

AUTUMN PANICS : A CALENDAR PHENOMENON

CHRISTOPHER CAROLAN

The crash of the Hong Kong stock market in October 1997, with its obvious parallels to similar events in the U.S. in 1987 and 1929, once again raises the specter of October as a dark and ominous month for stocks. Is it merely a coincidence that these three crashes all occurred in October? Is there a timing pattern among autumn panics useful to market participants? This article expands upon the observation, originally contained in Chapter 1 of the author's book, *The Spiral Calendar*¹, outlining the correlation between the lunar calendar and the stock market panics of 1929 and 1987. This paper examines how the 1997 Hong Kong panic conforms to that earlier model, as well as examines the great autumn panics of the 19th century. Finally, a look at the peculiar international character of panics, and its implications for the possible causes of these panics.

Definition of Terms.

Panic: The focus of this article is on short-term equity market panics. The crashes of 1929 and 1987 are the obvious examples. I define these panics as one-to-three day, free fall drops of approximately 20% in the major averages. The term "panic" is preferred over "crash" as the definition of panic stresses the suddenness and irrationality of the event. Panics were originally ascribed to the god Pan simply because there were no obvious fundamental causes for their occurrence.

Collapse: Collapse is used to signify the larger macro market decline lasting weeks or months within which the panic occurs. An example would be the Hong Kong panic of October 1997, occurring within the larger Asian equity and currency collapse that ran from July 1997 to January 1998.

Annual Lunar Calendar: The annual lunar calendar used here is based on the Babylonian calendar, which was the model for the later Jewish calendar. This annual lunar calendar labels the date of the first new moon following the spring equinox as month one, day one; or 1-1. The following date is 1-2. The date of the second new moon after the spring equinox is 2-1, etc... The difficulty with annual lunar calendars, and one of the reasons for their abandonment, is that the solar year does not have an even number of months. Thus, some years in an annual lunar calendar have 12 months, others 13. For our purposes, which focus on the Autumn months, this issue is inconsequential. All calculations use Eastern Standard Time to determine the dates of the lunar phases.

In 1992, this author demonstrated how the panic dates of “Black Tuesday,” October 29, 1929, and “Black Monday,” October 19, 1987 occurred on the same annual lunar calendar date, 7-28. Additionally, the other similar points in the comparisons of those two years, the spring lows, summer highs and autumn failure highs all occurred within one day on the lunar calendar. Figure 1 shows those years in a chart aligned with the lunar calendar, where similar lunar dates are juxtaposed above each other. The panics are marked with arrows. The other similar features are denoted with dashed lines. The chart also includes Hong Kong’s Hang Seng index for the panic year 1997.

