

# The January Barometer: European, North American, Pacific and Worldwide Results

## 1. Introduction

Over long periods of time, equity returns have been very high in January in most markets world-wide. In many countries, see e.g., GULTEKIN and GULTEKIN (1983), ZIEMBA (1994), and HAWAWINI and KEIM (1996), January returns have been higher than in any other month. Moreover, in some countries January returns exceed those of the whole year over significant periods of time.

In the U.S. January returns are historically high but they have been (during 1926-1993) statistically identical to those in six other high return months and indeed all eleven other months. However, in the U.S. there is a very significant small firm January effect. Numerous studies by authors including ROZEFF and KINNEY (1976), BANZ (1981), REINGANUM (1981), KEIM (1983), ROLL (1983), CLARK and ZIEMBA (1987), RITTER (1988), RITTER and CHOPRA (1989), and FAMA (1991) have shown that small capitalized stocks have greatly outperformed large capitalized stocks

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in January. Other authors have documented similar small cap January effects in Japan (see ZIEMBA (1991)) and in many other countries; see ZIEMBA (1994) and HAWAWINI and KEIM (1996) for surveys. In general, the small cap advantage over large caps in January is not as strong in most countries as in the U.S. Possible reasons for this are that many countries do not have many large capitalized stocks or are very dominated by one or several major companies. A very interesting related pheno-

**Table 1: S&P 500 Total Monthly Percentage Returns by Month (January 1926 to December 1993)**

	Mean Return
January	1.45
February	0.50
March	0.29
April	1.06
May	0.28
June	1.15
July	1.90
August	1.67
September	-1.18*
October	-0.07
November	1.14
December	1.63

\*Indicates quantities that are significantly different from the average monthly return at the 5% or lower level of significance using a two-tail test.

Source: HENSEL and ZIEMBA (1995)

**Table 2: Success of the January Barometer and Average Gains and Losses for February through December**

Period	January Barometer Success			Average Feb-Dec Loss		Average Feb-Dec Gain	
	All Jans.	Jan. Up	Jan. Down	JanDn,RstYrDn	JanUp,RstYrDn	JanUp,RstYrUp	JanDn,RstYrUp
1926-1993	66.2%	81.0%	42.3%	-8.1%	-25.4%	18.4%	15.5%
1926-1939	28.6%	37.5%	16.7%	-5.8%	-33.9%	30.2%	26.2%
1940-1949	80.0%	85.7%	66.7%	-7.2%	-15.3%	16.4%	9.2%
1950-1959	90.0%	100.0%	66.7%	-3.9%	0.0%	23.0%	9.9%
1960-1969	70.0%	83.3%	50.0%	-6.8%	-11.2%	13.6%	11.3%
1970-1979	80.0%	100.0%	60.0%	-15.5%	0.0%	13.5%	12.1%
1980-1993	64.3%	88.9%	20.0%	-0.6%	-7.5%	17.4%	8.9%
1940-1993	75.9%	91.2%	50.0%	-8.3%	-11.3%	17.2%	10.2%
N(1940-1993)	54	34	20	10	3	31	10

Source: HENSEL and ZIEMBA (1995)

menon is the January barometer. Namely, that if large capitalized stocks have positive returns in January, then it is likely that the market as a whole will rise in the rest of that year. YALE HIRSCH (1986) has called this the January barometer. The supposition is that:

*If the market rises in January, then it will also rise during the rest of the year; but if it falls in January, then there will be a decline during the rest of that year.*

HIRSCH is his yearly "Stock Traders Almanac" (see e.g., HIRSCH (1994)) actually reports results on the hypothesis "if January rises then that year rises." Our studies have used the definition above which provides for a clearer statistical test and more closely represents the essence of the hypothesis.

In a companion paper HENSEL and ZIEMBA (1995) have investigated the U.S. case more fully. Data on the S&P 500 during the 68 year period 1926-1993 strongly support the first part of the hypothesis, especially from 1940-1993. However, there was evidence that negative January returns did not have any predictive power for returns in the next eleven months.

In this paper we investigate the January barometer's predictive power in many world-wide equity markets including Switzerland, France, Germany, the United Kingdom and Austria in Europe as well as Australia, Canada and Japan during the period

1970-1993. The results indicate that the barometer has good predictive power but that aggregated indices across various areas such as Europe or Pacific Basin or the whole world have stronger predictive power.

