US provider of value and growth funds.

[2] Dimson et al. (2003) is an exception to the "rule of short samples" since their UK data extends over the period 1955-2001. They show that the UK premium is high and surprisingly stable but add also some cautions as regards the extraction of the value premium in the small cap segment. Dimson et al. (2009) estimate the return difference between stocks with high dividend yields (value shares) and stocks with low dividend yields (growth shares). Over the period 1900-2008, the mean annual return on the value portfolio exceeds the return on the growth portfolio by 3.1 %. A UK study by Gregory et al. (2001) also uses a data longer than the norm, that is, their data runs over the period 1975-1998 and is also consistent with the existence of a premium, see also Gregory (2003). Most of the remaining literature is

For European and Asian markets there is a need to establish and analyze data that extends further back in time.

The purpose of this paper is to report evidence on the Danish value premium. To this end I have collected stock market and accounting data for the period 1950-2008, that is, for more than half a century. On the basis of these data the paper investigates whether the premium is a long-term characteristic of the Danish market or just a phenomenon that pops up now and then. The results show that there is also a value premium in the Danish market in the sense that value stocks on average perform better than growth stocks. However, the premium is by no means a simple constant. The premium varies a lot, and there are also several periods in which growth stocks do better than value companies. I therefore also go into some details on the time periods in which growth companies are the best in class.

The next section introduces the reader to the thinking of Graham and Dodd (1934), the fathers of the value tradition. I also briefly point attention to some of J.M. Keynes's reflections in 1938 when he took the opportunity to look back at his investment career that began after he left the UK Treasury in 1919 for a position at King's College, Cambridge. Next follows an outline of the data in section 2. Section 3 presents and discusses the Danish value premium including its mean, volatility and occasional disappearance from the scene. Section 4 goes into more detail on the headwind to value investing over the years 2006 to 2008. Section 5 shows that value stocks on average post higher dividend yields than growth stocks. This section also analyzes why the dividend yield on both types of stocks has been much lower since 1984. The last section concludes the paper. The data annex lists the data, which are hereby made publicly available. A companion paper discusses potential explanations of why there is a value premium in the first place (Risager (2010)). This is beyond the purpose of this paper.

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based on shorter samples. Arshanapalli et al. (1998) find a value premium in the majority of the 17 non-US countries they look at over the period 1975-1995. Bauman et al. (2001) document a value premium for 6 Pacific Rim countries over 1986-1996. Brouwer et al. (1997) looked at France, Germany, the Netherlands, and the UK over the period 1982-1993 and also found evidence of a premium as did earlier work by Capaul et al. (1993), but their sample only included 10 years. Chan et al. (1991) find a value premium in Japan for the period 1971 to 1988. This work is extended by Cai (1997) to include the period until 1993, which therefore allows an interesting discussion of the years following the bursting of the bubble. In a sample of 12 developed countries over a 20-year period, Fama and French (1998) also establish evidence of a premium in 11 out of the 12 countries. Moreover, they also find a premium in emerging market economies but the sample length is only 9 years. The present paper is the first one which analyzes Danish data. I am not aware of any extensive analysis of the other Nordic markets

I. Introduction to Value Investing

We begin with a brief outline of the investment philosophy outlined in Graham and Dodd (1934) "Security Analysis" and in later versions of this influential book. In Security Analysis, and later in Graham (1949), it is argued that successful investors should avoid frequent trading of stocks since the market is basically unpredictable in particular in the near term regardless of which forecasting technique one is applying. In the 1949 version of "Security Analysis" it is put in this way:

"We are skeptical of the ability to forecast with a fair degree of success the market behavior of individual issues over the near term future – whether he base his predictions upon the technical position of the market or upon the general outlook for business or upon the specific outlook for the individual companies" (Graham and Dodd (1949), p. 658).

Instead of trying to outsmart the market in short-term trading behaviour, investors should instead either purchase a diversified portfolio of stocks at reasonable prices or try to play the value strategy:

"Our preference is either for the simple purchase of a diversified list of primary issues at reasonable price levels"…."or else for the effort, by means of skilful security analysis, to find common stocks selling well below their intrinsic value" (Graham and Dodd, 1940, p. 403).

Finding stocks that sell below their intrinsic value is the essence of the value investment philosophy. In the late 1930s, Keynes also became convinced about the merits of this approach. This is obvious from a memo he wrote in 1938 for the Estates Committee, Kings College. In this memo he reflects on his career as an investor. He begins the memo with a presentation of the returns on the investments he had made on behalf of King's College. The analysis shows that he outperformed his benchmarks including Prudential, a large investor at the time. Following this, he goes on to reflect on the lessons that can be drawn from his extensive investment experiences, which also includes hectic speculation not only in stocks but also in commodities and currencies (Moggridge (1983) and Skidelsky (1992)). One of the key lessons that Keynes derives is that investors should go for:

"A careful selection of a few investments (or a few types of investment) having regard to their cheapness in relation to their probable actual and potential intrinsic value over a period of years ahead and in relation to alternative investments at the time." (Moggridge (1983, p. 107)).

Besides advising investors to search for value investments, Keynes also recommends that investors should only invest in a limited number of assets. He does not recommend a highly diversified portfolio, which in part is likely to reflect the high transaction costs at the time of writing and the lack of diversification instruments including mutual and exchange traded funds.[3] Moreover, Keynes emphasizes that investors should be patient:

"A steadfast holding of these in fairly large units through thick and thin, perhaps for several years, until either they have fulfilled their promise or it is evident that they were purchased on a mistake." (Moggridge (1983, p. 107)).

Towards the end of his career, Keynes had therefore become convinced about the merits of a value strategy. Smart investors should be patient and invest in stocks that look cheap relative to their intrinsic value. To invest in accordance with the value philosophy is, however, easier to say than to do since the notion of intrinsic value is hard to make operational as it depends on many factors. Therefore, neither Keynes nor Graham and Dodd offer a simple guide as on how to implement a value strategy in practice. This is left to the reader's own analysis and judgment. This explains why value investors often differ substantially in terms of how they implement the value investment philosophy.

