Trapped in the Here and Now - New Insights into Financial Market Analyst Behavior

Abstract

This study deals with the phenomenon of topically oriented trend adjustment in the time series of financial market forecasts. A total of 1,182 time series with altogether 158,022 interest rate predictions are examined. Forecasts refer to three-month interest rates and ten-year government bond yields in the USA, Japan, Germany, France, the United Kingdom, Italy, Spain, Canada, the Netherlands, Switzerland, Sweden and Norway. The forecasts are generated for horizons of four and thirteen months.

Topically oriented trend adjustments arise in 1,164 of the 1,182 forecast time series. Thus 98.5% of these forecast time series reflect the present rather than the future. In other words, they correlate more strongly with the time series of naive forecasts than with actual events. Independent of the forecast object, forecast horizon and countries concerned, the overwhelming majority of the forecast time series is distinguished by topically oriented trend adjustment.

Five explanation patterns for topically oriented trend adjustment are meanwhile under discussion: 1. Anchoring heuristics, 2. The tendency to underestimate the variability of reality, 3. Avoidance of major blunders through protective estimates, 4. Normative herd behavior such as externally triggered herding, and 5. Information-based herd behavior.

JEL classification numbers: D84, E47, G12, G21

Keywords: Behavioral finance, financial market analysts, interest rate forecasts, topically oriented trend adjustment (TOTA)

1 Introduction

The success of active portfolio management strategies in the bond market depends above all on the ability to forecast future interest rate trends. The success of interest rate forecasts has thus been a focus of academic research for some time. Various analytical procedures have been applied in this research. A comparison with naïve forecasts on the basis of simple forecast accuracy measurements found for example in Belongia (1987), Dua (1988), Hafer and Hein (1989), Ilmanen (1996), Brooks and Gray (2004), Mose (2005) and Baghestani (2005). The sign accuracy test has been employed by Greer (2003) and by Spiwoks, Bedke and Hein (2009). The unbiasedness test has been applied by Friedman (1980), Baghestani, Jung, and Zuchegno (2000), Mitchell and Pearce (2007) and by Spiwoks, Bedke and Hein (2010). The efficiency test has been used to evaluate interest rate forecasts by Throop (1981) and Simon (1989), among others. A comparison with simple ARIMA models has been carried out by Zarnowitz and Braun (1992) and by Spiwoks, Bedke and Hein (2008). Francis (1991) and Domian (1992) draw conclusions about the quality of forecasts on the basis of the chronological order and the success of investment and financing decisions. A comparison with forward rates was made for example by Hafer, Hein, and MacDonald (1992), Gosnell and Kolb (1997) and by Jongen, Verschoor, and Wolff (2011), while Cho (1996) and Kolb and Stekler (1996) pursued the question of whether it is true that some individual forecasters repeatedly achieve better results than others. A large number of these studies raised considerable doubts about the reliability of the interest rate forecasts which they analysed (Gubaydullina, Hein and Spiwoks, 2011).

The routine evaluation criteria for the proficiency of financial market forecasts are the unbiasedness test, the sign accuracy test and the efficiency test, as well as the comparison with naive forecasts or ARIMA models, e.g., within the framework of a modified Diebold/Mariano test for forecast encompassing. Although these procedures are a telling indication of forecast success, they reveal little about the forecast behavior of financial analysts. Only the unbiasedness test gives some initial pointers. Thus long-term over- and underestimates can be identified when the intercept of the regression line in a forecast/realization graph is positive or negative, respectively. A deviation from the value of 1 in the slope of the regression line can, for example, be interpreted as a tendency to overestimate small events, while large events are routinely underestimated. These reference points go

a long way to explaining the behavior of financial market forecasters, under certain circumstances even suggesting how the drawing up of forecasts can be refined.

Indeed, financial market forecasts bring even more to light about financial market analysts behavior. In the last ten years, the phenomenon of topically oriented trend adjustment (TOTA) in forecast time series has gradually gained more attention. When forecasts strongly reflect actual market trends but neglect future developments, we speak of a topically oriented trend adjustment. An excellent example of this phenomenon is the consensus forecasting on interest rate trends in Germany produced by the organization Consensus Economics. Figure 1 shows forecasts (thin line) at their respective dates of validity. Financial forecasters were clearly unable to capture interest rate trends (bold line) to an adequate degree. They anticipated a local minimum at 5.8% for the turn of the year 1994/1995. In reality, the local maximum at the time levelled off at 7.6%. One year later analysts expected a local maximum at 7.6%. In effect, the local minimum was 5.9%. At the beginning of 2000, experts predicted a local minimum at 4.2%. Yet in reality the local maximum was 5.5%. For the summer of 2003, forecasters expected a local maximum at 5.5%. In reality, however, a local minimum was established at 3.8%. The summer of 2005 saw a repeat of this constellation. Analysts predicted a local maximum at 4.8%, while in reality the local minimum evened out at 3.1%. Thus over long periods forecasting efforts backfired.

At the same time, these forecasts show a definite correlation with actual interest rate trends. The forecast time series appears to be a delayed reflection of actual changes. This is particularly obvious when the data predicted for the forecast horizon (13 months) is shifted to the left. This allows forecasts to be shown at their date of issue (Figure 2). Figure 2 emphasizes that forecasters are heavily influenced in their predictions by the respective market situation. As soon as the interest rate drops, analysts adjust their forecasts downwards. When it increases, on the other hand, experts make an upward adjustment. In its basic progression the resulting forecast time series strongly resembles that of naive forecasts. It is this constellation that is described as topically oriented trend adjustment.

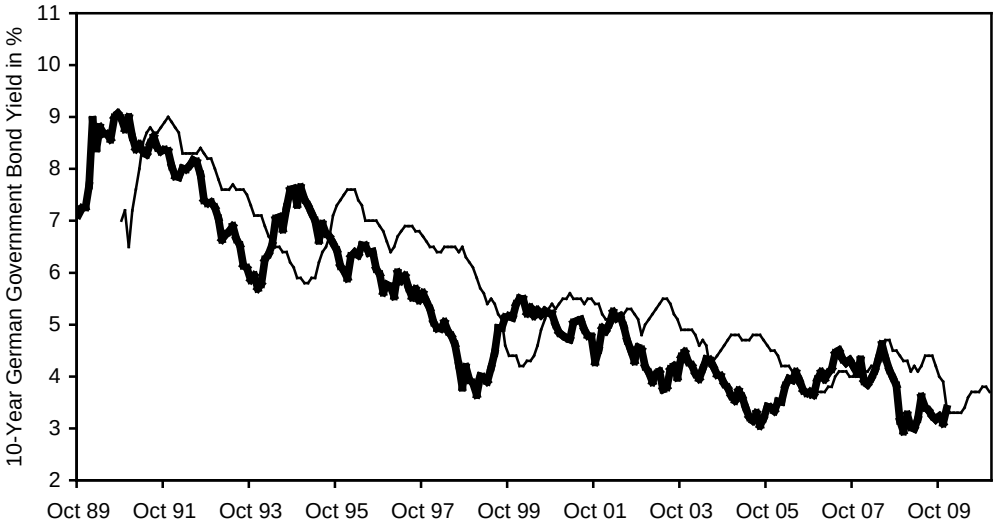

Figure 1: Ten-year German government bond yield (bold line) and respective forecasts from Consensus Economics with a 13-month forecast horizon at their date of validitiy (thin line).

