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Collective Panic

- Mass manufactured will and cybernetics
- A battle of wits
- A better understanding of the economy

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Foreword

I started the year with a look at the prospects for economic development. There are more and more indications that instability is growing. An increasing number of different factors are influencing one another in a dangerous manner. Although the concept of networked or interrelated systems is being used more and more frequently, there is still to a large extent a lack of understanding of the behavior of this type of system, and of its dynamics, in particular its destructive dynamics.

It is the phenomena of mass manufactured will which are the least well observed and understood. Economics is still dominated by explanations of economic processes which are not genuinely rational, although precisely that is claimed with vehemence or quite often even with arrogance. In fact, this is a reductionist view of events, which at its core is often paltry and one-dimensional, and which simply ignores countless other impacting factors.

Therefore I am all the more pleased to be able to offer once more to my readers an article by our guest contributor and one of the most prominent economic psychologists, Professor Linda Pelzmann. This is the continuation of her contribution in November 2002, in which she reflected upon the reasons behind euphoria and mania in the financial markets, against the background of mass manufactured will. This time she is looking at the other side of the coin – the causes of panic. I have seldom read anything better on the subject.

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This will allow readers to prepare themselves in good time both mentally and emotionally for events which will start to occur increasingly often in a world dominated by growing instability. Being prepared, even for those things which may seem to be unthinkable, is the most important prerequisite of effective management and therefore the main priority for managers.

Finally, the Management Zentrum St. Gallen has been painfully mourning a death which we report with great sadness.

St. Gallen, February 2003

Yours sincerely,

Prof. Dr. F. Malik

«Total Quality Management is important, but Total Management Quality is ten times as important.»

We mourn the passing of Prof. Dr. Hans Siegwart
(1925 – 2003)

«The meaning of life goes deeper than the mere theatrical production of oneself.»

Hans Siegwart, December 2002

Prof. Dr. Hans Siegwart

Member of the board of directors

We remember with gratitude his extraordinary personality and sadly say farewell. He died unexpectedly on 23rd January 2003.

Prof. Dr. Hans Siegwart was one of the co-founders of the Management Zentrum St. Gallen. Up to the end he worked selflessly on behalf of the center with great creativity and initiative.

He had been a member of the board of directors since 1990, and tirelessly and devotedly supported us with his expertise and advice. The clarity of his thinking and his judgment remain of inestimable value to us.

We have lost a great mentor and a true friend.

The board of management, managers and staff of the Management Zentrum St. Gallen

Linda Pelzmann

Collective Panic

1. The logic of the situation

When securities and other assets are being sold on a massive scale, behavior which appears rational for the individual creates a danger to the entire community. **Attempts made by individuals to save themselves contribute to everyone's downfall.** This is a characteristic feature of the dynamics of panic. In January 2003 it is high time for us to turn our attention to these dynamics and to the tendency of a system driven by mass hysteria to become increasingly susceptible to the spread of catastrophes. Following my analysis in m.o.m.® 11/02 of the crowd psychology of **euphoria,** I am now focusing on the crowd psychology of **panic.**

Booms and panic are inseparable. In the cycle of economic expansion and decline, the financial crisis is the high point of a period of growth and leads to downturn. Financial crises, panics and crashes are linked to the peak of the economic cycle. They form a series of events which unfold like a Greek tragedy according to a specific formula. It is likely that the fourth and fifth acts are still to come.

There are panics and panics. There are many different variants, not all of which bring the same risk of destabilization. Some of them administer a short shock to a local market, others spread to become a bush fire which destabilizes whole regions. With hindsight it is easy to distinguish the dangerous variants of panic from those which are less dangerous, namely by looking at the recovery phase which is necessary for the return of stability. Is the recovery phase short and relatively painless or does it last for an agonizingly long time? **The guidelines for making this distinction** in advance are still in the early stages of development. I rely primarily on the research work of the US economist Paul Krugman and strongly encourage you to read his book *«The Return of Depression Economics»*. In this interesting study, Krugman (1999, pp. 130–134) identifies the lessons to be

learnt from the outbreaks of panic in the so-called tequila crisis, which destabilized Latin America in 1995, and the Asian crisis of 1997.