## 2. The U.S. Evidence

HENSEL and ZIEMBA (1995) investigated the January barometer using monthly total return S&P 500 data from Ibbotson Associates, for the 68-year January 1926 to December 1993 period. First, they found that January S&P 500 returns while high were statistically identical at the 5% level to those in six other high return months (April, June, July, August, November, and December) and indeed all other eleven months. Table 1 shows these mean returns focusing on the significantly lower returns in September than in the other eleven months.

The results in Table 2, especially from 1940-1993, strongly support the first part of the January barometer hypothesis, namely that: if the market rises in January then it will also rise during the rest of the year. During this latter 54 year period, January returns correctly predicted the direction of the rest of the year returns 75.9% at the time. When the return in January was positive, the rest of the year had positive returns 91.2% of the time. However,

when January returns were negative, the rest of the year had positive returns in only 50.0% of the years. The 91.2% was significantly higher than the 50.0% at the 1% level with a two-tailed test.

The barometer predicted worse than chance during the 1926-1939 period when positive Januarys resulted in positive rest of the years only 37.5% of the time versus 57.1% positive rest of the years during this period. However, the barometer was a good predictor in each of the following five decades. The barometer, when positive, has also been a signal for the magnitude of the February to December gains. For example, during 1940-1993 when the January barometer was positive and suggested a gain during the rest of the year and there actually was a gain in these eleven months, it was significantly higher (at 17.2%) than the average return (10.2%) during years when the barometer forecasted a loss and there was a gain. This difference was significantly positive with a one tail test at a significance level of 0.15%.

When the barometer was negative and suggested a weak rest of the year and there actually was a loss during the rest of the year, that loss averaged -8.3%. This return was statistically identical to the -11.3% when the barometer was positive and the forecast failed. Also, during this 54-year period when January was negative the rest of the year was negative 50.0% of the time. This compares to negative rest of the years in 24.1% of the years. Thus the Barometer

predicted more frequent negative returns than actually occurred. Hence the barometer was not a useful predictor when there were negative Januarys.

HENSEL and ZIEMBA (1995) concluded that since 1940 the January barometer, when positive, has provided a statistically significant signal that both the probability that a gain will occur in the rest of the year is higher than average, and the size of that gain, if it occurs, will be above average. A negative January barometer has provided no information concerning the rest of the year's returns.

These results are consistent with the hypothesis, discussed e.g. by SCHWADEL (1988), that the returns in January are dependent upon current economic activity such as the Christmas sales period in December. If such economic activity is high then January stock prices as well as the rest of the year's prices likely will rise. We now discuss the January barometer's predictive power in other world-wide markets.

### 3. Worldwide Evidence

To study the January Barometer in other world-wide markets and regions we utilized the Morgan Stanley Capital International Indices with monthly total returns for the twenty-four year period 1970-1993. For individual countries we consider returns in local currency. However, for indices aggregated

**Table 3: Mean MSCI Country Index Returns in Local Currency by Month, January 1970 through December 1993**

	Australia	Austria	Canada	France	Germany	Japan	Switzerland	United Kingdom	United States
January	2.81	0.43	2.30	3.45	1.90	2.44	2.88	5.33	2.08
February	-0.28	3.50	1.87	2.93	1.81	1.44	0.22	2.39	0.88
March	1.82	1.28	0.65	2.48	2.08	2.51	1.09	1.18	1.16
April	1.95	1.44	-0.47	2.81	0.55	1.23	0.12	3.46	0.85
May	1.90	0.10	0.83	0.25	-1.13	0.96	-0.22	-0.09	0.55
June	-0.23	0.39	0.72	-1.75*	0.95	0.19	1.49	-0.09	1.01
July	1.76	1.21	1.42	1.44	1.26	0.58	1.18	0.66	0.70
August	1.41	0.40	1.93	1.65	0.43	0.12	.34	1.64	1.12
September	-0.75	-0.37	-1.50*	-0.65	-0.82	-0.67	-1.58*	-0.46	-0.91
October	0.28	-0.36	-0.92	-0.06	-0.51	0.20	1.04	-0.03	0.56
November	-0.57	0.42	1.78	0.43	0.42	0.71	0.49	0.43	1.38
December	3.33*	2.74*	2.88*	1.48	1.76	2.86	2.51*	2.70	2.09

\* Indicates significantly different from the monthly average, in that country, with a two-tail t-test at the 5% level.

