Mathematics of Gambling

Granville Shakes the World

By Edward O. Thorp

My phone rang about 9:00 p.m. on Tuesday evening, January 6, 1981. A voice said, "Sell everything. Market top has been reached. Go short on stocks having sharpest advances since April. Joseph F Granville, Blanchard I. Granville." More than 3,000 people here and abroad got the wire.

The news spread rapidly. U.S. stocks opened sharply down in Europe. The Dow Jones Industrial Average closed the day before at 1,004.69, up 12.03 from the previous day's close. This broke the recent November high of just over 1,000. By the time the New York Stock Exchange opened at 10:00 a.m. EST on Wednesday, January 7, 1981, there was a massive influx of sell orders and very few buy orders.

The Dow opened down more than 34 points at 970.22. The Dow closed six hours later at 980.89, still down nearly 24 points from the previous close. The volume was the greatest in all history: 93 million shares on the New York Stock Exchange. Brokers and the media generally agreed that Granville's wire to subscribers was largely, or even primarily, responsible.

The Dow Jones Industrial Average (DJIA) moved steadily downward since then. On Wednesday, January 28, 1981, the Dow closed at 942.58. It dropped 60 points in the three weeks since Granville called the top.

Did Granville call the exact top because he was skillful or because he was lucky? Or was it by now a self-fulfilling prophecy? Many commentators claimed the market fell because Granville told his subscribers to sell, not because it was "due" to fall. They denied that Granville simply reported in advance something which would have happened anyhow, whether or not he told anyone else.

Granville said the market would have gone down anyhow on Wednesday. His wire and the actions of his followers just exaggerated and sped up the process. A similar kind of thing happened Monday, April 21, 1980 when he sent out a buy wire on the preceding weekend.

Granville Interview

I spent several hours on Friday, January 23, 1981 interviewing Joe Granville. We discussed this point in detail. He agreed that he can move the market, or at least substantially affect it, for a single day. He pointed out, however, that the market has continued to move down.

At the time of the interview, 16 days had passed since the market action of January 7. Granville argued that the market certainly wasn't moving down through that whole period because of his wire.

People act only at the close of the day—after Granville's recommendation.

He also pointed out that, earlier, the market had come from 759 (when he said buy on April 21, 1980) up to the peak of 1,004 (when he finally said sell on January 6, 1981). Now the initial 20 or 30 points of this upward market move in April might have been caused in part by him. He doesn't believe (nor, so far as I know, does anyone) that the 240 point move was mostly caused by him.

I think his impact is limited principally to the first day of market action; and it may spill over a little into the second day. But then anyone who is interested in following his advice is likely to have taken action.

Critics of Granville pointed out that his market letter (dated January 3, 1981) stated the market would move up strongly. He advised subscribers to be fully invested on the long side. This letter arrived between January 5 and January 7. Subscribers, who pay $250 a year for this letter, read advice that contradicted a phone call to the early warning subscribers on January 6. Those subscribers pay $500 a year for this special telephone service.

I pressed Granville on this point during our meeting. He said that as late as 3:30 p.m. on Tuesday, January 6 he still did not know if he would call a market turn: just half an hour before the market closed, the Dow was only up .85 from January 5. This was down from an earlier rise of more than 11 points.

My Wall Street Journal shows that it was up somewhat more than 14 points at 1:00 on the 6th. Then in the last half hour, the Dow spurted up almost 15 points to close at a new high relative to the recent past.

Even though the Dow was up sharply, the New York Composite was hardly up at all. The industrials were down slightly, transportation was down sharply, and the American Exchange market value index was off more than 1%. The NASD OTC Composite was off slightly and the industrials were down somewhat. The S&P 500 was up about 1/10 of 1%.

Granville felt that the other averages were not confirming the sudden spurt in the Dow. He said that many of his other indicators had been turning downward already, and this was one of the final things that persuaded him to call the turn.