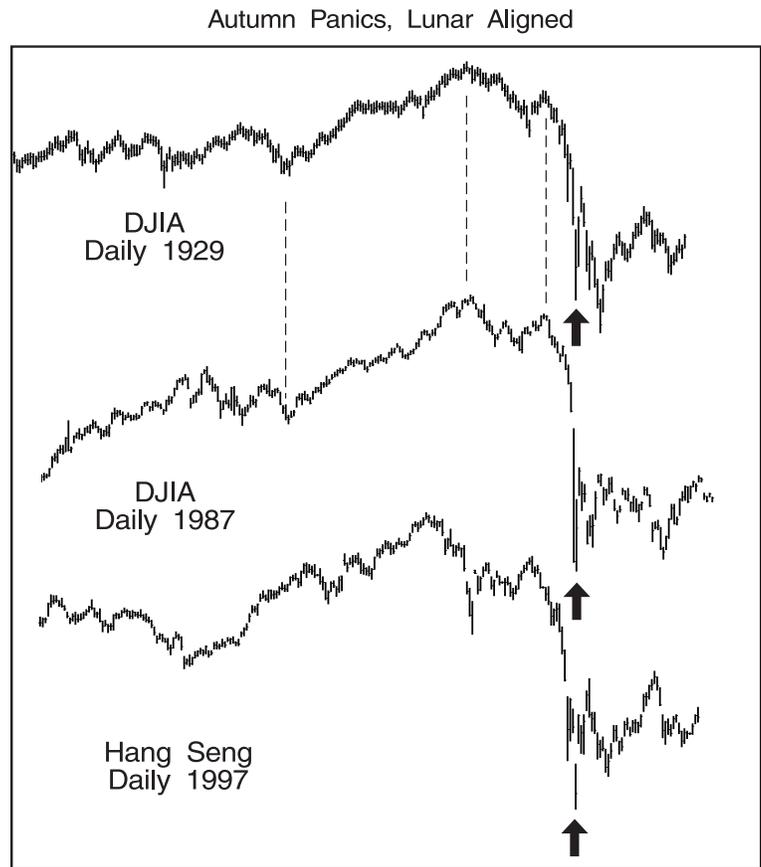


Figure 1

These price moves are extraordinarily large over a very short period of time. Are these panics the largest such declines, or do we selectively remember the October panics and forget those of other months? A scan of daily data of the Dow Jones Industrial Average from 1915, the Hang Seng index from 1980, The Japanese Nikkei index from 1950, and the German DAX index from 1960 for the 10 largest, single-day percentage drops is shown in table 1. Seven of those ten declines were days associated with one of the three panics. Two of the others, the Spring 1989 declines in the Hong Kong market, were tied to a fundamental news event, the Tiananmen crisis in China. The final entry is from the German market during the “mini-crash” of October 1989, an October event similar to the others, but smaller in magnitude. The point to stress here is that in their breadth and ferocity, these panics lie outside the boundaries of normal price action. There are no other comparable one-to-three day declines of this magnitude in the data. They represent the very largest percentage drops in the database. This is not normal market behavior. What else ties these events together? The panics occupy virtually identical positions on the annual lunar calendar.

1	26-Oct-87	-33.33%	Hang	P
2	18-Oct-87	-22.61%	DJIA	P
3	5-Jun-89	-21.75%	Hang	
4	20-Oct-87	-14.90%	Nikkei	P
5	28-Oct-97	-13.70%	Hang	P
6	28-Oct-29	-12.82%	DJIA	P
7	16-Oct-89	-12.81%	DAX	
8	29-Oct-29	-11.73%	DJIA	P
9	19-Oct-87	-11.12%	Hang	P
10	22-May-89	-10.78%	Hang	

Table 1

Autumn Panic 1 day % change

Lunar Month		7	7	7	7 (8)
Lunar Day		27	28	29	30 (1)
DJIA	1929	-12.8%	-11.7%	12.3%	5.8%
DJIA	1987	Closed	-22.6%	5.8%	10.1%
Hang Seng	1997	-5.8%	-13.7%	18.8%	-3.7%

Table 2

Autumn Panic 2 day % change

Lunar Month		7	7	% retrace
Lunar Days		27-28	29-30	
DJIA	1929	-23.6%	18.9%	62%
DJIA	1987	-22.6%	16.6%	57%
Hang Seng	1997	-18.7%	14.4%	61%

Table 3

Spike Low-New Moon Differential

	Panic Low EST	8-1 New Moon	Diff in Hrs.
1929	29-Oct 14:45	1-Nov 8:00	-65
1987	20-Oct 11:30	22-Oct 13:26	-50
1997	29-Oct 9:15	31-Oct 6:01	-45

Table 4

timing from 1929 is gathered from the news accounts that described stock prices as rallying sharply off their lows in the last fifteen minutes of trading on Black Tuesday, October 29. The 1987 and 1997 times are from available databases for the Dow Industrials and are corrected to Eastern Standard Time. The table also shows the date and time of the nearest lunar phase, the eighth new moon on the annual lunar calendar, as well as the difference in hours between the market low and the moon's phase. The timing of these three great panic lows is within twenty-four hours of each other. In other words, all three lows fall within the same one-half of one percent of the calendar year.

A review of the Pre-1915 Autumn Panics:

The Panic of 1907.

The so-called panic of 1907 does not fit our short-term panic criteria. There was no market decline of approximately 20% in the span on one to three days. The largest single day declines were 3% in the Dow Jones Industrial average during the collapse. There was a collapse and coincident banking panics, most of which occurred in October of that year. Sobel, in *Panic on Wall Street*², describes the ending of the collapse. J.P Morgan put together

Table 2 shows the percentage declines for each panic in the key four-day time span around the lows. The lunar dates 7-27 and 7-28 are the “dark days, ” encompassing the various Black Tuesdays of N.Y. in 1929 and Hong Kong in 1997, and the Black and Blue Mondays in N.Y. in 1987 and 1997 respectively. In each case, lunar date 7-28 marked the end of the panic and the next two days, 7-29 and 7-30 (or 8-1, some lunar months have 29 days, others 30) saw significant retracement rallies in each case. Table 3 groups the data into two-day segments and includes the percentage of these retracement rallies. This table shows the striking similarity of these panics and how that similarity conforms to the annual lunar calendar.