**Table 4: Mean MSCI Regional Index Returns, in U.S. Dollars January 1970 through December 1993**

	Europe	Pacific	EAFE	World
January	2.55	2.18	2.45	2.48
February	2.32	2.42	2.16	1.24
March	1.34	2.10	1.51	1.33
April	2.45	1.65	2.23	1.16
May	-0.90*	0.94	-0.16	0.27
June	-0.10	0.56	-0.18	0.21
July	1.53	1.00	1.38	0.77
August	0.92	0.46	0.68	0.98
September	-0.80	-0.06	-0.49	-0.84*
October	0.50	0.97	0.72	-0.84
November	0.67	0.58	0.54	0.82
December	2.87*	4.29*	3.36*	2.19*

\* Indicates returns significantly different from the monthly average of the index with a two-tail t-test at the 5% level.

across countries it seems more appropriate to focus on a single currency and we have used the U.S. dollar for this purpose. We first investigate the individual country returns in their local currency across months. As with the U.S., January returns are high and are positive for each of the eight countries studied plus the U.S. which is included for comparison. However, January returns were not statistically higher than the returns in the other eleven months in these nine countries. Table 3 displays the monthly mean returns for Australia, Austria, Canada, France, Germany, Japan, Switzerland, the United Kingdom as well as the U.S. during these twenty-four years. The numbers with a “\*”, indicate months that have mean returns significantly higher or lower than the average monthly return for that index (using a two-tail test at the 5% level). There are very few such months and they include no Januarys. An example is the U.K. which had mean returns of 5.33% in January during these 24 years. These returns while highly positive[1] are not significantly above the mean returns of the MSCI UK index.

With only 24 years of monthly data we cannot attach much significance to these particular values and months that are “significant”. Hence, we have the

basic conclusion that January returns while high are statistically the same as the other eleven months in local currency for the Morgan Stanley capital index from 1970-1993. In Table 4 various aggregated indices are considered across months in U.S. dollars. None of the aggregated indices had U.S. dollar returns in January that significantly exceeded the monthly index average.

We now investigate the January barometer's success in local currency returns for the nine individual countries: Australia, Austria, Canada, France, Germany, Japan, Switzerland, the United Kingdom plus the United States; and in U.S. dollar returns for the four aggregated regions, Europe, Pacific, EAFE and the World Index during the twentyfour years 1970-1993. Table 5 summarizes the results that pertain to the hypothesis: if January is positive is the rest of the year positive and if January is negative is the rest of the year negative?

In general, we have the same conclusion as in the U.S. (with the 1926-93 data). If January is positive then the rest of the year is positive a very high

**Table 5: January Barometer Success at Predicting the Rest-of-the-Year's Returns for All, Positive, and Negative Januarys in Nine Countries, 1970- 1993**

	All Jans.	Jan. Up	Jan. Down
<b>MSCI Country Indices in Local Currency:</b>			
Australia	66.7%	78.6%	50.0%
Austria	50.0%	58.3%	41.7%
Canada	58.3%	80.0%	22.2%
France	54.2%	64.7%	28.6%
Germany	58.3%	63.2%	40.0%
Japan	70.8%	81.3%	50.0%
Switzerland	70.8%	76.5%	57.1%
United Kingdom	83.3%	94.1%	57.1%
United States	66.7%	92.9%	30.0%
<b>MSCI Regional Indices in US Dollars:</b>			
Europe	79.2%	78.9%	80.0%
Pacific	75.0%	82.4%	57.1%
EAFE	70.8%	82.4%	42.9%
World	70.8%	87.5%	37.5%

percentage of the time. For example, this percentage averaged 74.6% for the eight countries. The percentage was higher for the European (78.9%), Pacific (82.4%), EAFE (82.4%) and World Index (87.5%). Analogously as in the U.S. when January is negative the signal that the rest of the year is also negative is very weak. The success percentage is only 43.3% for the eight countries. A statistical test indicates that the 74.6% is higher than the 56.7% (negative Januarys implying positive rest of the years), with a two-tailed test at the 5% level with a two-tailed test. Moreover, the 43.3% (negative January barometer success) is not statistically higher than the 25.4% (positive Januarys implying negative rest of the years).