I asked again how he could have been so bullish and then change so abruptly. He said that his market letter of January 3 was written after the close on Thursday, January 1. Since that was a holiday, the letter used information through closing on Wednesday, December 31. At that time, the Dow closed at 963.99. So in just three more market sessions, it leaped more than 40 points. This changed the situation markedly in a very short time.

For the record, the market letter subscribers, who were already fully invested on the long side, were not hurt. Since they didn't pump in new money near the top, they didn't have a loss on recent investments. They also had more than a 200 point gain if they had been fully invested as recommended on April 21st.

To get out of their long positions and go short late in the day on January 7 proved to be considerably better. It was better getting their orders in for the open or early in the morning. (The Wall Street Journal reports the Dow Jones Average hourly for the open to the close.) Of the seven reports for January 7, the opening price was the lowest.

Of course those market letter subscribers, who recently came aboard and were not fully invested, purchased new long positions in the period from December 31 to January 7. During that time, the Dow closed between 963 and 1,004.

If they sold on January 7, it's likely they got out somewhere in the 970 to 986 range, and had a loss on this first stage of their trade. If their results mirrored the Dow, they might have lost as much at 4% on these new investments in a short time.

The analysis we gave in the previous two articles takes this into account. It assumes that people act only at the close of the day—after the Granville recommendation is wired. Yet that analysis showed that a follower, who acted at the close about one market day late, would have made enormous profits in the last two years.

Market In Free Fall?

According to Granville, the market looks like it's in "free fall" until it reaches the recent DJIA low at 908. He could, however, revise his forecast at any time as events unfold. By the time you read this it's likely you will know what happened.

(Ed.: Columns are mailed to *Gambling Times* about three months before the publication date. Thus, last month's column for April was mailed about January 3, 1981, just before the drama of January 7. That is why you are reading about that event at this time.)

On January 7, 1981 and for some days thereafter, Granville was front page news. He also appeared on the major network shows. On the Phil Donahue program, he mentioned the work that my colleagues and I have done on testing his

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record statistically. That was presented in abbreviated form in the last two columns. As a consequence, I received inquiries from *Fortune* magazine, the well-known columnist Dan Dorfman, and others. (Dorfman comments on his interview of me in his February 2, 1981 syndicated column.)

According to Granville, his basic method is to follow a large number of "technical indicators." When a clear majority of them say the market is going down, he will call a top. Similarly, he will call a market bottom when a clear majority say the market is turning up.

Some of these indicators seem quite plausible to me. For example, short interest figures which are becoming increasingly large, are often considered bullish. Another example is the fraction of mutual fund assets which are currently in cash. These are a proxy for the fraction of cash held by all the institutions. But to me, some of the indicators are abstruse and hard to justify. For a full list see Granville's 1976 book.

Interestingly, early claims state that Granville subscribers were hordes of small investors. Like lemmings, they roared blindly over a cliff by following Granville's recommendation to sell. Some days later, however, the Los Angeles Times announced results of a study which showed that it was in fact the big investors and the institutions who rushed to sell. Large block trades were about 1/3 of the volume on the New York Stock Exchange on January 7. This was much more than the normal fraction of such trading.

Granville's Indicators

Granville's actual collection of indicators might be a mix of indicators that work and don't work. That is, ones which tend to do no better than chance. Some might even be worse than chance, but I expect that these were weeded out by trial and error.

If Granville's method works, one speculation is that it's because there are enough good indicators: the aggregate prediction effect overpowers the "random noise" from the indicators that are no better than chance.

If Granville can forcast the market through skill rather than luck, this is the strongest possible disproof of the academic theory that you cannot "beat the market." Since I have written a book entitled Beat the Market, you can guess what my view of this academic theory is.

The official name that scholars give this theory is "the efficient market hypothesis" or EMH. It is almost universally believed to be true by leading academics. People like me are, in my opinion, like the early scientists who believed the earth was round when almost everyone else thought it was flat. In subsequent writings, I will offer many disproofs of the EMH that do not require us to decide whether Granville is right or wrong.

To be continued next month. **gt**