The modern literature makes a short cut to the problem of identifying value stocks. In this literature, value stocks are simply those stocks that trade at low price earnings ratios or low price book values. Growth stocks, on the other hand, are stocks that trade at high multiples. As this study belongs to the modern tradition our classification of stocks into "value" and "growth" is therefore also entirely based on price multiples. An advantage of this is that we only use objective criteria. The analysis can therefore be replicated and does not depend on investor sentiment. In addition, it should be noted that there are well known value investment funds like Russell, an American fund provider, that are entirely based on objective criteria in line with the modern tradition; see Chan and Lakonishok (2004) and Risager (2009). The next section explains how the sample of Danish companies each year has been allocated into value and growth stocks.

[3] It also reflects his fundamental view that markets are inefficient and prices generally not right. It is therefore unwise to run a large portfolio since it takes to much effort to monitor each and every asset, which is a must when market prices are unreliable, see also Moggridge (1983).

II. Data and Portfolio Formation

The sample covers the Danish large cap universe over the period 1950 to 2008. At the end of each year we select the 20 largest stocks by market capitalization.[4] Next we split this universe into value and growth stocks using the price-earnings ratio as the sorting variable.[5] The value portfolio consists of the 10 stocks with the lowest P/E multiples, whereas the growth portfolio includes the 10 stocks with the highest P/E.

Following end-of-year portfolio formation, returns are calculated for the following year assuming a one-year holding period. Returns include the capital gain and the dividend yield. Besides looking at one-year holding period returns, we also examine long-term returns. As in Lakonishok et al. (1994) and Fama and French (1998) it is only stocks with positive earnings that enter the portfolios.[6] If firms later produce poor returns due to negative earnings, return calculations take this into account.

Portfolios are formed on the basis of both current and trailing P/E multiples. Current P/E is defined as end-of-year P relative to reported earnings E over the year. This approach assumes that investors are able to make a forecast of earnings over the year since investors at year-ends only know earnings for the first 9 months and back in time only semi-annual earnings since it is only in the last 10 to 15 years that companies have released quarterly income statements. This approach can therefore be criticized for a look-ahead bias. We consider therefore also the case where the portfolio formation is based on annual earnings in the preceding year. Given that annual earnings reports are available around the end of the first quarter, this approach can certainly not be criticized for demanding too much information since the selection of stocks is based on information that has been around for about 9 months. However, even in this case the value strategy is paying off; cf. below. As noted, the current P/E approach can be said to be a bit too demanding in particular at the time when companies did not produce quarterly earnings reports since it assumes that investors can come up with a reliable forecast of annual earnings based only on semi-annual company releases. Nowadays, it is, however, not that difficult to group the stocks into value and growth portfolios using only the first 3 quarter of earnings data. The hit ratio is almost 100 percent compared to using earnings for all 4 quarters.

[4] In case firms have two share classes, we only include the liquid B shares. This approach minimizes the risk that the premium could reflect liquidity differences. From 1989 and onwards the universe is essentially the stocks in the Blue Chips price index first introduced in 1989 and now labeled the OMX C-20.

[5] The universe of stocks (and the two portfolios) is changing over time since we always work with the 20 largest companies. Alternative sorting measures, including price-book and price-cash flow measures, are unfortunately not available in our data set

[6] This does not lead to any biases since the premium is an unbiased estimate of the return difference between large value and growth stocks that belong to the set of stocks with positive earnings. When there are companies amongst the 20 biggest that have negative earnings we take in new companies to make sure that we have 20 stocks each year.

Unlike the current P/E approach, the trailing P/E method is based on essentially outdated information. Hence, it seems reasonable to believe that a realistic outcome of pursuing a value strategy is in between the current and the trailing P/E approach.

In order to give the reader information on the characteristics of the value and growth portfolios we present the first two portfolios in this sample. Table 1 shows the two portfolios, based on current P/Es and formed in December 1950.

Table 1: The stock market menu in 1950 (end of year)

	Price	P/E	P/E rank	Low P/E return	High P/E Return
Banking					
Den Danske Landmandsbank	138.5	17.17	18		-0.051
Fyens Disconto Kasse	190	8.46	10	-0.147	
Handelsbanken	153	8.25	9	-0.085	
Privatbanken	157.25	7.32	6	-0.084	
Aarhus Privatbank	140	10.14	12		-0.043
Industry					
Burmeister og Wain	101.75	2.35	1	0.229	
Carlsberg	300	18.62	19		-0.095
De Danske Sukkerfabrikker	166.5	20.58	20		0.003
De Forenede Papirfabrikker	202	13.26	15		-0.050
NKT	321	13.14	14		0.027
Nordisk Fjerfabrik	295	4.25	3	-0.006	
Store Nordiske Telegrafselskab	185	15.53	16		-0.081
Superfos B	201	16.00	17		-0.055
Aarhus Oliefabrik	223.5	7.86	7	-0.002	
Service and Trade					
Det Danske Luftfartselskab	46.5	5.44	4	-0.254	
Jydsk Telefon	127.25	10.20	13		-0.050
Shipping					
ØK	202	9.40	11		0.158
DFDS	194.25	8.00	8	0.040	
D/S Norden	282	4.06	2	0.106	
D/S Torm	274	5.50	5	0.029	
Value weighted portfolio return				-0.019	0.002