Hence the January barometer has predictive power for positive Januarys but not for negative Januarys. The results in the aggregated regions support this and are somewhat stronger. However, there is one notable exception. For the MSCI Europe Index the barometer has worked for negative Januarys as well as positive Januarys 80.0% and 78.9% of the time, respectively.[2]

To investigate the January barometer further we present in Tables 6a-m, in the Appendix, the year-by-year results for the individual countries and regions.

Some of the main conclusions by country and area for 1970-93 are:

- a) Australia - the barometer worked similar to the U.S.; in 11 of the last 12 years with positive Januarys the returns in the rest of the year were also positive; negative Januarys had no predictive power; when returns were positive in February to December they were higher when January was positive.
- b) Austria - the barometer did predict slightly better than chance for positive Januarys and slightly worse than chance for negative Januarys but these results were not statistically significant even at the 10% level.
- c) Canada - the barometer did work for positive Januarys and provided noise for negative Januarys. The results were similar to those in the U.S. which is not surprising because the

stock returns are highly correlated and the currency exchange rate has relatively low volatility.

- d&e) France and Germany - the January barometer predicted poorly in the 1970 s but very well with positive returns in the 1980 s; in neither period did the signal predict the level of returns better than chance.
- f) Japan - the results were similar to the U.S. with the barometer predicting the probability and size of the rest-of-the-year's returns with positive Januarys and providing no information for negative Januarys.
- g) Switzerland - similar to France and Germany; the barometer predicted poorly in the 1970 s and accurately in the 1980 s; the signal for positive and negative Januarys gave an accurate prediction of the size of the returns in the rest of the year.
- h) United Kingdom - for positive Januarys the barometer had a very high level of accuracy (94.1% overall and 100% in the 1982-93% period) and gave an accurate prediction of the level of returns. For negative Januarys the barometer did not provide a useful prediction of the chance of positive returns in the rest of the year. However, the barometer did provide a useful prediction of the magnitude of the February to December decline.
- i) U.S. - the 1970-93 results reported here are similar to those from 1940-93 reported in HENSEL and ZIEMBA (1995) and summarized in Section 2.
- j) Europe - the MSCI Index has 14 countries which include the five studied here plus ten others. However, the five studied here contain the majority of the market capitalization and hence dominate the results. The January barometer for the aggregated index for Europe was accurate for positive as well as negative Januarys (however, there were only 5 negative Januarys), and both gave accurate signals regarding the size of the returns.
- k) Pacific - the Pacific index is dominated by Japan and the results show this; the barometer

predicted well both the probability and size of the rest-of-the-year's returns for positive Januarys and providing no information for negative Januarys.

- l) EAFE - the MSCI Europe, Australia, and Far East Index is similar to that of the Pacific with the barometer predicting well both the probability and size of the rest-of-the-year's returns for positive Januarys and providing no information for negative Januarys.
- m) World - the MSCI World Index is approximately the U.S. plus EAFE both of which had the same result; the barometer predicted well both the probability and size of the rest-of-the-year's returns for positive Januarys and providing no information for negative Januarys.

#### 4. Final Remarks

We do not have an adequate explanation as to why the January barometer seems to have predictive power when January returns are positive. There has been some conjecture that the "January Barometer" might really be a first month of the corporate fiscal year phenomena. The most common corporate fiscal year in the U.S. is the calendar year. Therefore, in countries where fiscal years and calendar years differ, if this conjecture is correct, we might expect to see the first month of the common corporate fiscal year predict the following 11 months returns better than January.

We examined this possible explanation for the January Barometer for three countries Australia, Japan, and the U.K.. In Australia, many companies start their fiscal year in July, ending the following June. In Japan and the U.K., a common fiscal year is April through March. For all three cases, using the first month of the fiscal year as an indicator for the rest of the year performed worse than using January as the indicator. These results suggest, at least for these three countries, that corporate fiscal years were not the major factor contributing to the success of the January Barometer.

The actual reasons why the predictive ability occurs are probably a combination of a number of factors. Besides the one discussed above and the Christmas business hypothesis discussed in the text the very fact that January returns are usually high and are expected to be so is another possible reason. That may be why the Barometer seems to predict well for positive Januarys (the expected result) and provide noise for negative Januarys. Still the January barometer is an interesting and useful concept and indicator for stock investors in the U.S. and other worldwide markets.