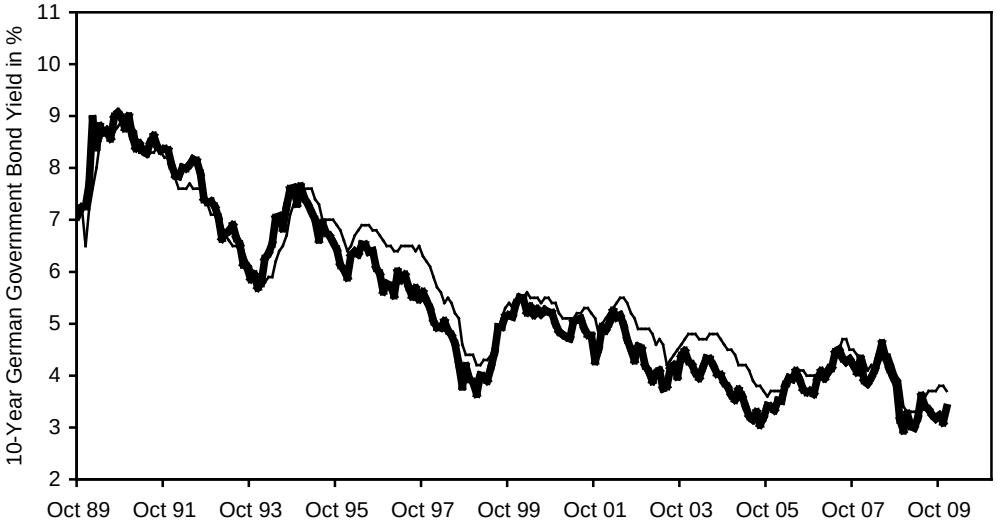

Figure 2: Ten-year German government bond yield (bold line) and respective forecasts from Consensus Economics with a 13-month forecast horizon at their date of issue (thin line).

Empirical findings indicating the phenomenon of topically oriented trend adjustment in several forecast time series first appeared at the end of the 1980s. Lowe and Trevor (1987), Manzur (1988), Hafer and Hein (1989), Allen and Taylor

(1990), Takagi (1991), and Hafer, Hein and MacDonald (1992) can all be regarded as pioneers in this research domain. The systematic search for topically oriented trend adjustment in survey forecasts begins with the study by Andres and Spiwoks (1999): Bofinger and Schmidt (2003) examine exchange rate predictions. Spiwoks (2003), Spiwoks, Bedke and Hein (2008), Spiwoks, Bedke and Hein (2009), and Spiwoks, Bedke and Hein (2010) explore interest rate forecasts. Spiwoks (2004a) deals with share index forecasts. Spiwoks and Hein (2007) evaluate exchange rate, interest rate and share index forecasts.

These studies provide a first indication that topically oriented trend adjustment may not be a question of isolated cases but possibly a common phenomenon in financial market forecasting. Several of these studies, however, are confined to observing only a small number of forecast time series. Others consider relatively short forecast time series. Most of them deal solely with predictions on certain domestic financial market segments. A comprehensive comparative study of international dimensions that investigates a vast number of long-range forecast time series is the missing link. The present study aims to close this research gap.

In the following 158,022 interest rate predictions in 1,182 forecast time series from twelve different countries will be examined. Only a data analysis of this proportion can arrive at a sound evaluation of the frequency of topically oriented trend adjustments. Furthermore, we examine whether topically oriented trend adjustment occurs irrespective of the forecast horizon, capital market segment or countries under review.

Monitoring such a vast number of forecasts has made it possible for the first time to ascertain a small minority of financial market forecast time series that are not characterized by topically oriented trend adjustment. The present study furthermore presents a systematic overview of the possible causes of topically oriented trend adjustment. The empirical findings and causal research survey could become a significant point of departure for subsequent experimental research on the phenomenon of topically oriented trend adjustment.

The next chapter introduces the data base and the methodology used. The chapter after next is reserved for the presentation of results. The last chapter but one identifies the possible causes of topically oriented trend adjustment. A summary can be found in the last chapter.

2 Data and methods

The forecast data under consideration was taken from *Consensus Forecasts*, a magazine that has appeared mid-monthly since October 1989. Forecasts of government bond yields with a ten-year term to maturity and forecasts of interest rates for short-term loans with a three-month duration are both part of the investigation.

Consensus Forecasts distinguishes two forecast horizons: three months and twelve months. In practical terms, however, forecast horizons are of four and thirteen months. The following example clarifies this discrepancy: the September 2001 issue of *Consensus Forecasts* published forecasts for the end of December 2001 and the end of September 2002. The participating institutions compiled them at the beginning of September. From this point in time to the end of December, however, is four months and from the beginning of September of the year in question to the end of September of the following year is in fact thirteen months.

Consensus Forecasts published forecasts for twelve countries, specified according to individual forecasters. The twelve countries concerned are the topic of this research. When *Consensus Forecasts* was launched in October 1989, forecasts were published for USA, Japan, Germany, France, UK, Italy and Canada. Spain, the Netherlands and Sweden were added in January 1995, while Switzerland and Norway were included as of June 1998.

The analysis took forecast time series into account from institutions that had produced at least 50 forecasts for one or more of the forecast objects under review. In the case of name changes or company mergers, the forecast time series was continued under the new name when the forecast time series concerned did not overlap.[1]

[1] The Bank First Union, for example, took over the Bank CoreStates in May 1998. In September 2001, the First Union and Wachovia banks merged and have operated since then under the name Wachovia. CoreStates released its forecasts to *Consensus Forecasts* up until May 1998, while First Union and Wachovia were not yet represented in the magazine. First Union subsequently began to release its forecasts to *Consensus Forecasts*, whereas CoreStates withdrew and Wachovia remained unrepresented. In September 2001, Wachovia began to report its forecasts to *Consensus Forecasts*. First Union withdrew its participation at the same time. These three time series, with their detectable inner relationship, are then dovetailed to one long time series. Where the forecast time series concerned show no evidence of overlapping and the content

Table 1: Data base overview

	Observation period	Number of forecasts	Number of forecast time series
USA	Oct. 1989 – Dec. 2009	21,641	164
Japan	Oct. 1989 – Dec. 2009	15,508	124
Germany	Oct. 1989 – Dec. 2009	24,251	148
France	Oct. 1989 – Dec. 2009	15,620	104
UK	Oct. 1989 – Dec. 2009	23,373	180
Italy	Oct. 1989 – Dec. 2009	10,058	76
Spain	Jan. 1995 – Dec. 2009	8,551	68
Canada	Oct. 1989 – Dec. 2009	14,707	100
Netherlands	Jan. 1995 – Dec. 2009	6,069	44
Switzerland	June 1998 – Dec. 2009	5,671	52
Sweden	Jan. 1995 – Dec. 2009	8,414	76
Norway	June 1998 – Dec. 2009	4,159	46
Σ		158,022	1,182

With its 158,022 individual forecasts, which are an integral part of 1,182 forecast time series, this study boasts a wide data base that allows for a detailed estimate of how fundamental topically oriented trend adjustment is to the behavior of bond market analysts.

When forecasts at their date of issue (Fig. 2) show a stronger correlation to actual trends than they do at their date of validity (Fig. 1), we speak of topically oriented trend adjustment (TOTA). Such an adjustment is present when forecasts describe the progression of naive forecast time series rather than the actual future progression of the forecast object. The TOTA coefficient serves to detect possible topically oriented trend adjustments.

Prior to calculating the TOTA coefficient (see Andres and Spiwoks, 1999, Bofinger and Schmidt, 2003), the coefficient of determination of the forecast data and actual events is worked out (R^2_A; Figure 1). This is followed by calculation of the coefficient of determination of the forecast data and actual events from the forecast date of issue (R^2_B; Figure 2).

permits, they are amalgamated in this study to long time series and quoted under their current name.

$$TOTA\,coefficient = \frac{R^2_{\text{forecasts (validity date); actual}}}{R^2_{\text{forecasts (issue date); actual}}} = \frac{R^2_A}{R^2_B} \quad (1)$$

If the value of the TOTA coefficient is < 1, a topically oriented trend adjustment must be assumed. In this case the forecast time series transferred back to the issue date shows a higher correspondence with actual values than it did at the date of validity. Hence for a TOTA coefficient < 1, the forecast time series reflects the present more strongly than the future.