What are the characteristics of these portfolios? First, the value portfolio trades at a much lower P/E than the growth portfolio, namely, at a P/E equal to 6.2 compared to 13.3 for the growth portfolio. That the growth portfolio is about twice as “expensive”

is the norm for the Danish market as shown by Table 2 below. This table also shows that the minimum P/E for the value portfolio over the sample is 2.5. Moreover, the P/E has never exceeded 15 on the value portfolio. By contrast, the mean value for the growth portfolio is 17.7. Second, the value portfolio includes three of the five banks. Thus, banks appear in both portfolios but over the whole sample there is a high propensity for banks to be value stocks. Third, by definition the value portfolio includes companies with the lowest P/Es and sometimes with incredibly low P/Es. In 1950, the value portfolio includes Burmeister and Wain trading at a record low P/E at 2.4. As the company returned 22.9 percent in 1951, it is possible that the company was undervalued in 1950. Fourth, there are companies in the 1950 portfolios that went bankrupt later e.g. Nordisk Fjerfabrik. In all cases with bankruptcy, the return to shareholders is -100 percent. The collapse of Nordisk Fjerfabrik in 1991 is therefore reducing the portfolio return with the company's weight times -100 percent. In other words, the data is free of survivorship biases. Fifth, there are also companies in 1950 that are still around. In 1950, the value portfolio includes for example the three shipping companies DFDS, Torm, and Norden. These firms are still traded unlike some of the others who have either disappeared or have changed name or importance as they have merged with other firms or have failed the test of the market place. An example of the latter is the East Asian Company (ØK), which at that time was the leading company unrivalled by any other Danish firm. ØK still exists but is today a much smaller company, and ØK is no longer in the large cap segment.

Numbers in the two columns at the right of Table 1 are the returns of the individual firms in 1951. At the bottom we have the value weighted portfolio returns. As shown, the growth portfolio outperforms the value portfolio by a small margin in 1951, that is, the return on the growth portfolio equals 0.2 percent whilst the value strategy yields -1.9 percent. This could have led the impatient investor to quit the Graham and Dodd approach but that would have been unwise. As noted by Keynes, value investors should sometimes be patient.

The returns in Table 1 are value weighted but for a small market there are some drawbacks with this approach. The most important is that returns are highly sensitive to 3-4 of the biggest companies' fortunes in the market given that they account for a very large share of the portfolio. It can therefore be argued that investors (and returns) should have less exposure to these very big companies. That is why it is also useful to report equal weighted returns, cf. below.

Table 2: P/E for the value and growth portfolios, 1950-2007.

	P/E Value Portfolio	P/E Growth Portfolio
Mean	7.8	17.7
Median	7.3	15.3
Minimum	2.5 (1983)	7.3 (1980)
Maximum	14.8 (1998)	50.6 (2000)

III. Statistics on the Danish value premium

Table 3 summarizes the returns on the value and the growth portfolio over the entire period 1951-2008. Regardless of how the value and the growth portfolios are formed the mean value premium is positive. In other words, value investing has paid off also in the Danish market.

The mean value premium equals 4.4 percent when the portfolio formation is based on current P/E ratios and when returns are value weighted. In case of equal weighting the premium increases to 6.3 percent. It is important to note that the premium is statistically significant at conventional significance levels. In the value (equal) weighted case the t-statistic equals 2.48 (4.10). Moreover, since the market return is defined as the return on all large caps, value investing also beats the return on the market portfolio.[7]

The premium declines by a significant amount when stocks are sorted on the basis of trailing P/E ratios.[8] This result is by no means obvious. It shows that the negative impact of using outdated earnings data is felt most on the value portfolio and least on the growth portfolio. This reflects that growth investors now pick stocks that are not at their max price-earnings levels, which is associated with the lowest subsequent return. For growth investors it is an advantage of investing on the basis of outdated information since growth investors hereby avoid picking the stocks with their highest price-earnings multiples, which on average is associated with the lowest returns.

[7] Note that this result is not likely to be turned around by an introduction of trading costs, which is omitted in this paper as well as in the literature with a few exceptions (cf. below). Trading costs will affect both the market and the value portfolio (through rebalancing and through exit and entry of new companies) but it is unlikely that they will weigh so much more on the value portfolio that the excess return to the market will disappear. Note also in this connection that the market portfolio is of double size relative to the value portfolio. Dimson et al. (2003) discusses the importance of trading costs for extracting a premium in the UK small cap segment.

[8] The premium equals 2.5 and 2.1 percent in the value (equal) weighted case. Note in this case equal weighting produces the lowest premium.

Table 3: Returns for value, growth and the market, 1951-2008

Current P/E (value weighted)

	Market	Value	Growth	Value Premium
Mean	0.125	0.148	0.105	**0.044**
Std.	0.251	0.278	0.244	0.134
t(Mean)	3.79	4.07	3.26	2.48

Current P/E (equal weighted)

	Market	Value	Growth	Value Premium
Mean	0.146	0.183	0.120	**0.063**
Std.	0.283	0.299	0.252	0.117
t(Mean)	3.92	4.67	3.63	4.10

Trailing P/E (value weighted)

	Market	Value	Growth	Value Premium
Mean	0.124	0.139	0.113	**0.026**
Std.	0.253	0.292	0.244	0.162
t(Mean)	3.69	3.58	3.49	1.20

Trailing P/E (equal weighted)