2. When a panic is just a panic

When a **robust economy** is hit by political or economic shocks, they induce a flight reaction amongst investors, an irrational reaction on the part of investors that is not justified by actual events. However, they do not engender serious risks. Instead **the shock is dampened and absorbed.** An example might be the brief plunge in the dollar in 1981, after a deranged gunman wounded US President Reagan. It was a shocking event, but even if Reagan had died, the stability of the US government and the continuity of its policy would hardly have been affected. **Those who kept their heads and did not abandon the dollar were rewarded for their cool heads.**

In a robust environment, panic does not result in an excessively long period of destabilization. When the British government suspended the pound from the ERM in 1992, the currency fell by around 15 per cent but then stabilized. Investors had the impression that the worst was over and that the devaluation of the pound would boost British exports. This made the UK an attractive proposition again and the investors returned.

3. Panic that feeds on itself

The panic which broke out in 1997 **in the unstable, debt-ridden Asian economies** was **quite different** from that in the stable British environment. Typical calculations suggested that the baht would have to fall by something like 15 percent to make Thai industry cost-competitive again. A decline of roughly that magnitude seemed likely. But instead the currency went into free fall. The baht price of the dollar soared by 50 percent over the next two or three months.

Dangerous panics are panics that, whatever sets them off, validate themselves because panic feeds on itself and because the panic itself makes panic justified. The classic example is a bank run:

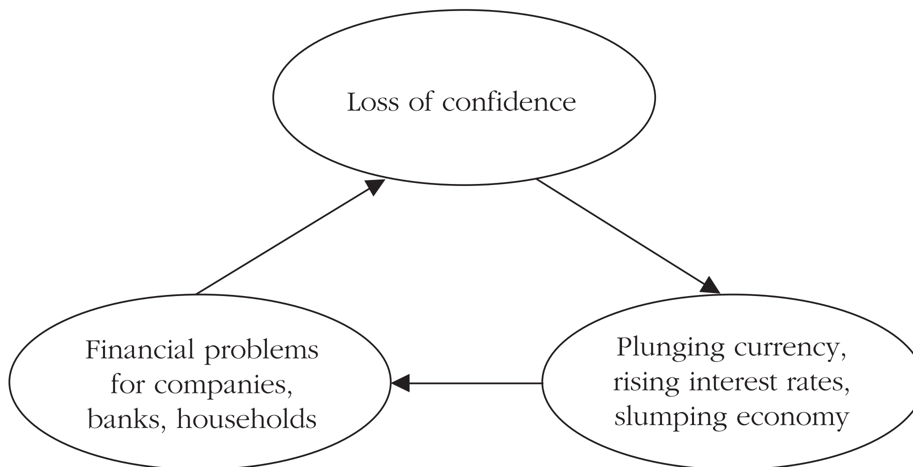
when all a bank's depositors try to withdraw their money at once, the bank will be driven into insolvency. **Those depositors who did not panic end up worse off than those who did.**

4. Panics that validate themselves

When diagnosing panic, it is important not to concentrate on individual phenomena, because panic is essentially a **circular process** in which **bad news and loss of confidence are fuelled by each other.** The bank run is only part of the complete cycle, as the Thailand example shows. The decline in confidence in the Thai currency and economy caused investors to pull their money out of the country and the baht thus began to devalue. The Thai Central Bank was unable to stabilize its own currency, because it ran out of dollars and yen with which to buy baht on the currency markets. There was only one way to stop the fall of the baht, and that was by increasing interest rates. Unfortunately, both the fall in the value of the baht and the rise in interest rates produced a crisis in the economy. Many companies' dollar debts now became much more burdensome.