The rational expectation hypothesis assumes that only current facts relevant to the future development of the forecast items are considered in the forecasts. Topically oriented trend adjustments reveal, however, that for the most part the current information taken into account has no bearing on the future development of the forecast item. Spiwoks, Bedke and Hein (2010) have furthermore shown that forecast time series with evidence of topically oriented trend adjustment cannot be seen as unbiased. Hence topically oriented trend adjustments are inconsistent with the rational expectation hypothesis.

The TOTA coefficient, however, does not strive for an overall forecast assessment. It gives no indication, for instance, of whether forecasts are better or worse than random forecasts. It merely indicates when forecasts reflect the present more strongly than the future.

3 Results

All of the 164 forecast time series examined for the USA indicate topically oriented trend adjustments (Appendix, Table 4). The picture in Japan is less unified (Appendix, Table 5). Although here, too, all of the 62 forecast time series for trends in ten-year government bond yield are characterized by topically oriented trend adjustment. With regard to forecast time series for the three-month interest rate, however, only 53 of the 62 forecast time series observed (85.5%) showed topically oriented trend adjustments. In the case of forecasts with a four-month horizon, four of the 31 time series are not characterized by topically oriented trend adjustment. This also applies to five of the 31 time series for forecasts with a 13-month horizon. None of the other national segments under review produced a

comparable number of forecast time series with no evidence of topically oriented trend adjustment. This is most likely due to the unusually consistent trend in three-month interest rates in Japan. It began with a steady downward trend over a long period (from September 1990 until December 1993). At no time between July 1995 and September 2008 did the interest rate increase beyond 1%, i.e., over a period of thirteen years. From April 2001 until April 2006 the interest rate did not exceed 0.1%. Thus in the course of five years, it remained almost unchanged. The TOTA coefficient is merely devised for time series with a satisfactory number of (local) maxima and (local) minima (cf. Andres and Spiwoks, 1999, pp. 533-534). Steady, long-lasting time series progressions can lead to TOTA coefficient results > 1 without the positive exclusion of the topically oriented trend adjustment phenomenon. In Germany, 146 of the 148 forecast time series (98.7%) indicate topically oriented trend adjustments (Appendix, Table 6). Only the Hypo Bank predicted the three-month interest rate trend without reflecting the naive forecast time series more strongly than the actual interest rate. In France, all of the 104 forecast time series reflect naive forecast time series rather than the actual interest rate trend (Appendix, Table 7). This implies topically oriented trend adjustments in all 104 forecast time series. In the United Kingdom, only one of the 180 forecast time series (0.6%) examined is unaffected by the phenomenon of topically oriented trend adjustment (Appendix, Table 8). As a sole exception, the independent consultancy *Economic Perspectives Ltd.* made predictions on the British government bond yield with a 13-month horizon that showed no evidence of topically oriented trend adjustment. In Italy, all of the 76 forecast time series were distinguished by topically oriented trend adjustments (Appendix, Table 9). The constellation in Spain resembles that of the United Kingdom (Appendix, Table 10). Here, with one exception, all of the 68 forecast time series (98.5%) are subject to topically oriented trend adjustment. Only forecasting by the mutual savings bank Caja de Madrid for the Spanish government bond yield over a 13-month term showed no evidence of topically oriented trend adjustment. In Canada, 98 of the 100 forecast time series are subject to topically oriented trend adjustment (Appendix, Table 11). Only the Bank Desjardin and the export credit agency EDC Economics were in a position to produce short-term forecasts of three-month interest rates that reflected actual interest trends rather than naive forecast time series. In the Netherlands, 42 of the 44 forecast time series (95.5%) show evidence

of topically oriented trend adjustment (Appendix, Table 12). The Deutsche Bank supplied short-range forecasts for three-month interest rates and long-term forecasts for a ten-year Dutch government bond yield that surpassed the threshold value of the TOTA coefficient, slightly in one case and quite clearly in another. The constellation in Switzerland is similar to that in the United Kingdom and Spain. Fifty-one of the 52 forecast time series (98.1%) clearly indicate topically oriented trend adjustment (Appendix, Table 13). Only ING Financial Markets supplied a forecast for the Swiss government bond yield with a 13-month horizon that gave no indication of topically oriented trend adjustment. In Sweden all 76 forecast time series were, without exception, characterized by topically oriented trend adjustment (Appendix, Table 14). A similarly uniform picture emerges in Norway (Appendix, Table 15). All 46 forecast time series are characterized by topically oriented trend adjustment.

A total of 1,164 out of 1,182 forecast time series (98.5%) show evidence of topically oriented trend adjustment (Table 2). Only 18 forecast time series indicate TOTA coefficients of > 1, half of which apply to forecasts for Japanese three-month interest rates. These are distinguished by a highly unusual progression involving an almost unchanged interest rate over a period of several years.

The forecast time series show an average of 133.7 values. The 18 forecast time series with no evidence of topically oriented trend adjustment display an average of merely 83.8 values. The shorter the forecast time series, the less likely a sufficient number of (local) maxima and (local) minima will appear within the time frame in order to achieve reliable results with the TOTA coefficient.

Table 2: Share of forecast time series with topically oriented trend adjustment (numerator) from the total forecast time series (denominator)

	3-month interest rate		10-year gov. bond yield		
	4 M forecasts	13 M forecasts	4 M forecasts	13 M forecasts	Total
USA	41/41	41/41	41/41	41/41	164/164
Japan	27/31	26/31	31/31	31/31	115/124
Germany	36/37	36/37	37/37	37/37	146/148
France	26/26	26/26	26/26	26/26	104/104
UK	46/46	46/46	44/44	43/44	179/180
Italy	19/19	19/19	19/19	19/19	76/76
Spain	17/17	17/17	17/17	16/17	67/68
Canada	23/25	25/25	25/25	25/25	98/100
Netherlands	10/11	11/11	11/11	10/11	42/44
Switzerland	13/13	13/13	13/13	12/13	51/52
Sweden	19/19	19/19	19/19	19/19	76/76
Norway	12/12	12/12	11/11	11/11	46/46
Total	289/297	291/297	294/294	290/294	1164/1182

4 M (13 M) forecasts = forecasts with four (thirteen) month forecast horizon; gov. = government.

Table 3: Share of forecast time series with topically oriented trend adjustment from the total forecast time series in percentage

	3-month interest rate		10-year gov. bond yield		
	4 M forecasts	13 M forecasts	4 M forecasts	13 M forecasts	Total
USA	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
Japan	87.1 %	83.9 %	100.0 %	100.0 %	92.7 %
Germany	97.3 %	97.3 %	100.0 %	100.0 %	98.7 %
France	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
UK	100.0 %	100.0 %	100.0 %	97.7 %	99.4 %
Italy	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
Spain	100.0 %	100.0 %	100.0 %	94.1 %	98.5 %
Canada	92.0 %	100.0 %	100.0 %	100.0 %	98.0 %
Netherlands	90.9 %	100.0 %	100.0 %	90.9 %	95.5 %
Switzerland	100.0 %	100.0 %	100.0 %	92.3 %	98.1 %
Sweden	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
Norway	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
Total	97.3 %	98.0 %	100.0 %	98.6 %	98.5 %

4 M (13 M) forecasts = forecasts with four (thirteen) month forecast horizon; gov. = government.

There are no major differences between the various countries under review (Tables 2 and 3). The number of forecast time series with topically oriented trend adjustment varies between 92.7% (Japan) and 100% (USA, France, Italy, Sweden, Norway). Topically oriented trend adjustments clearly occur independent of the forecast horizon. 98.7% of forecast time series with a four-month horizon were characterized by topically oriented trend adjustment. In the case of forecast time series with a 13-month horizon, the total was 98.3%. Nor is there an essential difference between the two capital market segments. 97.6% of forecast time series for three-month interest rates are distinguished by topically oriented trend adjustments. Forecast time series for the government bond yield with a ten-year term stand at 99.3%.