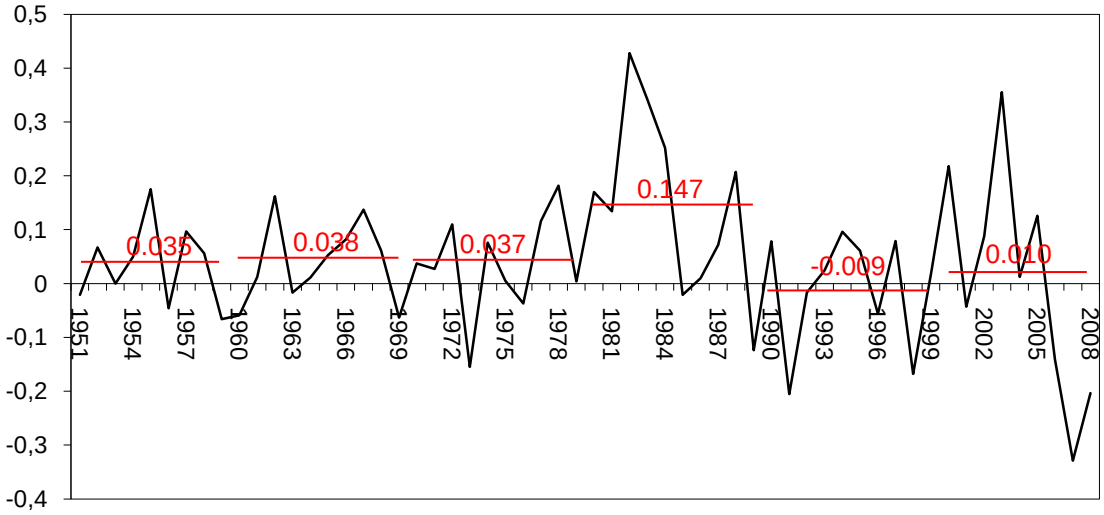
	Market	Value	Growth	Value Premium
Mean	0.148	0.155	0.132	**0.022**
Std.	0.287	0.299	0.258	0.159
t(Mean)	3.91	3.91	3.86	1.07

We have now discussed the mean value premium. Let us then turn to the movement of the premium over time. The value premium based on current P/E multiples is displayed in Figure 1. As shown, the premium is positive and substantial in the majority of the 10-year periods. It is only in the 1990s that growth stocks produce a

marginally higher return than value stocks. In this sense the premium looks like a stylized fact even though the premium is volatile even across decades.

The highest premium is recorded in the 1980s with a mean annual premium at 14.7 percent. The 1980s are therefore the golden age for Danish value investors. The lowest premium is in the 1990s with an annual mean at -0.9 percent. A banking sector crisis in the early 1990s and a strong investor appetite for growth stocks in the late 1990s are key explanations of the low premium in this decade.

Figure 1: 1-year and 10-year annualized value premium (value weighted)

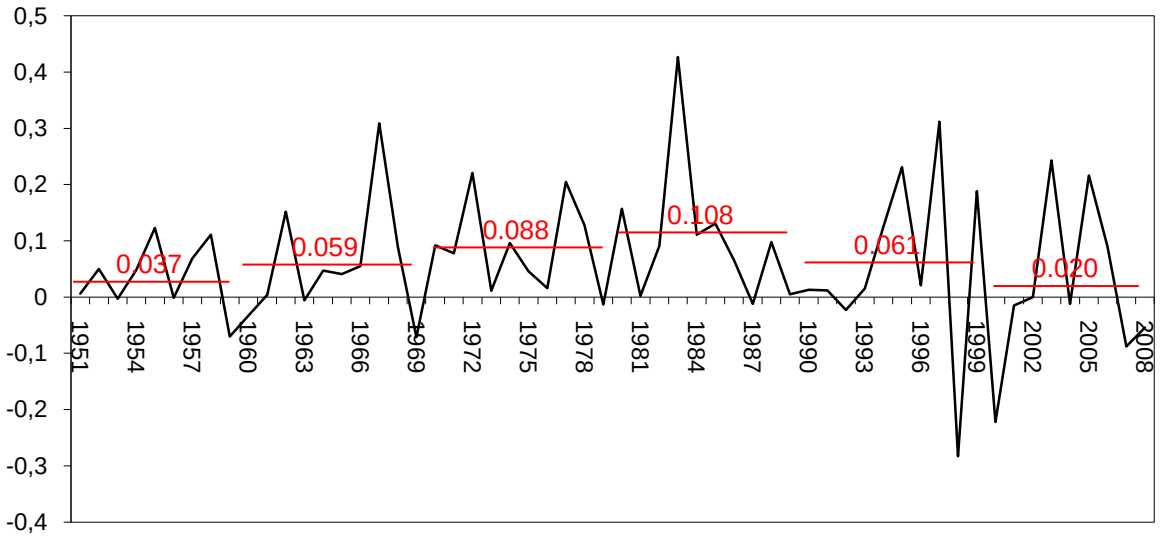


Based on current P/E ratios. The 10-year premium (red line) is the annualized premium per decade. Returns are value weighted.

Following the 1990s, the value premium recovers in the first 6 years of the new millennium. However, during the period 2006 to 2008, markets have not been kind to value investors, which we discuss in greater detail later.

Figure 2 displays the value premium when returns are equal weighted. In this case the premium is in positive territory in all decades including in the 1990s. Otherwise, the behavior is similar to what we have already noted. The 1980s are the golden age for value investing. The premium is under attack in the early 1990s and in the late 1990s. We have a strong recovery in the beginning of the new millennium and also strong headwind to value investing in the last couple of years.