Table 4 pinpoints the precise timing of the panic lows on the lunar calendar. The

his plan to save the banking system on November 3-5, 1907, 7-28 through 7-30 on the annual lunar calendar. After being closed for Election Day on November 5 (7-30), stocks rallied strongly on lunar 8-1. The crisis was over. The timing of the end of the crisis is consistent with the lunar panic model. The day Morgan realized the banking system was not going to fail, he put into motion a plan to save the banks, which ultimately arrested the decline. That day was lunar 7-28, the same date as the lows of the later 20th century panics.

The Crash of 1873.

September 18 and 19, 1873 were labeled “Black Thursday” and “Black Friday” in the collapse of 1873. The Friday selling took prices of major stocks 5 to 25% percent below Thursday’s already collapsed levels. This panic was considered the greatest on Wall Street until 1929. The news accounts describe the same type of free fall and despair as the 20th century counterparts. The annual lunar calendar dates of “Black Thursday” and “Black Friday” were 6-27 and 6-28, one month earlier, but exactly the same lunar days as the 20th century examples. News accounts describe a temporary bottom late on Friday. Saturday, September 20 brought renewed selling and the closure of the exchange after a shortened two-hour trading day. The stock exchange remained closed for a week thereafter. Though on Monday September 22 prices rose sharply in trading in the streets. The timing of the 1873 Autumn panic is consistent with the 20th century results, though exactly one month earlier.

The Crash of 1857.

The collapse of 1857 was not a stock market free fall in the sense of the 20th century panics outlined above. It was a very sharp drop in stocks over a period of nine weeks, accompanied by a number of runs on banks, persistent pressure on the banking system, and sharply rising interest rates. Also, it was international in scope, a facet we’ll address later. Though the selling in the equity markets did not climax in a free-fall panic, the pressure on the banking system did, as the N.Y. banking panic broke out on October 13 and mayhem continued for two days thereafter. Sobel, in the *Panic on Wall Street*³, quotes George Strong writing on October 15. “*Wall Street blue with collapse. Everything flaccid like a defunct Actina.*” On the annual lunar calendar, October 13 and 14, 1857 are 7-27 and 7-28, the same “dark days” as the 20th century examples.

Causation:

The correlation between the annual lunar calendar and the timing of the three 20th century panics as well as the supportive data from the 19th century does not *prove* that an annual lunar calendar position is the cause of those panics. A few examples of anything cannot statistically prove a hypothesis. However, it should be realized that each occurrence is not a 50-50, or true/false proposition. If the Hong Kong panic had occurred in any of the 360 days of 1997 other than lunar 7-27, 7-28, 6-27, or 6-28; then this model would be effectively discredited. Yet the 1997 Hong

Kong panic climaxed 5 hours after the timing of the 1987 panic and 20 hours after the 1929 panic on the lunar calendar.

Previous theories explaining panics have not fared well when the next panic came along. In the 19th century, it was widely believed that panics occurred in October specifically because banks' cash positions were weakened as farmers were paid for the new crop. Yet today, agriculture makes up a much smaller fraction of the world economy than before, yet October panics are still with us. The Federal Reserve System was set up in the belief that if banking panics were prevented, stock market panics would cease to exist as well. That causal theory was disproved by the 1929 crash. The 1929 panic was blamed on low margin levels, yet 1987 happened anyway. In 1987, the finger was pointed at program trading. However, the 1997 panic occurred without any appreciable role by program traders.

The lunar calendar model of panics, alone among theories, not only survived the next panic intact. but its basic tenet was remarkably affirmed by the precise timing of the 1997 low.

The timings of financial collapses do not show a pattern. The 1997 Asian collapse began in July, while the crisis of 1987 and the collapse of 1857 began in August. The 1929 and 1873 examples began in September. Yet in each case, the start of the collapse did not result in immediate widespread panic. Those panics seem to wait for a particular time period on the calendar, the 27th and 28th days of the autumn lunar months, usually October, but in one instance September.