Finally, it can be said that not all but most interest rate forecast time series are characterized by topically oriented trend adjustment.

4 Possible causes of topically oriented trend adjustment

Proponents of the efficient market hypothesis might well reach the conclusion that analysts have no choice but to rely on naive forecasts since financial market trends are impossible to predict.

Two significant aspects are overlooked here. Firstly, the above interpretation only explains the release of naive forecasts. In reality, however, although they clearly resemble naive forecast time series, the forecast time series under review bear no exact congruence to them whatsoever. Secondly, research efforts over the last twenty years in the area of behavioral finance have furthered massive doubts about the assumed reliability of rational expectation formation. This is tantamount to cancelling out the basic element of the efficient market hypothesis.

The discussion on the background and causes of topically oriented trend adjustment in financial forecasts is indeed both difficult and stimulating. Initial estimates came from Bofinger and Schmidt (2003) and from Spiwoks (2004b).

Bofinger and Schmidt (2003) see topically oriented trend adjustment as a result of anchoring heuristics. Financial analysts are incapable of distancing themselves mentally from actual events. This produces an anchor effect. Hence analysts gen-

erate forecasts that are unconsciously influenced by actual financial market events.

Spiwoks (2004b) interprets topically oriented trend adjustment as the consequence of rational herd behavior by financial market analysts. For the most part he follows the reputational herding model dating back to Keynes (1936). He furthermore assumes that analysts require a behavior coordination mechanism with only minimal transaction costs. When professional forecasters adapt to an easily perceived external signal, behavior coordination proceeds smoothly. Spiwoks describes this variation of the reputational herding model as Externally Triggered Herding. The financial market situation at any given moment acts as the external signal. If financial analysts were to constantly generate forecasts marked by a slight variation of actual events, it would allow them to circulate endlessly in the protective environment of the herd.

Bizer, Schulz-Hardt, Spiwoks and Gubaydullina (2009) have compiled the possible causes of topically oriented trend adjustment in financial predictions more systematically. They differentiate between explanations at the individual and the group level.

Apart from the topic of anchoring heuristics discussed by Bofinger and Schmidt (2003), Bizer et al. (2009) consider two further possible explanations at the individual level. Numerous economic subjects display an inclination to underestimate the variability of reality. As a rule, imagining major changes is a more difficult task than mentally perpetuating the status quo. This psychological phenomenon can lead to a situation where forecasters are merely in a position to predict minor deviations from actual events. The logical outcome of this behavior is topically oriented trend adjustment.

A third approach to be considered at the individual level is defensive forecast behavior. Aware of their lack of ability to predict, financial forecasters are keen to avoid dramatic mistakes. An example of the latter is when a predicted sharp downward (upward) trend is undercut in reality by a sharp upward (downward) trend. Forecasts primarily geared to actual events are less likely to contain such blunders.

At group level, Bizer et al. (2009) identify two possible constellations: normative and information-based herd behavior.

Normative herd behavior supplies analysts with incentives to behave (more or less) similarly. As in the case of Externally Triggered Herding (Spiwoks, 2004b), this can lead to topically oriented trend adjustment.

The principle behind information-based herd behavior is to exchange information relevant to decision processes. Herd behavior stems from the desire of individual analysts to maximize their prospects of success. They not only take their own information into account but also the estimates of others. Estimates of future trends can, however, vary significantly. When some analysts see signs of a downward trend and other forecasters proclaim a trend in the opposite direction, the arguments neutralize each other. The final outcome is then a collective estimate of future market trends that lies fairly close to actual market events.

The debate on the possible causes of topically oriented trend adjustment is still at an early stage. Identifying whether one or more of the above patterns plausibly explain the emergence of this forecast behavior calls for closer scrutiny. Now that prolific findings on the frequency of topically oriented trend adjustment in financial market forecasts are available, more intense research into the causes of this phenomenon can be expected.

5 Conclusion

This study deals with the phenomenon of topically oriented trend adjustment in the time series of financial market forecasts. A total of 1,182 time series with altogether 158,022 interest rate predictions are examined. Forecasts refer to three-month interest rates and ten-year government bond yields in the USA, Japan, Germany, France, the United Kingdom, Italy, Spain, Canada, the Netherlands, Switzerland, Sweden and Norway. The forecasts are generated for horizons of four and thirteen months.

Topically oriented trend adjustments arise in 1,164 of the 1,182 forecast time series. Thus 98.5% of these forecast time series reflect the present rather than the future. In other words, they correlate more strongly with the time series of naive forecasts than with actual events.

Independent of the forecast object, forecast horizon and countries concerned, the overwhelming majority of the forecast time series is distinguished by topically oriented trend adjustment.

97.6% of all forecast time series for three-month interest rates and 99.3% of those for a ten-year government bond yield show evidence of this feature. 98.7% of the time series with a four-month forecast horizon and 98.3% of the time series with a thirteen-month forecast horizon indicate the presence of topically oriented trend adjustment. At 92.7%, the forecast time series for Japanese interest trends are least affected by this phenomenon.

Five explanation patterns for topically oriented trend adjustment are meanwhile under discussion: 1. Anchoring heuristics, 2. The tendency to underestimate the variability of reality, 3. Avoidance of major blunders through protective estimates, 4. Normative herd behavior such as Externally Triggered Herding, and 5. Information-based herd behavior.

If improving the accuracy of current forecast techniques is to be worked on systematically, future research efforts must be turned towards identifying the causes of topically oriented trend adjustment.

Appendix: Detailed results

Table 4: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in the USA

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	243	0.954	243	0.458	243	0.879	243	0.627
Bank of America Corp.	104	0.972	104	0.571	108	0.637	108	0.136
Barclays Capital	136	0.987	135	0.657	139	0.914	139	0.822
Bear Stearns	118	0.960	102	0.653	126	0.955	109	0.991
BP Amoco Corp.	90	0.890	90	0.089	86	0.697	86	0.163
Chase Manhattan	72	0.915	67	0.141	70	0.690	65	0.091
Chemical Bank	71	0.889	67	0.062	69	0.479	66	0.001
Chrysler	156	0.933	156	0.424	155	0.854	155	0.560
Continental Bank	57	0.911	57	0.216	56	0.745	56	0.057
Credit Suisse First Boston	41	0.970	36	0.515	133	0.917	110	0.414
Dun & Bradstreet	66	0.778	66	0.004	65	0.405	65	0.157
DuPont	200	0.944	200	0.437	200	0.820	200	0.427
Eaton Corporation	197	0.927	197	0.455	199	0.835	198	0.443
Fannie Mae	148	0.951	148	0.389	149	0.767	149	0.479
Ford Motors	233	0.945	220	0.495	231	0.895	220	0.706
General Motors	201	0.953	201	0.426	195	0.878	195	0.704
Georgia State University	121	0.993	121	0.738	121	0.774	121	0.425
Goldman Sachs	99	0.981	99	0.600	110	0.781	110	0.487
Griggs & Santow	116	0.854	115	0.129	115	0.796	115	0.345
IHS Global Insight	154	0.953	154	0.419	152	0.828	152	0.473
Inforum – Univ. Maryland	135	0.945	135	0.424	135	0.725	135	0.300
JP Morgan	140	0.978	133	0.610	140	0.810	133	0.415
Merrill Lynch	122	0.954	113	0.393	119	0.861	110	0.570
Macroeconomic Advisers	96	0.953	96	0.359	106	0.609	106	0.156
Metropolitan Life	84	0.893	84	0.107	83	0.630	83	0.000
Moody's Economy.com	182	0.941	182	0.464	182	0.815	182	0.534
Morgan Stanley	109	0.992	109	0.686	111	0.947	111	0.936
Mortgage Bankers	74	0.957	66	0.531	74	0.755	66	0.222
Nat. Assn. of Manufact.	71	0.891	71	0.197	69	0.684	69	0.035
Nat. Assn. of Homeb.	176	0.977	176	0.490	166	0.810	165	0.355
Northern Trust	172	0.972	163	0.542	173	0.896	163	0.749
Oxford Economics	133	0.950	133	0.475	133	0.707	133	0.483
Prudential Financial	105	0.825	104	0.102	105	0.499	104	0.075
Smith Barney	83	0.943	83	0.145	82	0.630	82	0.261
Standard & Poor's	162	0.927	160	0.247	158	0.819	156	0.347
Swiss Re	54	0.988	54	0.645	53	0.679	53	0.631
Conference Board	173	0.936	172	0.481	174	0.811	173	0.548
University of Michigan	168	0.947	168	0.457	144	0.812	144	0.420
US Trust	158	0.936	156	0.514	154	0.755	151	0.363
Wachovia	219	0.962	219	0.489	217	0.878	215	0.599
Wells Fargo	188	0.961	189	0.472	187	0.779	187	0.410