**Appendix Table 6: Summarized and Year-by-Year Results on the January Barometer for Nine Countries in Local Currency and Four Regions in U.S. Dollars, 1970-1993**

Period	January Barometer Success			Average Feb-Dec Loss		Average Feb-Dec Gain	
	All Jans.	Jan. Up	Jan. Down	Jan. Up,RstYrDown	Jan. Down,RstYrDown	Jan Up,RstYrUp	Jan. Down,RstYrUp
<b>Australia:</b>							
1970-1993	66.7%	78.8%	50.0%	-5.7%	-3.1%	18.8%	10.3%
N	24	14	10				
1970-1981	66.7%	71.4%	60.0%	-9.1%	-5.9%	13.5%	8.8%
1982-1993	66.7%	85.7%	40.0%	-2.3%	-0.4%	24.0%	11.8%
% years with positive January 58.3%							
% years with positive Return 66.7%							
% years with positive Feb-Dec 66.7%							
<b>Austria:</b>							
1970-1993	50.0%	58.3%	41.7%	-3.1%	-1.3%	15.3%	10.5%
N	24	12	12				
1970-1981	50.0%	57.1%	40.0%	-1.5%	-1.6%	3.1%	8.7%
1982-1993	50.0%	60.0%	42.9%	-25.3%	-1.0%	32.3%	11.9%
% years with positive January 50.0%							
% years with positive Return 62.5%							
% years with positive Feb-Dec 58.3%							
<b>Canada:</b>							
1970-1993	58.3%	80.0%	22.2%	-2.6%	-1.6%	10.8%	12.4%
N	24	15	9				
1970-1981	66.7%	77.8%	33.3%	-3.7%	-3.0%	10.8%	14.2%
1982-1993	50.0%	83.3%	16.7%	-0.9%	-0.8%	10.8%	11.4%
% years with positive January 62.5%							
% years with positive Return 75.0%							
% years with positive Feb-Dec 79.2%							
<b>France:</b>							
1970-1993	54.2%	64.7%	28.6%	-6.3%	-3.0%	12.9%	24.7%
N	24	17	7				
1970-1981	33.3%	37.5%	25.0%	-0.9%	-0.7%	4.9%	20.2%
1982-1993	75.0%	88.9%	33.3%	-3.8%	-6.0%	19.9%	30.8%
% years with positive January 70.8%							
% years with positive Return 70.8%							
% years with positive Feb-Dec 66.7%							
<b>Germany:</b>							
1970-1993	58.3%	63.2%	40.0%	-3.8%	-10.4%	12.0%	16.7%
N	24	19	5				
1970-1981	50.0%	50.0%	50.0%	-4.3%	-10.7%	5.8%	2.9%
1982-1993	66.7%	77.8%	33.3%	-3.2%	-10.3%	18.9%	25.9%
% years with positive January 79.2%							
% years with positive Return 70.8%							
% years with positive Feb-Dec 62.5%							
<b>Japan:</b>							
1970-1993	70.8%	81.3%	50.0%	-2.8%	-8.1%	16.3%	11.5%
N	24	16	8				
1970-1981	83.3%	80.0%	100.0%	-4.4%	-4.9%	18.6%	0.0%
1982-1993	58.8%	83.3%	33.3%	-0.1%	-9.1%	12.4%	15.4%
% years with positive January 66.7%							
% years with positive Return 75.0%							
% years with positive Feb-Dec 70.8%							

Period	January Barometer Success			Average Feb-Dec Loss		Average Feb-Dec Gain	
	All Jans.	Jan. Up	Jan. Down	Jan.Up,RstYrDown	Jan. Down,RstYrDown	Jan Up,RstYrUp	Jan. Down,RstYrUp
<b>Switzerland:</b>							
1970-1993	70.8%	76.5%	57.1%	-3.6%	-8.4%	14.4%	5.0%
N	24	17	7				
1970-1981	66.7%	60.0%	100.0%	-6.1%	-7.6%	4.8%	0.0%
1982-1993	75.0%	100.0%	40.0%	-0.0%	-8.7%	28.2%	7.0%

% years with positive January 70.8%  
 % years with positive Return 70.8%  
 % years with positive Feb-Dec 66.7%