The International Question:

The international character of financial crises has been a difficult problem for those who have sought to ascribe causes to collapses and panics. Kindleberger, in *Manias, Panics and Crashes* writes, “*Time and again, observers like Juggler, Mitchell and Morgenstern have observed that financial crises tend to be international, either running parallel from country to country or spreading by one means or another from the country where they originate to other countries.*”⁴ And “*What is remarkable is that securities prices do the same even when only a few securities can be said to be truly international, that is, are traded on several markets, their prices joined by arbitrage. In 1929 all stock markets crashed simultaneously; the same was largely true in October 1987...It is striking that share prices behaved in parallel almost sixty years apart, even though share prices were thought not to have been integrated in the 1920s as they were in the 1980s*”⁵.

The panics of 1987 and 1997 highlighted the international quality of panics. Traders the world over saw these markets dive and then rally in unison. In this wired world, that interconnection is not so extraordinary, though Kindleberger is surprised by the international nature of the 1929 collapse.

An examination of the 1857 collapse is more revealing. Kindleberger notes, “*What is striking is the concentrated nature of the crises...Clapham observes that it broke out almost at the same moment in the United States, England,*

and Central Europe, and was felt in South America, South Africa and the Far East.⁶” Aside from the international nature of the macro collapse, the 1857 collapse affords a unique, controlled database of market behavior in the “dark days” of lunar 7-27 and 7-28 on two continents. In 1857, the Atlantic cable linked America with England by telegraph. In the early days of the collapse, the telegraph cable failed and all communication was done by ship for the remainder of the crisis. *The London Times* and *The New York Times* from the period leading up to and through the N.Y. banking panic provide striking evidence of two markets in distress. Wall Street began its rally from the depths of the collapse on October 13, 1857 (lunar 7-27) at the same time the banking panic broke out in N.Y. Table 6 is reprinted from *The N.Y. Times* of October 14, illustrating the sharp rise in prices underway as contrasted with the lows of October 13. I’ve added the column on the right showing the month’s-end prices. Some issues had made their lows earlier in September, but others were at or near their lows on October 13. What’s clear is that prices began to rally from their depressed levels on lunar 7-27, coincident with the outbreak of the banking panic. This sequence parallels the 1987 experience, when U.S. bond prices began a sharp rally from their lows on lunar 7-27, coincident with the outbreak of the stock panic.

At this same time, Europe was aware of, and sharing in, the collapse in America. In the week leading up to October 13, the bank of England raised the discount rate twice, while Paris, Hamburg and Amsterdam each raised their rates once. Though debt and equity prices traded down sharply, there was no free-fall panic. London stocks and debt bottomed decisively on October 13 at the beginning of the trading day. The *London Times* of November 2, 1857 summarized the events of October and printed the table of prices labeled here as Table 6. To that table is added the date of the month’s low for each security. Here is the commentary accompanying the table. “*The range of Consols (government debt) has been unusually extensive, showing a difference of 4 percent between the highest and lowest prices, although at the conclusion*

(of the month) *the market has returned to the precise position in which it stood at the commencement...In railway shares the fluctuations have also been violent, and the rebound, except in a few cases has not been equal to that of the funds.*”

The London Times offered this account of the trading in debt on

London Stocks, October 1857

	Sep. 30	Oct. High	Oct. Low	Oct. 31	Low Date
British Debt					
Consols	90.25	90.5	86.5	90.5	13-Oct
Railway Shares					
Brighton	102.5	103.5	100	103	13-Oct
Caledonian	85	86	76.5	83.5	29-Oct
Eastern Counties	57.5	58.5	51.5	54.5	13-Oct
Great Northern	98	98.5	92	93.5	13-Oct
Great Western	54.5	55.25	50.5	51	29-Oct
London & NW	97.5	98.5	93.5	96.75	13-Oct
Midland	83	83.25	79.5	83.25	14-Oct
Lancashire & Yorkshire	95.5	97.25	91.5	93.25	13-Oct
North Staffordshire	13.25	13.75	12.75	13.75	15-Oct
South Eastern	65.5	66.25	61.5	64	14-Oct
South Western	90.5	91	87.5	89.5	13-Oct
North Eastern Berwick	92.5	93.5	88.5	91.5	13-Oct
D.tto York	73.5	80	75.5	78.5	13-Oct