The combination of higher interest rates, troubled balance sheets and a banking system which could no longer make even the safest of loans had the inevitable consequence of forcing companies to cut back on their spending. This started a recession which in turn pushed company profits even lower. Bad news from the economy caused the downward spiral to accelerate. The currency in neighboring Malaysia was already also under pressure and the Indonesian rupiah had lost about 30 percent of its value. The whole of southeast Asia, and also Korea, were now gripped by the crisis. **Financial connections acted as the source of the infection as the panic spread.** Thailand, Malaysia and Indonesia **were all lumped together** and for safety's sake, investors withdrew their capital from the entire region, leaving devastation behind them. There was extensive destruction and destabilization. Everyone was affected without distinction by the panic-stricken exodus of capital.

The following illustration shows the vicious circle: panic which generates panic. It is a circular process in which negative reports and loss of confidence are fuelled by each other.



The Vicious Circle

«Woe betide the national economy which becomes a target for a horde of panic makers, who are leading each other astray!»

Source: Paul Krugman (1999, p. 94): The Return of Depression Economics.

5. The unprepared

Why did the catastrophic effects of the baht devaluation come as an immense surprise to economists? Many economists were very well aware of the individual variables of the situation, such as the theoretical links between the decline in confidence, financial markets and the non-financial sector. But nobody really understood **how powerful the feedback process** would be in practice. As a result nobody realized what explosive force was contained in the circular logic of this crisis. This process of circular fuelling by positive feedback was a variable which **hardly any economists were prepared for. Everyone was surprised by the power of the feedback loop.**

With the exception of Paul Krugman and some other prominent economic experts, economists are generally skeptical about such self-fuelling crises and panics. They don't know how to handle

them. But the experiences of Asian and Latin American economies in the nineties have made many people curious and more open towards these dynamics, at least in practice. **If the possibility of infectious, self-validating panics is taken seriously, mass manufactured will takes on a central significance.**

The process of self-fuelling and positive feedback and increasing returns autocorrelation can be explained using a technical example. If a microphone is used in a large room, it generates a feedback loop. The sounds it picks up are amplified by the loudspeakers. The output from the speakers is itself picked up by the microphone and so on. As long as the echo isn't too loud and the loudspeaker amplification isn't too high, everything is muffled. But as soon as overmodulation occurs, the whole process gets out of hand. Now the slightest noise is picked up, amplified, picked up again and suddenly there is an ear-splitting screech.

If the analogy is applied to the Asian crisis, it is clear that everyone was surprised by how far to the right that «amplifier» dial was turned. Many people find it hard to believe that a market economy can really be that unstable. The **susceptibility of an economy to self-fuelling panic** is generally underestimated.

6. Vulnerability and susceptibility

This factor is not mentioned in any economic textbooks, but it does occur in practice. During the Asian crisis any number of «reasons» were given to account for why Asia had slipped into such a deep crisis. They ranged from nepotism to bad government policies and stranded investments, which of course also existed. But the decisive **reasons** for the increased vulnerability to financial panic **were quite different,** that is the «success factors» of booming financial markets and emerging countries with economic growth rates of eight, nine and ten percent:

1. They had become more vulnerable, partly because they had opened up their financial markets. Because they had, in fact, become better free-market economies, not worse, they attracted the appetite of speculators and other profiteers.

2. They had also grown vulnerable because they had taken advantage of their new popularity with international lenders to run up substantial debts. The debts intensified the feedback from loss of confidence to financial collapse and back again.

3. It was the fact that the new debts, unlike the old ones, were in dollars which turned out to be the undoing of these economies. It was the successes of the boom which led to the extreme susceptibility to panic.

7. Contagion

The decline in confidence affected markets not only in Thailand, but also in Malaysia, Indonesia and Korea, by setting in motion a vicious circle of financial and economic collapse. **It did not matter that these economies were only modestly linked in terms of the physical flow of goods. They were linked in the minds of investors** who regarded the troubles of one economy as bad news about the others. In addition, the panic-makers were also infecting one another.