4 M (13 M) forecasts = forecasts with four (thirteen) month forecast horizon; gov. = government.

Table 5: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in Japan

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	243	0.983	243	0.863	243	0.953	243	0.852
Bank of Tokyo Mitsubishi	109	0.977	102	0.819	163	0.957	152	0.842
Barclays Capital	56	0.836	56	0.378	56	0.722	56	0.570
Baring Securities – Japan	65	0.933	65	0.625	61	0.796	60	0.507
Credit Suisse	99	0.779	91	1.129	112	0.829	83	0.123
Dai-Ichi Kangyo Bank	139	0.983	116	0.873	124	0.929	109	0.828
Daiwa Research Institute	126	0.982	93	0.869	187	0.949	122	0.782
Deutsche Securities	161	0.972	140	0.798	161	0.956	140	0.878
Dresdner Kleinwort Bens.	46	0.672	42	0.539	51	0.706	47	0.404
Goldman Sachs	101	1.037	101	1.295	104	0.390	104	0.009
HSBC	93	1.044	93	1.347	103	0.394	103	0.011
IHS Global Insight	73	1.044	73	1.347	73	0.194	73	0.772
ITOCHU Institute	76	0.960	76	1.080	82	0.339	82	0.171
Japan Ctr. for Econ. Res.	160	0.981	154	0.858	167	0.957	160	0.874
Jardine Fleming	54	0.984	54	0.843	53	0.951	52	0.905
JP Morgan - Japan	162	0.950	156	0.785	174	0.896	165	0.722
Merrill Lynch - Japan	181	0.989	176	0.866	206	0.951	187	0.811
Mitsubishi Research Inst.	123	0.978	122	0.857	147	0.965	142	0.893
Mitsubishi UFJ Research	145	0.988	145	0.886	128	0.963	127	0.909
Mizuho Research Institute	180	0.985	158	0.857	183	0.951	161	0.867
NCB Research Institute	112	0.977	108	0.807	111	0.912	106	0.795
Nikko Citigroup Sal. S. B.	153	0.990	151	0.891	216	0.957	195	0.862
Nikko Research Center	99	0.976	99	0.843	97	0.922	97	0.777
NLI Research Institute	136	1.020	129	0.973	143	0.716	136	0.106
Nomura Securities	184	0.984	140	0.879	187	0.958	143	0.880
Shinsei Bank	137	0.975	133	0.847	148	0.937	143	0.828
Sumitomo Life Res. Inst.	144	0.984	137	0.851	145	0.949	139	0.839
Tokai Bank	85	0.966	85	0.809	85	0.903	84	0.780
Toyota Motor Corporation	155	0.834	155	0.351	154	0.556	154	0.045
UBS	189	0.983	189	0.854	186	0.956	184	0.820
Yamaichi Research Inst.	86	0.972	86	0.799	85	0.875	84	0.641

4 M (13 M) forecasts = forecasts with four (thirteen) month forecast horizon; gov. = government.

Table 6: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in Germany

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	243	0.975	243	0.811	243	0.928	243	0.731
Bank Julius Baer	175	0.942	174	0.191	175	0.872	174	0.685
Bank of America	95	0.805	96	0.018	95	0.641	94	0.050
BHF Bank	103	0.901	103	0.359	103	0.775	103	0.445
BayernLB	237	0.978	237	0.846	237	0.945	237	0.735
Citigroup	89	0.986	88	0.926	89	0.953	88	0.895
Commerzbank	241	0.974	241	0.809	240	0.929	240	0.744
Deka Bank	235	0.964	235	0.725	235	0.927	235	0.692
Delbrück & Co.	150	0.983	150	0.842	151	0.893	151	0.529
Deutsche Bank	238	0.981	238	0.840	237	0.927	235	0.776
DIW – Berlin	51	0.698	51	0.052	49	0.394	49	0.034
Dresdner Bank	224	0.964	221	0.802	225	0.927	225	0.741
DZ Bank	241	0.971	241	0.796	241	0.927	241	0.704
F.A.Z.-Institute	160	0.966	160	0.703	160	0.896	160	0.557
Helaba Frankfurt	239	0.978	239	0.810	239	0.933	239	0.775
HSBC Trinkaus	233	0.971	233	0.779	233	0.934	233	0.774
HWWI	82	0.818	77	0.018	82	0.542	77	0.073
Hypo Bank	106	1.002	105	1.010	107	0.855	106	0.592
Ifo – Munich Institute	81	0.994	77	0.895	72	0.963	68	0.920
IfW – Kiel Institute	218	0.967	211	0.788	220	0.935	213	0.766
IHS Global Insight	57	0.852	56	0.164	57	0.413	57	0.006
Invesco	161	0.984	161	0.828	172	0.905	172	0.635
IW - Cologne Institute	93	0.876	59	0.346	92	0.859	58	0.400
JP Morgan Chase	102	0.937	92	0.409	101	0.877	91	0.628
Landesbank Berlin	239	0.974	239	0.802	239	0.929	239	0.738
Lehman Brothers	71	0.883	70	0.143	72	0.379	71	0.004
MM Warburg	189	0.889	189	0.208	189	0.837	188	0.531
Morgan Stanley	128	0.882	127	0.062	128	0.749	127	0.155
RWI Essen	151	0.876	150	0.105	151	0.879	150	0.595
Sal Oppenheim	225	0.977	223	0.768	225	0.927	225	0.691
SEB	237	0.978	237	0.842	237	0.932	237	0.755
SMH Bank	102	0.990	102	0.964	103	0.811	103	0.465
UBS	170	0.860	169	0.357	168	0.857	168	0.577
UBS Warburg	50	0.879	50	0.076	50	0.394	50	0.014
UniCredit MIB	219	0.966	217	0.784	216	0.930	215	0.769
WestLB	241	0.979	241	0.867	240	0.928	240	0.741
WGZ Bank	224	0.979	224	0.864	225	0.937	225	0.730