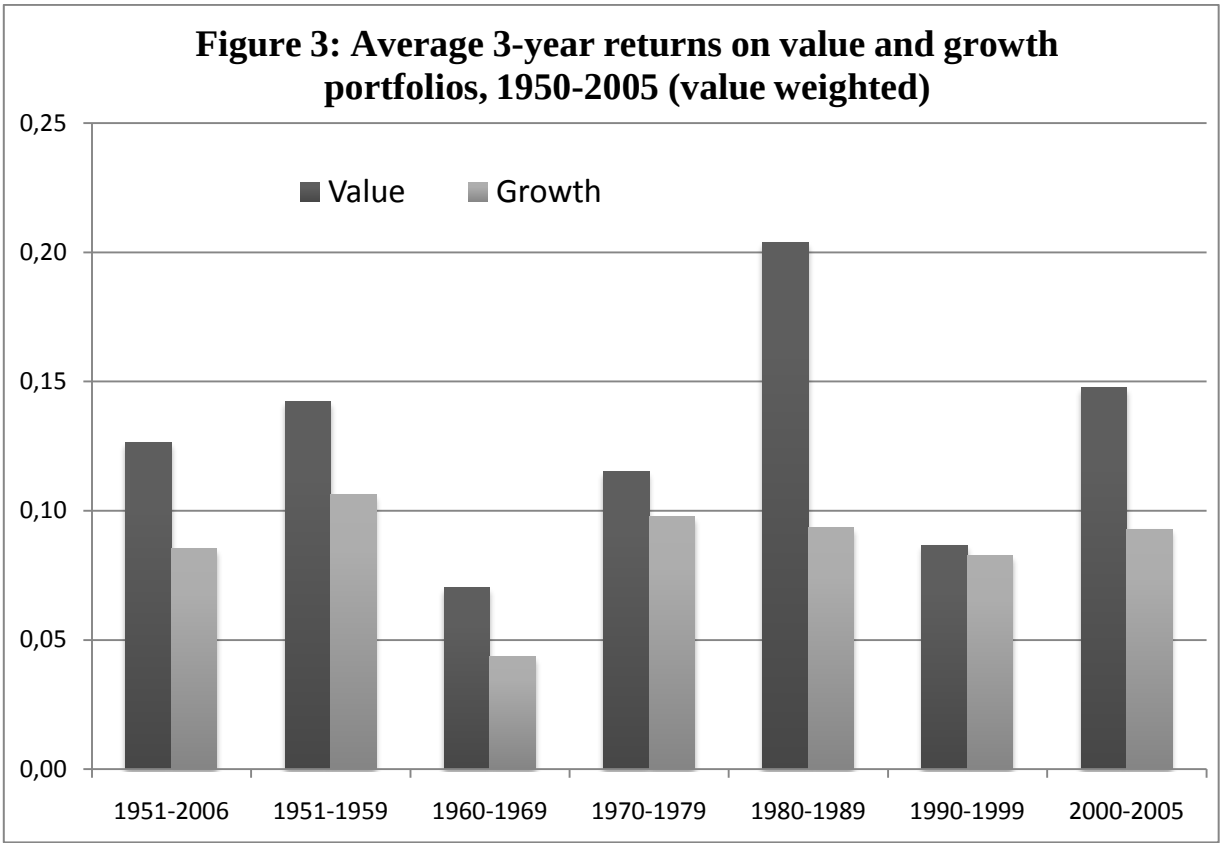
Figure 2: 1-year and 10-year annualized value premium (equal weighted)



Based on current P/E ratios. The 10-Year premium (red line) is the annualized premium per decade. Returns are equal weighted.

So far we have assumed a 1-year buy and hold strategy. Let us now assume investors' holding period is longer. Figure 3 shows the case with a 3-year holding period.[9] This does not change the basic insight: Value strategies outperform in general and now also in the 1990s but only by a small margin in this decade.

[9] We assume that investors hold the portfolios (same stocks) in 3 years. Figure 3 is based on overlapping portfolio returns. Note the last portfolio formed is in 2005 as we have returns up to 2008.



IV. Markets have not been kind to value investors in recent years

The disappointing performance of Danish value stocks since 2006 deserves some comments. Let us begin with the 2006 outcome.[10] In this year, the value portfolio posted a return of 12.2 percent compared to 26.3 percent on the growth portfolio. The moderate return on the value portfolio is essentially due to a poor performance of a single but very large company A.P. Moller-Maersk. Due to difficulties in integrating the newly acquired shipping company P&O Nedloyd into Maersk Line, the company went through a hard time, which also resulted in a poor stock market performance. Thus, the stock posted a return of –17.6 percent, and with a weight close to 30 percent in the value portfolio this had a significant effect on the portfolio return. Had we instead used equal weighting, the value premium would have been positive and as high as + 9 percent illustrating the point that the negative premium is essentially due

[10] For simplicity we focus only on the portfolio selection based on current P/E multiples. We get broadly the same conclusions for the trailing P/E case.

to one very large company.[11] It would therefore be misleading to say that value investing in general lost its attractiveness in 2006.

By contrast, the poor performance of value stocks in 2007 is broad based as 5 out of 10 value stocks are posting negative returns. Altogether, the return on value equals –4.9 percent. Growth stocks perform very well this year. The overall return equals 28 percent led by Vestas, a world leader in wind turbines, with a return at 118.6 percent benefiting strongly from the high oil price and the increased political focus on alternative energy. Novo Nordisk, a market leader in insulin production, is another high performer this year posting a return equal to 44.2 percent. As the value premium in the equal weighted case equals -9.1 percent, it is fair to say that 2007 is a year in which value investing is underperforming.

In 2008 the value premium remains depressed at -20.3 percent.[12] Like in 2007 the poor performance of value stocks is broad based. The poor performance of value reflects, amongst other things, the financial crisis which was very tough on financial stocks in particular (which have a large weight in the value portfolio). The worst performer this year is Danske Bank with a return at record low -69.7 percent. The better performance of the growth portfolio is mainly due to pharmaceutical stocks, including especially Novo Nordisk. Pharmaceutical stocks outperform the market during the crisis reflecting their defensive nature.

In sum, it is correct to say that 2007 and 2008 are years with a strong underperformance of value stocks. The financial crisis has taken its toll on financial stocks in particular and this explains the poor return on the value portfolio in 2007. This parallels the findings for the US. In the US, the value premium is also negative in 2007 but value stocks actually outperform growth stocks by a small margin in 2008, see Risager (2009). Needless to say, we do not know whether the negative value premium in recent years is the start of a new trend. However, since it is hard to identify factors that should have led to a fundamental shift in paradigm it is conceivable that the bad years for value investors will be followed by a number of good years that eventually will offset the bad years. Indeed, this would be consistent with the way history has played out since 1950.

[11] AP. Moller – Maersk is not in the data prior to 2003 (when the company was created as a merger of Dampskibsselskabet Svendborg and Dampskibsselskabet 1912).
[12] The premium when stocks are equal weighted equals - 5.4 percent.