8. Co-movement

Once panic sets in, the underlying differences are of no significance any more. In 1931, about half the banks in the US failed. These banks were not all alike. Some were very badly run, some took excessive risks; others were reasonably well, even conservatively managed. But when panic spread across the land, and depositors everywhere wanted their money immediately, none of this mattered. Only banks that had been extremely conservative, that had kept what in normal times would be an excessively large share of their deposits in cash, survived.

I have been observing the co-movement phenomenon since 1999. During the boom the competition among different shares began to level out. Investors wanted to put their money somewhere and weren't as choosy as in «normal» times. The more investors there are and the higher prices rise, the less choosy investors become. **Co-movement, that is the decrease in variance, should be an indicator of the fact that the boom is**

reaching its high point and therefore its turning point. While prices are rising, people's expectations strengthen that any share will be profit-bearing. When prices crash, this expectation is reversed. **Prices not only rise together, they also fall together. They dance in step.** It takes a while before the group of people who shared their fatal destiny begins to break up.

The co-movement phenomenon demonstrates the effectiveness of the leverage caused by mass manufactured will. **Only** the dynamics of crowd psychology can explain why individual investors orientate themselves according to the preferences of others, which allows them to get into synch with what others are doing in the shortest possible time and via the shortest possible route. I described the synchronization brought about by mass manufactured will in m.o.m.® 11/2002. At this point I will simply list some of the factors which form part of the interaction process: individual personal contacts play hardly any role at all, but the reports and «analyses» of propagandists in the mass media, financial information services and banks have a significant impact. Computer programs generate important leverage, for example the use of so-called portfolio insurance. **The resulting co-movement takes place at the expense of the stabilizing impact of competition. The tendency towards co-movement has a dramatically destabilizing effect. Both during upturns and downturns, it increases the risks.**

In the boom years *The Economist* indicated the existence of the co-movement phenomenon and warned about the risk factors. It is doubtful whether *The Economist's* **arguments** had any great impact. As a crowd psychologist, I am tempted to say, «Of course not». Because investors become jittery and watch other investors to see what the effects are on them. If they don't see any blood, then they don't react.

9. No way out

A characteristic feature of the type of panic which is followed by a stock market crash is **that a 'book-transfer' is no longer possible.** All the options are equally disastrous. Investors can no longer move their money into different shares, or compensate for losses in one area by making profits in another.

When the stock market crashes, all the escape routes are blocked by falling prices. **The shares which «normally» compete with one another are all being offered for sale en masse. This is what generates panic.** What was special about individual shares is scarcely of importance any more. In the panic those distinctions do not matter. The positive aspects of individual shares are now suppressed in just the same way as the negative aspects were during the boom. There is no longer any way of bringing the situation into equilibrium because positive feedback is pulling everything down with it into the abyss. **The motto should thus have been: «Get rid of shares and go back to cash, which has a value guaranteed by the state.»**

10. The feedback loop of panic

The example of the microphone was a technical illustration of positive feedback. Because the dynamics of feedback are so important in understanding panic, I will quote further «technical» examples, also of the function of the damper, which prevents a regulatory catastrophe like the screeching microphone.

Imagine a structure or web of effects made up of sub-systems which strengthen each other's function, so that system A strengthens the effect of system B, B supports the effect of C, C strengthens the effect of D and so on until we get to Z, which has a strengthening effect on the output of A. This type of **positive feedback is highly unstable.** The slightest reinforcement of an individual effect **leads to an avalanche-like increase in all its functions.** Equally, **the reduction of a system's output causes the structure to «starve», that is all activity subsides.**

An unstable system of this sort can be converted into a stable system, as engineers know, by introducing an element into the process which has an increasingly weak impact on the next element in the chain, the stronger the effect which is exerted on it. This is referred to as negative feedback and its **stabilizing effects are essential for the maintenance of equilibrium.** There are countless examples of stabilizing feedback loops to be found in the animate world. The negative feedback in the loop

means that it is no longer necessary for the effect of every individual subsystem to be set to a specific level. A slight reduction or increase in a function is easily compensated for. A problem only becomes dangerous if a subfunction is increased or reduced to such an extent that homeostasis can no longer compensate, or if there is a fault in the control mechanism itself. It is essential in living systems to maintain negative feedback in order to produce a damping effect.