Source: London Times

Table 6

N.Y. Stocks, October 1857

	Aug. 22	Low Since	Oct. 13	Oct. 14	Oct. 31
N.Y. Central	77	50	58	61	65
Galena	86	52	55	62	64
Rock Island	90	53	58	64	66
Delaware	115	77	78	81	94
Panama	90	60	65	67	72
Reading	67	24	33	36	30
N.Y. States Sixes	112	90	90	90	97
Missouris	78	59	60	67	68
Virginias	90	66	67	81	78
Ill. Cen. Bonds	98	50	51	59	68
Erie's 1883	80	50	50	50	
Erie Share	28	7	8	11	13

Source N.Y. Times, Oct 14.
fractions omitted

Table 6

October 13 in its October 14 edition. *“The fluctuations in the funds today (Oct. 13) have again been most rapid and extensive. The market opened with a great weakness at a fall of nearly one and a quarter percent from the heavy prices of last evening. But there was subsequently a considerable reaction and a more healthful tone became apparent in all departments of business”* Now, here’s the account of stock trading on October 13 from *The*

New York Times of October 14. *“The stock market this afternoon advanced from 1 to 3 percent, the conviction being general that the basis of business would be changed tomorrow and that a large amount of money held in abeyance since the panic first paralyzed confidence will be set free now that the worst is known...”*

The cause of the market low in New York on October 13 is ascribed to the banking panic, yet London bottomed on the same day. The selling, motivated by fear, was pervasive on both side of the Atlantic leading up to October 13. That selling ceased and a vigorous rally commenced on the same day, continents apart, with neither market having access to any timely information from the other. Word of the N. Y. banking panic did not reach London until October 26, and was then reported in *The Times* the following day.

The sudden, international cessation of distress selling that is a hallmark of 20th century panics also occurred in the crisis of 1857, *at a time when no timely communication existed*. The international character of panics has been a stumbling block to those who subscribe to local, “fundamental” causes for these panics. Contrarily, a lunar-based model for panics would seem to require an international manifestation of the phenomenon. If the moon is affecting market participants, it should affect them the world over. All the panic examples cited here, from 1857 through 1997, have been international, yet the dearth of communication technology in 1857 provides a datum that cannot be explained as a serial reaction. The international character of panics is distinctively supportive of the lunar model.

Uses:

Put simply, every market participant should have his calendar marked with the “dark days” of lunar 7-27 and 7-28. Even better, everyone should calculate the time of the eighth new moon and subtract 55 hours from that point. A time window of plus or minus twelve hours from that point is the lunar calendar model for an Autumn panic’s low

point. There may not be another October stock panic for sixty years or longer. And the lunar model offers no clues as to which years will see a panic. Yet there can be no doubt, as the trillions of dollars lost during these panics makes plain, market intelligence that can pinpoint *when* an unfolding panic will climax is invaluable. In 1997, as worldwide markets became unglued in October, the lunar calendar model provided by 1987 and 1929 pointed to late Monday, October 27 as the ideal low point. The dramatic early Tuesday morning low of October 28 demonstrated the model's effectiveness in real time.

Calendars are complex mechanisms. Calendar research must recognize the importance of both lunar and solar calendars. The annual lunar model for panics points to the 27th and 28th days of the lunar month as the dark days, yet that is only true in the autumn season, the 6th or 7th lunar month. Past studies that purport to find no lunar relationship in markets have treated all lunar phases alike, lumping spring and fall together as well as summer and winter. Likewise, specific seasonal analysis tends to ignore the concurrent lunar calendar. Those who dismiss that October may be a rough month for stocks cite that overall, it is not the worst month for stocks statistically, falling on average .5% since 1915. A proper approach to calendar research suggest that distinctions should be made among Octobers based on the lunar calendar. Here's the lunar distinction. When there is no full moon between October 3 and 19 inclusive, the Dow has been up 1.5% in October since 1915. In those years with a full moon between those dates, the Dow's average change is a loss of 1.9%. Seasonal analysis should recognize the lunar distinctions and vice versa. The annual lunar calendar makes those distinctions. When autumn panics are viewed through its prism, the results are remarkable.

¹ Carolan. *The Spiral Calendar*. New Classics Library. 1992

² Sobel. *Panic On Wall Street*. Dutton. 1988. pp 318-320

³ *ibid.* p 106.

⁴ Kindleberger. *Manias Panics and Crashes*. Basic Books. 1989. p 131.

⁵ *ibid.* p 131.

⁶ *ibid.* p. 143.