V. Value stocks give higher dividends but the significance of dividends has declined for both types of stocks

Before we conclude the paper let us outline yet another difference between value and growth stocks. Results show that value companies typically pay higher dividends than growth companies. Thus, the average dividend yield is about one percentage point higher on value than on growth stocks. This is the case for both the equal and value weighted portfolios, see Table 4. In other words, about 25 percent of the value premium is due to higher dividend yields on value stocks. The higher dividend yield is a fairly regular phenomenon in the sense that value stocks' dividend yields exceed the yields on growth stocks in more than 75 percent of the years.[13] This is interesting in view of the fact that it is only companies that do reasonably well that pay dividends to shareholders. Without going into a discussion about the causes of the premium this insight indicates that there is more to the value premium than a pure "risk" explanation. Finally, the fact that value stocks offer shareholders the highest dividend yields concurs well with findings for other countries (Dimson et al. (2009)).

Table 4: Mean dividend yields for value and growth portfolios, 1951-2008

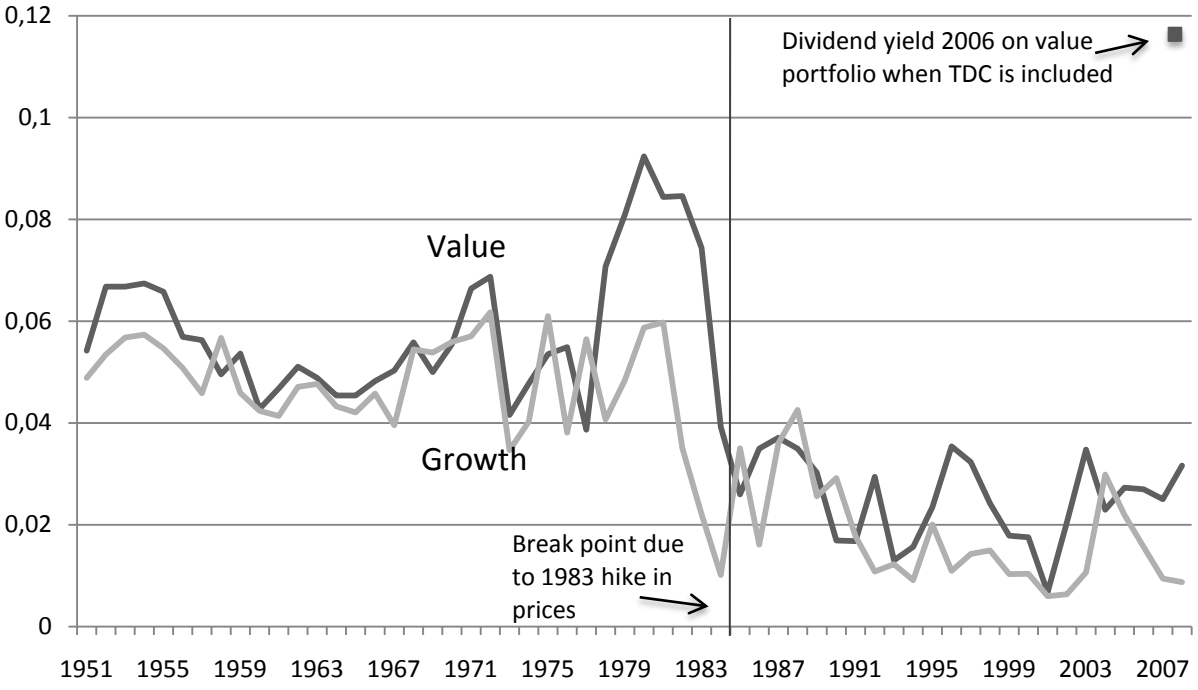
	1951-2008		1951-1983		1984-2008	
	Value	Growth	Value	Growth	Value	Growth
Equal weighted	0.044	0.035	0.058	0.050	0.026	0.016
Value weighted	0.046	0.035	0.059	0.048	0.029	0.017

Note: Value weighted dividend yields are based on current P/E classification of stocks.

Dividend yields on both types of stocks display a sharp decline in 1984. On the value portfolio the dividend yield declines from 5.9 percent (over 1951-1983) to 3 percent (over 1984-2008). On the growth portfolio the yield declines from 4.8 percent to 1.7 percent. The sharp decline is illustrated in Figure 4. Dividend yields have never since then recovered to previous levels.

[13] To be precise in 78 percent (83 percent) of the years in the case of equal (value weighted returns) under the current P/E method.

Figure 4: Dividend yields on value and growth portfolios, 1951-2008 (value weighted)



Why do we have this sharp decline in dividend yields? Is it because companies suddenly reduce their dividend payments (the numerator) say in response to changes in the tax treatment of dividends or is it due to sharp increases in equity prices (the denominator) driven by other factors? The answer is that the decline by and large is due to soaring equity prices in 1983. In this year, equity prices increase by more than 100 percent on average. And since the 1984 dividend yield uses end 1983 prices in the denominator it is easy to show that it is the jump in prices that explains the drop in yields.[14]

The soaring equity prices are normally attributed to domestic factors. A successful stabilization of the Danish economy led to a decline in interest rates by more than 7 percentage points from fall 1982 to mid 1983 and this stabilization also helped to improve the outlook for business in general and therefore also the outlook for companies' earnings (Andersen and Risager (1988) and Dornbusch (1989)). In addition, the stabilization is likely to have stimulated the demand for risky assets as investors gained more confidence in the Danish economy. Moreover, pension funds

[14] This can be verified by relating the payouts in 1984 to end-1982 prices. This exercise produces pseudo yields of about the size observed in the past. In other words, it is the rise in equity prices that has led to a new plateau for yields. It is not a change in dividends in DKK.

were also given additional incentives to invest in shares. This is also likely to have played a role. However, there were not any changes in the tax-treatment of companies' dividends. Companies therefore continue to pay about the same in dividends in 1984 as they did in previous years. From a theoretical perspective this supports the Lintner (1956) view of conservatism, that is, companies' overriding dividend policy is first and foremost to maintain stability in payouts and to avoid sharp cuts in dividends since this is likely to signal fundamental weaknesses. Target dividends are therefore determined by companies' long-term earnings capacity.[15] Actual dividends adjust slowly towards this target. Sharp changes in equity prices do therefore not lead to changes in payouts, ceteris paribus.[16]