There are virtually no examples of **positive feedback** in nature, perhaps only in **events which arise and then just as quickly subside, such as avalanches or bush fires.** Many of the pathological trends on the markets bring the snowball effect, avalanches and bush fires to mind. They seize energy and grow and such growth enables them to seize more and more energy; and this happens all the more rapidly, the more energy they have amassed. Positive feedback always entails the risk of an individual effect taking on the proportions of an avalanche. Every cycle involving positive feedback will lead to a catastrophe sooner or later.

11. The battle of wits

In the business world, particularly when long-term investment decisions are being made and future returns on capital must be assessed, it is almost always a question of psychology, that is of the reputation and credibility, the «credit» of those doing business together. The long-term expectations on which this type of decision is based do not depend only on the most probable forecast, but also **on the confidence with which this forecast is made, on the «state of confidence»** as *J. M. Keynes* (1936, p. 148f.) describes it.

On the stock market, it is not a question of the long-term capital of trust, but of crowd psychology which is at the service of daily, hourly, even half-hourly revaluations and speculation. John Maynard Keynes (1883–1946), who is said, amongst other things, to have speculated successfully on the stock market, compared **speculation** to a competition in which competitors have to pick out the six prettiest faces from photos of a hundred girls. The prize is awarded to the competitor whose choice most nearly

corresponds to the average preference of all competitors. This means that each competitor has to pick not those faces which he himself finds prettiest, but those which he thinks the other competitors are most likely to prefer. Success is dependent not on the competitor's own taste or economic expertise, but on anticipating what on the **average of all opinions** is expected to be the **average opinion. The winner is *«he who tries to guess better than the crowd how the crowd will behave in being better than the public at guessing how the public will behave.»*** (Keynes 1936, p. 157.)

'Investors' are not concerned with making long-term forecasts of the probable yield of an investment. They are involved in a ***«battle of wits»*** **to anticipate the future changes** in the conventional valuation of shares a short time ahead of the crowd, according to Keynes. He says that it is not sensible to pay 25 for an investment for which you believe the prospective yield to justify a value of 30, if at the same time you believe that the market will value it at 20 in three months' time.

«Thus the professional investor is forced to concern himself with the anticipation of impending changes (…) by which experience shows that the ***mass psychology of the market*** *is most influenced. (… The actual, private object of the most skilled investment today is (…)* ***to outwit the crowd, and to pass the bad or depreciating coin to the other fellow (…).***
This battle of the wits *to anticipate (…) the valuation a few months hence, rather than the prospective yield of an investment over a long term of years, does not even require gulls amongst the public. (…) For it is, so to speak, a game of Snap, of Old Maid, of Musical Chairs – a pastime* ***in which he is victor,*** *who says Snap neither too soon nor too late,* ***who passes the Old Maid to his neighbor before the game is over,*** *who secures a chair for himself when the music stops. These games can be played with zest and enjoyment, though all the players know that it is the Old Maid which is circulating, or that when the music stops some of the players will find themselves unseated.»*
(Keynes 1936, p. 155f.)

Have you ever read a more crushing evaluation of the stock market as a tool for assessing economic performance?

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A short summary of the author's career

Linda Pelzmann, born 1945, Dr. phil., Professor of Economic Psychology at the University of Klagenfurt, Austria.

1992 – 1999 Permanent Visiting Professor of Economic Psychology at the Vienna University of Economics and Business Administration.

1999 – 2001 Visiting Scholar at Harvard University, Cambridge, U.S.A. with the research project «Mass Manufactured Will».

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Systemorientiertes Management

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	2. Teil	24.–26. Juni 2003	Horn
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	4. Teil	22.–24. Oktober 2003	Interlaken

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The right-hand margin has been left fairly wide so that you can write your own comments, annotations and notes in it.

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