4 M (13 M) forecasts = forecasts with four (thirteen) month forecast horizon; gov. = government.

Table 7: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in France

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	243	0.968	243	0.804	243	0.941	243	0.724
Bank of America	83	0.831	82	0.091	82	0.649	81	0.144
Banque d'Orsay	109	0.921	109	0.571	109	0.861	109	0.314
Banque Indosuez	78	0.985	76	0.943	72	0.764	75	0.244
Banque Paribas	77	0.895	75	0.354	76	0.796	74	0.096
Banque Populaire	105	0.970	106	0.672	105	0.845	106	0.358
BIPE	149	0.830	147	0.058	149	0.839	146	0.337
BNP - Paribas	228	0.971	224	0.810	221	0.935	221	0.732
Centre Prev l'Expansion	137	0.847	136	0.181	136	0.932	135	0.560
Crédit Agricole	156	0.957	156	0.820	150	0.979	152	0.824
Crédit Commercial de Fr.	186	0.981	186	0.828	182	0.922	182	0.678
Crédit Lyonnais	170	0.969	169	0.849	166	0.924	165	0.579
Crédit National	75	0.899	75	0.789	66	0.757	65	0.183
COE - CCIP	183	0.960	180	0.777	178	0.922	176	0.597
Coe - Rexecode	199	0.953	199	0.472	199	0.891	199	0.408
Deutsche Bank	85	0.923	85	0.356	85	0.866	85	0.362
EXANE	100	0.843	95	0.341	99	0.708	96	0.295
GAMA	116	0.760	116	0.098	116	0.740	116	0.289
IXIS CIB	177	0.966	174	0.715	177	0.911	174	0.617
JP Morgan	166	0.897	165	0.192	187	0.918	184	0.531
Morgan Stanley	135	0.997	132	0.800	133	0.940	130	0.636
Natixis	210	0.972	210	0.838	204	0.942	207	0.703
OFCE	211	0.942	208	0.562	210	0.921	207	0.621
Societe Generale	229	0.962	225	0.825	218	0.936	216	0.681
Total	216	0.964	216	0.846	213	0.948	216	0.762
UBS	120	0.978	119	0.933	117	0.943	116	0.741

4 M (13 M) forecasts = forecasts with four (thirteen) month forecast horizon; gov. = government.

Table 8: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in the United Kingdom

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	243	0.963	243	0.728	243	0.949	243	0.844
ABN Amro	111	0.989	111	0.740	92	0.958	91	0.887
Barclays Bank	138	0.959	138	0.760	137	0.922	136	0.702
Barclays Capital	233	0.968	233	0.722	207	0.947	205	0.822
Capital Economics	102	0.800	102	0.207	102	0.441	102	0.134
Chase Manhattan Bank	108	0.972	108	0.704	106	0.924	104	0.763
Citibank	55	0.718	55	0.275	54	0.523	54	0.146
Citigroup	147	0.968	147	0.719	148	0.946	147	0.813
Credit Lyonnais Securities	77	0.980	77	0.699	75	0.839	74	0.458
CSFB	73	0.838	70	0.147	57	0.564	35	0.283
Deutsche Bank	61	0.908	61	0.630	58	0.930	58	0.525
Dresdner Kleinwort Bens.	71	0.964	71	0.679	71	0.792	69	0.470
DTZ Research	53	0.878	53	0.253	53	0.540	53	0.062
Economic Perspectives	86	0.842	86	0.000	86	0.582	86	2.905
Experian Business Strateg.	129	0.864	129	0.133	127	0.541	127	0.039
Goldman Sachs	172	0.935	172	0.675	174	0.935	172	0.833
Hambros Bank	100	0.964	100	0.777	99	0.838	98	0.740
HBOS	154	0.832	154	0.526	151	0.884	151	0.706
Henley Centre	104	0.964	103	0.737	17	–	17	–
HSBC	222	0.969	220	0.689	211	0.938	209	0.822
IHS Global Insight	98	0.829	98	0.296	96	0.469	97	0.002
Imperial Chemical Indust.	118	0.962	118	0.689	117	0.898	116	0.659
Industrial Bank of Japan	80	0.723	80	0.002	78	0.804	77	0.503
ING Financial Markets	222	0.966	222	0.753	221	0.957	221	0.841
ITEM Club	129	0.960	132	0.771	126	0.951	128	0.833
JP Morgan	151	0.934	142	0.465	137	0.925	127	0.676
Liverpool Macro Research	182	0.810	183	0.141	6	–	7	–
Lehman Brothers	199	0.969	196	0.730	197	0.968	195	0.855
Lloyds TSB Financial M.	172	0.936	171	0.407	172	0.938	172	0.718
Lombard Street Research	156	0.874	156	0.278	152	0.869	151	0.441
Merrill Lynch	157	0.972	154	0.810	153	0.972	148	0.909
Morgan Stanley	147	0.931	145	0.596	147	0.908	145	0.754
National Westminster	127	0.961	125	0.765	116	0.895	119	0.732
NatWest Markets Greenw.	118	0.962	118	0.684	114	0.910	112	0.825
NIESR	112	0.976	112	0.739	106	0.948	106	0.919
Nomura Research Inst.	62	0.981	62	0.684	61	0.752	60	0.268
Oxford Economics	228	0.959	227	0.687	218	0.967	216	0.851
RBS Financial Markets	134	0.858	134	0.136	133	0.540	133	0.302
Robert Fleming Securities	84	0.965	84	0.723	84	0.766	83	0.438
SBC Warburg	77	0.970	77	0.788	75	0.855	74	0.603
Schroders	227	0.968	227	0.715	219	0.941	218	0.801
Smith New Court	72	0.968	72	0.773	71	0.832	70	0.433
Société Générale	92	0.919	92	0.213	91	0.892	90	0.657
UBS	197	0.971	196	0.830	195	0.950	194	0.900
West/LB Panmure	113	0.959	114	0.725	114	0.932	113	0.732
Williams de Broe	197	0.966	197	0.809	197	0.956	196	0.886

4 M (13 M) forecasts = forecasts with four (thirteen) month forecast horizon; gov. = government.

Table 9: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in Italy

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	243	0.965	243	0.848	243	0.968	243	0.829
Banca Commerciale	132	0.939	132	0.780	132	0.946	132	0.736
Banca IMI	68	0.964	68	0.501	67	0.813	67	0.263
Banca Nazion. del Lavoro	84	0.913	84	0.276	83	0.743	83	0.379
Bank of America	149	0.988	149	0.719	148	0.968	148	0.756
Capitalia	158	0.969	159	0.859	159	0.969	159	0.816
Centro Europe Ricerche	146	0.978	147	0.878	139	0.985	143	0.967
Citigroup	82	0.949	82	0.397	89	0.640	89	0.037
ENI	180	0.946	180	0.709	181	0.938	181	0.673
Euromobiliare	75	0.746	75	0.352	75	0.778	75	0.234
Fiat	181	0.958	181	0.860	178	0.963	179	0.837
Goldman Sachs	73	0.829	72	0.123	69	0.871	68	0.243
ING Financial Markets	60	0.750	60	0.175	61	0.225	61	0.159
Intesa Sanpaolo	175	0.946	175	0.784	178	0.941	178	0.690
JP Morgan	71	0.993	66	0.913	66	0.929	63	0.768
Morgan Stanley	56	0.935	56	0.175	62	0.821	56	0.385
Prometeia	187	0.953	187	0.767	187	0.959	187	0.748
Ricerche economia finanz.	228	0.960	227	0.862	226	0.967	226	0.814
UniCredit MIB	175	0.971	170	0.869	172	0.962	169	0.801