The final point is the unusually high dividend yield in 2006 also depicted in Figure 3. In 2006, 88.2 percent of the Danish telephone company TDC is acquired by Nordic Telephone Company, a capital fund owned by 5 partner funds. As a result of the change in ownership, dividend payments on the TDC share are skyrocketing reflecting the new owners' immediate attempt to cash in on their acquisition.[17] The new owners of the company managed to take out massive amounts of cash reserves though they did not succeed in delisting the company as this attempt was frustrated by ATP, the largest Danish institutional investor. ATP refused to accept the share price offer which meant that the company did not get the critical 90 percent required to delist the company following an offer to minority share holders. TDC is therefore still listed on the stock exchange though with a significantly reduced free float.

[15] Gugler and Yurtoglu (2003) contain an interesting analysis of the determinants of target dividends across different type of firms. Companies with e.g. a large and dominant shareholder tend to pay less in dividends than companies with lots of small shareholders.

[16] To maintain an unchanged dividend yield would have required a massive float of new stocks to finance such a policy, a theoretical possibility but unlikely to be implemented in practice as this incident also confirms.

[17] On April 11 2006, dividends of DKK 219.50 per share, totaling DKK 43,481million were paid out by TDC. And on June 29, 2006, dividends of DKK 4.35 per share, totaling DKK 862m , were paid out in addition to the amount already paid out (TDC Annual Report (2006), p. 4). Altogether, this lifts the value portfolio's dividend yield to almost 12 percent in 2006.

VI. Concluding Comments

There is by now a large international literature which has shown that value stocks produce higher returns than growth stocks not only in the US and the UK but also in other markets over long periods of time. Stocks with low price-earnings multiples, price-book values and other measures of value are found to have given a higher mean return than stocks with high valuation ratios and high asset growth.

This literature therefore confirms the basic thrust of Graham and Dodd (1934) and Keynes who also became convinced about the merits of the value approach in the late 1930s following a hectic investment career (Moggridge (1983) and Skidelsky (1992)). However, since the results for the Asian and European markets (excluding the UK) are based on short samples often with not more than 20 years of data there is a need for analyzing this issue using data that extends much longer back in time.

This paper has researched the Danish value premium over the period 1950 to 2008. The long sample enables us to test whether the premium is a stylized fact or just a phenomenon that pops every now and then. The sample covers the Danish large cap universe, which every year is divided into value and growth stocks using the price-earnings ratio as the sorting variable. The value portfolio consists of the 10 stocks with the lowest P/E multiples, whereas the growth portfolio includes the 10 stocks with the highest P/E. The average P/E is 7.8 for the value portfolio and 17.7 for the growth portfolio. These numbers show that there is a considerable valuation difference between the two types of portfolios.

The results show that Danish value stocks outperform growth stocks due to higher capital appreciation and higher dividends. The mean value premium is in the range 2-6 percent per year depending on the nature of the portfolio selection. Had we only worked with a short sample like e.g. in Fama and French (1998), who studied developed equity markets over the period 1975-1995, the estimate of the premium would have been much higher, underscoring the need of long time series to reduce the risk of biases. As regards the movement of the premium over time, the evidence shows that the premium is positive and substantial in the majority of the 10-year periods. In this sense the premium looks like a stylized fact even though the premium is volatile even across decades. There are also a number of consecutive years in which the growth stocks are the best in class. Thus, the premium is negative in the early 1990s, due to a banking sector crisis, and in the late 1990s, due to high investor appetite for growth stocks. In the new millennium, value stocks outperform every year until 2006. In 2007 and 2008, value stocks underperform due to the financial crisis that took its toll in particular on financial stocks, with a large weight in the

value portfolio. In spite of the recent headwind to value investing the premium remains in positive territory in the 21st century.

Finally, let us briefly discuss three extensions. First, it would be useful to know whether the Danish premium is larger if stocks are sorted according to the book-to-market or the cash-flow yield. In general, this is the case for the US (Davis et al. (2000) and Lakonishok et al. (1994)). However, as the data are not available and have to be hand collected this is an entire new project. Second, on the basis of the evidence laid out in this study the next step should be to analyze potential explanations of the premium. On this it should be noted that the literature offers two explanations, namely, the risk based explanation and the behavioral finance explanation. According to the latter, investors often get too excited about the prospects of growth companies. This leads investors to forget that even the most fantastic growth company can be purchased at a price that is too high. However, when investors collectively realize that the pricing of these companies is too optimistic relative to the firms' ability to generate earnings, the correction sets in. It is due to this that many growth companies disappoint long-term investors according to behavioural finance (Barberis and Thaler (2003), and LaPorta et al. (1997)). This issue is left for future research using the data in this paper including the earnings data that allow us to test the earnings disappointment hypothesis put forward in this literature. Third, while there is long time series evidence on the market performance of stocks and bonds in some of the other Nordic countries (Hansson and Frennberg (l992) and Klovland (2004)) I am not aware of any detailed studies of the value premium. It would be interesting to research the other Nordic markets on this issue.