<b>United Kingdom:</b>							
1970-1993	83.3%	94.1%	57.1%	-0.1%	-12.9%	19.0%	7.7%
N	24	17	7				
1970-1981	75.0%	85.7%	60.0%	-0.3%	-17.5%	22.6%	5.6%
1982-1993	91.7%	100.0%	50.0%	-0.0%	-1.4%	16.4%	12.8%

% years with positive January 70.8%  
 % years with positive Return 83.3%  
 % years with positive Feb-Dec 79.2%

<b>United States:</b>							
1970-1993	66.7%	92.9%	30.0%	-0.4%	-4.5%	14.5%	7.2%
N	24	14	10				
1970-1981	75.0%	100.0%	50.0%	-0.0%	-7.5%	13.9%	4.4%
1982-1993	58.3%	87.5%	0.0%	-0.6%	-0.0%	14.9%	11.4%

% years with positive January 58.3%  
 % years with positive Return 79.2%  
 % years with positive Feb-Dec 83.3%

<b>Europe US\$:</b>							
1970-1993	79.2%	78.9%	80.0%	-1.2%	-7.8%	15.8%	4.0%
N	24	19	5				
1970-1981	83.3%	77.8%	100.0%	-1.8%	-12.6%	12.9%	0.0%
1982-1993	75.0%	80.0%	50.0%	-0.5%	-0.5%	18.3%	10.1%

% years with positive January 79.2%  
 % years with positive Return 70.8%  
 % years with positive Feb-Dec 66.7%

<b>Pacific US\$:</b>							
1970-1993	75.0%	82.4%	57.1%	-3.0%	-7.5%	22.6%	10.9%
N	24	17	7				
1970-1981	66.7%	70.0%	50.0%	-5.0%	-5.0%	21.0%	7.8%
1982-1993	83.3%	100.0%	60.0%	-0.0%	-8.5%	25.1%	12.1%

% years with positive January 70.8%  
 % years with positive Return 70.8%  
 % years with positive Feb-Dec 70.8%

<b>EAFE US\$:</b>							
1970-1993	70.8%	82.4%	42.9%	-2.4%	-5.3%	18.5%	6.4%
N	24	17	7				
1970-1981	58.3%	66.7%	33.3%	-4.4%	-3.1%	13.6%	6.8%
1982-1993	83.3%	100.0%	50.0%	-0.0%	-6.9%	24.0%	6.1%

% years with positive January 70.8%  
 % years with positive Return 79.2%  
 % years with positive Feb-Dec 75.0%



Period	January Barometer Success			Average Feb-Dec Loss		Average Feb-Dec Gain	
	All Jans.	Jan. Up	Jan. Down	Jan.Up,RstYrDown	Jan. Down,RstYrDown	Jan Up,RstYrUp	Jan. Down,RstYrUp
<b>World US\$:</b>							
1970-1993	70.8%	87.5%	37.5%	-2.2%	-4.2%	14.5%	5.1%
N	24	16	8				
1970-1981	58.3%	85.7%	20.0%	-4.2%	-3.5%	12.0%	4.8%
1982-1993	83.3%	88.9%	66.7%	-0.6%	-5.5%	16.5%	5.7%

% years with positive January 66.7%

% years with positive Return 75.0%

% years with positive Feb-Dec 79.2%

In each country or region the January barometer's success is evaluated for positive and negative Januarys during the period 1970-93 and the subperiods 1970-81 and 1982-93. The tables for each country summarize the results; detailed year-by-year results are available from the authors.

The first row of the panel give the success percentages for all Januarys, and for positive and negative Januarys. Success for negative Januarys means that the returns are negative in the rest-of-the-year. The second panel shows the percentage of years with positive rest-of-the-years (Feb-Dec). The bottom two panels provide data on the magnitude of the gains and losses for positive and negative Januarys during the sample period and the two subperiods.

#### Footnotes

- [1] The t for the hypothesis that these returns are positive with a two-tail test is 2.24.
- [2] The success at predicting negative rest-of-the-years is in contrast to other aggregated indices and the individual countries. This result could be due to the small number of negative Januarys (5), possible effects introduced by measuring Europe returns in U.S. dollars, or through a reduction in the noise of each country forecast when they are aggregated into the regional index.

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