Table 10: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in Spain

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	180	0.960	180	0.649	180	0.959	180	0.789
AFI	166	0.959	166	0.653	166	0.962	166	0.828
Banesto	155	0.975	155	0.652	156	0.958	156	0.765
BBVA	156	0.977	149	0.719	156	0.970	148	0.713
Caja de Madrid	66	0.820	66	0.229	66	0.036	66	2.335
Ceprede	171	0.942	171	0.617	170	0.960	170	0.788
FG Merrill Lynch	61	0.972	61	0.705	61	0.939	61	0.654
Funcas	167	0.983	167	0.729	167	0.964	167	0.808
Goldman Sachs	144	0.966	143	0.517	139	0.946	138	0.696
Grupo Santander	165	0.957	165	0.680	164	0.963	164	0.786
IFL-Univers Carlos III	94	0.795	94	0.235	94	0.784	94	0.494
Inst Estud Economicos	152	0.949	146	0.592	154	0.957	147	0.794
Institut LR Klein	80	0.775	80	0.023	81	0.413	81	0.131
Instit. de Credito Oficial	123	0.785	123	0.112	120	0.685	120	0.235
JP Morgan Madrid	54	0.999	51	0.879	51	0.975	48	0.824
La Caixa	115	0.880	115	0.230	115	0.672	115	0.167
UBS	103	0.945	102	0.746	102	0.930	102	0.846

Table 11: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in Canada

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	243	0.927	243	0.548	243	0.935	243	0.800
Bank of Montreal	194	0.917	194	0.543	191	0.915	191	0.732
Bank of Nova Scotia	101	0.884	101	0.386	101	0.794	101	0.437
BMO Capital Markets	239	0.948	239	0.560	237	0.940	237	0.814
Bunting Warburg	73	0.818	73	0.265	73	0.677	73	0.052
Caisse de Depot	229	0.933	229	0.505	229	0.926	228	0.747
CIBC	138	0.891	137	0.444	142	0.872	142	0.741
CIBC World Markets	231	0.927	228	0.567	226	0.934	222	0.880
Confer. Board of Canada	224	0.912	224	0.536	206	0.962	206	0.816
Desjardins	64	1.039	63	0.191	49	0.527	48	0.002
Economap	121	0.937	121	0.255	121	0.853	121	0.611
EDC Economics	61	1.029	61	0.721	61	0.570	61	0.587
IHS Global Insight	133	0.952	133	0.675	132	0.950	132	0.854
Informetrica	199	0.846	199	0.185	197	0.888	197	0.583
JP Morgan	103	0.847	99	0.243	103	0.882	98	0.545
Merrill Lynch	79	0.986	73	0.858	78	0.953	72	0.990
National Bank Financial	165	0.841	163	0.230	164	0.912	162	0.705
National Bank of Canada	121	0.900	121	0.560	119	0.937	119	0.789
RBC Dominion Security	89	0.915	89	0.464	88	0.905	88	0.637
Richardson Greenshields	70	0.828	70	0.265	71	0.599	70	0.102
Royal Bank of Canada	221	0.924	219	0.527	222	0.926	220	0.797
Scotia Economics	209	0.940	209	0.633	207	0.940	207	0.842
Sun Life	100	0.899	100	0.447	100	0.862	100	0.543
Toronto Dominion Bank	141	0.961	141	0.743	138	0.945	138	0.913
University of Toronto	164	0.902	164	0.190	164	0.891	164	0.647

Table 12: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in the Netherlands

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	180	0.821	180	0.089	180	0.848	180	0.494
ABN AMRO	173	0.855	173	0.141	173	0.844	173	0.444
Citigroup	52	0.916	51	0.460	68	0.667	67	0.066
Deutsche Bank	64	1.007	64	0.468	64	0.177	64	18.078
Dexia Securities	89	0.816	89	0.011	89	0.787	89	0.347
Fortis Bank	165	0.778	165	0.018	165	0.851	165	0.535
ING	174	0.815	174	0.089	172	0.826	172	0.390
Kempen & Co.	149	0.859	149	0.118	149	0.887	149	0.644
NIBC	170	0.816	169	0.154	171	0.846	171	0.542
Rabobank Nederland	174	0.863	174	0.141	173	0.845	173	0.478
Theodoor Gilissen	121	0.815	121	0.093	121	0.722	121	0.031

Table 13: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in Switzerland

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	139	0.866	139	0.149	139	0.620	139	0.074
BAK Basel	135	0.831	135	0.053	135	0.540	135	0.027
Bank Julius Bär	113	0.924	113	0.235	113	0.699	113	0.304
Bank Vontobel	123	0.848	123	0.356	123	0.629	123	0.182
Credit Suisse	126	0.872	123	0.872	125	0.603	121	0.047
Goldman Sachs	56	0.836	55	0.061	54	0.359	53	0.029
ING Financial Markets	57	0.950	57	0.565	56	0.229	56	1.626
Institut Crea	64	0.926	64	0.223	106	0.679	106	0.068
KOF Swiss Econ. Institute	132	0.786	132	0.050	132	0.581	132	0.065
Pictet & Cie.	133	0.896	133	0.290	132	0.702	132	0.015
St.Galler Zentr. Zukunftsf.	60	0.772	60	0.053	60	0.532	60	0.001
UBS	135	0.900	135	0.213	136	0.630	136	0.039
Zürcher Kantonalbank	128	0.891	128	0.132	128	0.658	128	0.038

4 M (13 M) forecasts = forecasts with four (thirteen) month forecast horizon; gov. = government.

Table 14: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in Sweden

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	180	0.933	180	0.722	180	0.933	180	0.722
Confed. of Swed. Enterpr.	158	0.892	158	0.325	158	0.937	158	0.744
Finanskonsult	57	0.964	57	0.683	57	0.960	57	0.951
HQ-Banken	94	0.812	94	0.060	94	0.626	94	0.063
ING Financial Markets	60	0.988	60	0.065	60	0.417	60	0.379
JP Morgan	119	0.953	107	0.600	119	0.925	107	0.702
Matteus Bank	56	0.790	56	0.069	56	0.759	56	0.089
Merrill Lynch	133	0.806	132	0.235	132	0.813	132	0.362
Mizuho Financial Group	83	0.921	83	0.477	83	0.924	83	0.660
Morgan Stanley	124	0.872	124	0.141	124	0.898	124	0.608
National Institute – NIER	59	0.842	59	0.010	70	0.557	70	0.169
Nordea	134	0.922	134	0.489	136	0.933	136	0.712
Öhman	145	0.824	145	0.107	145	0.840	145	0.437
SBAB	75	0.755	75	0.046	75	0.498	75	0.025
SEB	129	0.922	129	0.542	131	0.942	131	0.856
Skandiabanken	52	0.903	52	0.114	50	0.682	50	0.058
Svenska Handelsbanken	160	0.941	160	0.470	162	0.942	162	0.692
Swedbank	150	0.927	150	0.448	150	0.935	149	0.746
UBS	132	0.911	133	0.484	137	0.929	138	0.798

4 M (13 M) forecasts = forecasts with four (thirteen) month forecast horizon; gov. = government.

Table 15: Number of forecasts (N) and TOTA coefficients (TOTA) in forecast time series for interest rate trends in Norway

	3-month interest rate				10-year gov. bond yield			
	4 M forecasts		13 M forecasts		4 M forecasts		13 M forecasts	
Institute	N	TOTA	N	TOTA	N	TOTA	N	TOTA
Consensus (Mean)	139	0.885	139	0.354	139	0.825	139	0.351
Danske Bank	78	0.896	78	0.298	75	0.779	75	0.356
Deutsche Bank	59	0.863	59	0.309	59	0.576	59	0.734
DnB Nor	125	0.878	125	0.313	126	0.806	126	0.335
First Securities	129	0.893	129	0.462	130	0.830	130	0.390
Handelsbanken Oslo	74	0.905	74	0.383	95	0.792	95	0.235
JP Morgan	55	0.940	54	0.888	54	0.896	54	0.264
Nordea Markets	113	0.869	113	0.303	115	0.769	115	0.374
Norw. Financ. Serv. Assn.	79	0.906	79	0.447	78	0.811	78	0.237
SEB Oslo	50	0.850	50	0.428	50	0.584	50	0.062
Union Bank of Norway	64	0.808	64	0.413	64	0.612	64	0.002
Statistics Norway	130	0.841	130	0.222	0	–	0	–

4 M (13 M) forecasts = forecasts with four (thirteen) month forecast horizon; gov. = government.

References

[1] Allen, Helen and Mark P. Taylor, Charts, Noise and Fundamentals in the London Foreign Exchange Market, *The Economic Journal*, **100**(400), (1990), 49–59.