VII. Data Annex

1-Year Stock Returns (Current P/E)

	Low P/E	High P/E	Low P/E	High P/E		Low P/E	High P/E	Low P/E	High P/E
	Equal Weighted		Value Weighted			Equal Weighted		Value Weighted	
1951	-0,017	-0,023	-0,019	0,002	*1980*	0,243	0,086	0,211	0,041
1952	0,089	0,039	0,099	0,032	*1981*	0,307	0,305	0,358	0,224
1953	0,087	0,090	0,093	0,093	*1982*	0,281	0,190	0,381	-0,047
1954	0,158	0,110	0,170	0,120	*1983*	1,452	1,025	1,194	0,851
1955	0,315	0,192	0,347	0,172	*1984*	-0,101	-0,212	-0,095	-0,347
1956	0,237	0,238	0,210	0,256	*1985*	0,540	0,409	0,362	0,383
1957	-0,020	-0,089	-0,017	-0,114	*1986*	-0,153	-0,219	-0,180	-0,190
1958	0,271	0,160	0,239	0,183	*1987*	-0,045	-0,033	-0,007	-0,079
1959	0,204	0,274	0,190	0,256	*1988*	0,837	0,739	0,739	0,532
1960	0,029	0,062	0,027	0,086	*1989*	0,290	0,285	0,130	0,254
1961	0,044	0,040	0,041	0,029	*1990*	-0,124	-0,137	-0,079	-0,157
1962	0,136	-0,016	0,148	-0,014	*1991*	0,230	0,218	0,119	0,324
1963	0,150	0,156	0,166	0,183	*1992*	-0,192	-0,169	-0,210	-0,193
1964	0,117	0,070	0,087	0,076	*1993*	0,433	0,418	0,354	0,330
1965	0,117	0,076	0,137	0,084	*1994*	-0,002	-0,127	-0,045	-0,141
1966	0,029	-0,026	0,055	-0,027	*1995*	0,290	0,059	0,197	0,136
1967	0,206	-0,103	0,017	-0,120	*1996*	0,276	0,255	0,250	0,306
1968	0,231	0,141	0,195	0,134	*1997*	0,595	0,283	0,577	0,498
1969	0,024	0,095	0,024	0,087	*1998*	-0,016	0,267	-0,011	0,157
1970	0,033	-0,059	-0,011	-0,048	*1999*	0,212	0,024	0,028	0,009
1971	0,080	0,002	0,039	0,012	*2000*	0,271	0,493	0,318	0,100
1972	1,012	0,791	1,086	0,976	*2001*	-0,137	-0,122	-0,110	-0,067
1973	0,043	0,032	-0,039	0,116	*2002*	-0,171	-0,171	-0,171	-0,259
1974	-0,138	-0,234	-0,141	-0,217	*2003*	0,389	0,146	0,370	0,015
1975	0,473	0,427	0,391	0,386	*2004*	0,302	0,314	0,226	0,217
1976	0,020	0,004	-0,016	0,021	*2005*	0,531	0,315	0,438	0,312
1977	0,237	0,032	0,117	0,001	*2006*	0,310	0,222	0,123	0,262
1978	0,109	-0,019	0,086	-0,096	*2007*	0,004	0,067	-0,047	0,267
1979	-0,029	-0,016	0,011	0,007	*2008*	-0,489	-0,430	-0,547	-0,341

1-Year Stock Returns (Trailing P/E)

	Low P/E	High P/E	Low P/E	High P/E		Low P/E	High P/E	Low P/E	High P/E
	Equal Weighted		Value Weighted			Equal Weighted		Value Weighted	
1952	0,087	0,042	0,094	0,054	*1981*	0,200	0,411	0,213	0,350
1953	0,084	0,093	0,091	0,095	*1982*	0,288	0,077	0,350	-0,058
1954	0,167	0,100	0,174	0,113	*1983*	1,334	1,142	1,151	0,853
1955	0,315	0,192	0,324	0,178	*1984*	-0,131	-0,152	-0,120	-0,332
1956	0,279	0,197	0,287	0,201	*1985*	0,614	0,337	0,557	0,204
1957	-0,055	-0,054	-0,049	-0,094	*1986*	-0,160	-0,212	-0,169	-0,201
1958	0,293	0,138	0,301	0,148	*1987*	0,039	-0,108	0,048	-0,167
1959	0,217	0,261	0,186	0,267	*1988*	0,909	0,437	0,861	0,436
1960	0,039	0,052	0,055	0,057	*1989*	0,192	0,380	0,109	0,254
1961	0,021	0,063	0,017	0,053	*1990*	-0,241	-0,033	-0,176	-0,054
1962	0,097	0,022	0,102	0,025	*1991*	0,076	0,230	0,024	0,296
1963	0,134	0,171	0,159	0,185	*1992*	-0,189	-0,106	-0,224	-0,067
1964	0,095	0,092	0,079	0,084	*1993*	0,406	0,309	0,486	0,270
1965	0,133	0,061	0,147	0,042	*1994*	0,004	-0,096	-0,050	-0,137
1966	-0,007	-0,040	0,007	0,011	*1995*	0,286	0,004	0,242	0,003
1967	0,138	-0,071	-0,037	-0,058	*1996*	0,323	0,250	0,276	0,273
1968	0,231	0,120	0,200	0,143	*1997*	0,537	0,335	0,615	0,498
1969	0,037	0,082	0,042	0,054	*1998*	-0,038	0,244	0,115	0,008
1970	-0,057	-0,005	-0,045	-0,021	*1999*	-0,003	0,239	-0,052	0,058
1971	0,074	0,007	0,049	0,013	*2000*	0,184	0,580	0,091	0,363
1972	0,892	0,911	1,057	1,011	*2001*	-0,200	-0,066	-0,151	-0,060
1973	-0,015	0,090	-0,057	0,132	*2002*	-0,174	-0,230	-0,186	-0,298
1974	-0,212	-0,160	-0,199	-0,152	*2003*	0,486	0,016	0,403	-0,024
1975	0,514	0,386	0,367	0,411	*2004*	0,222	0,349	0,185	0,269
1976	-0,028	0,052	-0,042	0,056	*2005*	0,395	0,497	0,380	0,510
1977	0,172	0,074	0,054	0,050	*2006*	0,235	0,234	0,081	0,257
1978	0,063	-0,035	-0,018	-0,018	*2007*	-0,128	-0,033	-0,093	0,160
1979	-0,044	-0,041	-0,003	-0,014	*2008*	-0,484	-0,454	-0,543	-0,342
1980	0,161	0,147	0,138	0,079					

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