[2] Andres, Peter and Markus Spiwoks, Forecast Quality Matrix, A methodological Survey of Judging Forecast Quality of Capital Market Forecasts, *Journal of Economics and Statistics*, **219**(5+6) , (1999), 513–542.

[3] Baghestani, Hamid, Improving the Accuracy of Recent Survey Forecasts of the T-Bill Rate, *Business Economics*, **40**(2), (2005), 36–40.

[4] Baghestani, Hamid, Woo Jung and Daniel Zuchegno, On the Information Content of Futures Market and Professional Forecasts of Interest Rates, *Applied Financial Economics*, **10**(6), (2000), 679–684.

[5] Belongia, Michael T. (1987). Predicting Interest Rates, *Federal Reserve Bank of St. Louis Review*, March, (1987), 9–15.

[6] Bizer, Kilian, Stefan Schulz-Hardt, Markus Spiwoks and Zulia Gubaydullina, Einflussfaktoren auf das Phänomen der gegenwartsorientierten Ver-

laufsanpassung (GOVA) bei Finanzmarktprognosen, *unpublished working paper*, (2009).

[7] Bofinger, Peter and Robert Schmidt, On the reliability of professional exchange rate forecasts: An empirical analysis for the €/US-$ rate, *Financial Markets and Portfolio Management*, **17**(4), (2003), 437–449.

[8] Brooks, Robert and J. Brian Gray, History of the Forecasters, *Journal of Portfolio Management*, **31**(Fall), (2004), 113–117.

[9] Cho, Dong W., Forecasts Accuracy: Are Some Business Economists Consistently Better than Others?, *Business Economics*, **31**(4), (1996), 45–49.

[10] Domian, Dale L., Money Market Mutual Fund Maturity and Interest Rates, *Journal of Money, Credit, and Banking*, **24**(4), (1992), 519–527.

[11] Dua, Pami (1988). Multiperiod Forecasts of Interest Rates, *Journal of Business and Economic Statistics*, **6**(3), (1988), 381–384.

[12] Francis, Jennifer, Management Anticipation of Interest Rates: The Case of Commercial Banks, *Journal of Business Finance and Accounting*, **18**(5), (1991), 675–695.

[13] Friedman, Benjamin M., Survey Evidence on the "Rationality" of Interest Rate Expectations, *Journal of Monetary Economic*, **6**(4), (1980), 453–465.

[14] Gosnell, Thomas F. and Robert W. Kolb, Accuracy of International Interest Rate Forecasts, *Financial Review*, **32**(3), (1997), 431–448.

[15] Greer, Mark, Directional Accuracy Tests of Long-Term Interest Rate Forecasts, *International Journal of Forecasting*, **19**(2), (2003), 291–298.

[16] Gubaydullina, Zulia, Oliver Hein and Markus Spiwoks, The Status Quo Bias of Bond Market Analysts, *Journal of Applied Finance and Banking*, **1**(1), (2011), 31–51.

[17] Hafer, R. W. and Scott E. Hein, Comparing Futures and Survey Forecasts of Near-Term Treasury-Bill Rates, *Federal Reserve Bank of St. Louis Review*, May/June, (1989), 33–42.

[18] Hafer R. W., Scott E. Hein and S. Scott MacDonald, Market and Survey Forecasts of the Three-Month Treasury-Bill Rate, *Journal of Business*, **65**(1), (1992), 123-138.

[19] Ilmanen, Antti, Market Rate Expectations and Forward Rates, *Journal of Fixed Income*, **6**(Sept), (1996), 8–22.

[20] Jongen, Ron, Willem F. C. Verschoor and Christian C. P. Wolff, Time-variation in term premia: International survey-based evidence, *Journal of International Money and Finance*, **30**(4), (2011), 605–622.

[21] Keynes, John Maynard, *The General Theory of Employment, Interest, and Money*, London: Macmillan Cambridge University Press, (1936).

[22] Kolb, R. A. and H. O. Stekler, How well do analysts forecast interest rates?, *Journal of Forecasting*, **15**(5), (1996), 385–394.

[23] Lowe, Philip W. and Robert G. Trevor, The Performance of Exchange Rate Forecasts, *The Australian Economic Review*, **87**(4), (1987), 31–44.

[24] Manzur, Meher, How Much Are Exchange Rate Forecasts Worth?, *Australian Journal of Management*, **13**(1), (1988), 93–113.

[25] Mitchell, Karlyn and Douglas K. Pearce, Professional forecasts of interest rates and exchange rates: Evidence from the Wall Street Journal's panel of economists, *Journal of Macroeconomics*, **29**(4), (2007), 840–854.

[26] Mose, Jacob Staehr, Expert Forecasts of Bond Yields and Exchange Rates, *Danmarks Nationalbank Monetary Review*, 4th Quarter, (2005), 91–95.

[27] Simon, David P., The Rationality of Federal Funds Rate Expectations: Evidence from a Survey, *Journal of Money, Credit, and Banking*, **21**(3), (1989), 388–393.

[28] Spiwoks, Markus, Qualität der Zinsprognosen deutscher Banken, Eine empirische Analyse, *Kredit und Kapital*, **36**(3), (2003), 289–308.

[29] Spiwoks, Markus, The Usefulness of ZEW Stock Market Forecasts for Active Portfolio Management Strategies, *Journal of Economics and Statistics*, **224**(5), (2004a), 557–578.

[30] Spiwoks, Markus, External Triggered Herding bei Rentenmarkt-Analysten, *Financial Markets and Portfolio Management*, **18**(1), (2004b), 58–83.

[31] Spiwoks, Markus, Nils Bedke and Oliver Hein, Forecasting the past: the case of US interest rate forecasts, *Financial Markets and Portfolio Management*, **22**(4), (2008), 357–379.

[32] Spiwoks, Markus, Nils Bedke and Oliver Hein, The Pessimism of Swiss Bond Market Analysts and the Limits of the Sign Accuracy Test – An Empirical Investigation of Their Forecasting Success Between 1998 and 2007, *International Bulletin of Business Administration*, **4**, (2009), 6–19.

[33] Spiwoks, Markus, Nils Bedke and Oliver Hein, Topically Orientated Trend Adjustment and Autocorrelation of the Residuals - An Empirical Investigation of the Forecasting Behavior of Bond Market Analysts in Germany, *Journal of Money, Investment and Banking*, **14**, (2010), 16–35.

[34] Spiwoks, Markus and Oliver Hein, Die Währungs-, Anleihen- und Aktienmarktprognosen des Zentrums für Europäische Wirtschaftsforschung – Eine empirische Untersuchung des Prognoseerfolges von 1995 bis 2004, *AStA – Wirtschafts- und Sozialstatistisches Archiv*, **1**(1), (2007), 43–52.

[35] Takagi, Shinji, Exchange Rate Expectations, A Survey of Survey Studies, *IMF Staff Papers*, **38**(1), (1991), 156–183.

[36] Throop, Adrian W., Interest Rate Forecasts and Market Efficiency, *Economic Review of the Federal Reserve Bank of San Francisco*, Spring: (1981), 29–43.

[37] Zarnowitz, Victor and Phillip Braun, Twenty-Two Years of the NBER-ASA Quarterly Eco-nomic Outlook Surveys: Aspects and Comparisons of Forecasting Performance, *NBER Working Papers* 3965, (1992).