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Seven Shocks for Austria

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Why Normal Isn't So "Normal" Anymore

Anyone in the industrialized world who hasn't been in a coma for the last five years must surely realize by now that all the rules of the postwar world—geopolitical, economic, financial, social—are undergoing dramatic, rapid change. In less than two years, we've seen massive social upheaval in North Africa and the Middle East, the abandonment of military folly in Afghanistan and Iraq, huge financial uncertainties threatening the Euro zone, as well as record unemployment levels in the EU. Indeed, as Bob Dylan put it, "The times, they are a changin'."

The old rules of collective human interaction are definitely out. But no one really knows what the new rules are going to be. The question of the moment is how to deal with the above sorts of "extreme events," or as I prefer to call them *X-events*. These are events that are by definition rare, surprising within the context in which they occur, and have a great impact on society.

In coming to terms with X-events, the first step is to abandon the idea of predicting them. There are good empirical and theoretical reasons for believing that forecasting such game changers à la physics and astronomy will never be possible. I have recently completed a popular account of why this is necessarily the case, which presents the argument that the root cause of virtually every

X-event is traceable to a complexity overload in one or more human infrastructures. But the anticipation of an X-event, as opposed to its prediction, is an entirely different matter. So let me address the question of what can realistically be done by way of understanding and preparing for such shocks.

For a specific X-event, what we want to know is

- How the event might take place,
- What the impact on society will be if the event does occur, and

- What we can do today not only to survive the event, but actually to benefit from it

These were the focal questions in a study colleagues and I carried out last year for a group of government decision-makers and industrialists in Finland. It's worth recounting a few highlights of this study to show how these questions can be addressed in a real-world setting.

Seven Shocks for Finland

The study involved a consortium of 22 mission-oriented government agencies and corporations, each concerned with planning today to protect their institution from a highly uncertain tomorrow. Each participating organization was given a list of about 15 X-events that might occur over the next decade or so, and asked to choose five shocks from this list that most concerned them. The seven shocks receiving the most votes were then taken as the focus of the study. These X-events turned out to be

- **Nokia headquarters moves from Finland (I)**
- **Two out of three main forest industry companies leave Finland , while the third closes its pulp and paper production units due to EU emission standards (I)**
- **Internet crashes become common and unpredictable (I/E)**
- **China suffers major political upheavals due to internal social pressures (E)**
- **The European Monetary Union collapses (E)**
- **"Once –in-a-hundred-year" droughts and floods devastate Europe (E)**
- **The price of energy drops by 90% (E)**

I have marked these X-events with an "I" and/or "E" to indicate whether the shock is a purely internal Finnish matter (I) or something generated externally (E).

The first step in the analysis of a particular shock is to create a scenario by which the event could plausibly happen. Probably the most surprising X-event on the above list is the last one, a huge drop in the price of energy. Here is a micro scenario outlining a path by which this X-event might take place:

Tight control of OPEC oil production leads to increased interest in alternative energy production. Initial results are promising, and the next phase of development is supported by generous private equity. New investment speeds up the commercialization of several forms of alternative energy in different parts of the world. As a result, the widespread expectation is that the price of electricity will drop by 90%. This leads to the rapid emergence of technologies that produce scarce

materials through increased consumption of energy, including artificial food. But it also collapses sectors of the economy and leads to severe internal disruptions in oil export-based economies like Russia, Saudi Arabia and Iran.

Once a scenario is in place, we can assess its impact on the Finnish economy. While there's no space here to go into details, the basic tools involve both the use of expert judgment as to the effects of the shock on various sectors of the economy, as well as large-scale computer simulations of how the impact of the X-event moves through space and time to affect different components of the Finnish economic system in the coming years.

The final Big Question on our list revolves about actions to be taken today to create infrastructures resilient to any of these seven shocks. This question was addressed by constructing a spectrum of 25 different courses of action that Finnish organizations might take now in order to build buffers against an "unknown unknown" event. These actions ranged from fairly vague, general things like investing in maintenance of trust in government and society to more specific actions like switching to an exchange economy involving no currency.

Using tools of robust portfolio analysis, a chart was created showing which combination of these 25 actions would be most attractive for an organization that could afford to invest in 0, 1, 2, . . . 25 of them. For example, the most attractive choice for an agency that can afford only a single action in its portfolio would be to invest in building social infrastructure. By way of contrast, direct economic actions like moving to an exchange economy, abandoning the forest industry or investing in more nuclear power were the least productive ways for such an organization to be resilient to future shocks.

It should be clear by now that the basic process underlying the Seven Shocks for Finland study has very little to do with Finland *per se*, other than the choice of the specific X-events. In fact, the process has little to do with a country at all, but would apply equally well for a collective of countries like the EU or OPEC, a particular company (like Nokia!), a particular economic sector (Seven Shocks for the Banking Industry) or even a high net-worth individual (Seven Shocks for Mr. Big). The questions are the same, although the choice of X-events and their impacts must be assessed differently for each such situation. For example, the Finnish study has led to development of an analogous project for South Korea that's currently ongoing, as are discussions for a similar analysis in Japan and a study of the pharmaceutical industry in the USA.

What about Austria?

Let's have a look at how this line of thinking might be applied to game changers that could turn up in the next decade impacting the Austrian way of life. A few

minutes thought and a couple of Kaffeehaus conversations quickly lead to a list of candidate X-events to get the seven shocks process started. These are

- **German growth collapses (I/E)**
- **A volcanic eruption or shift of the Gulf Stream gives rise to a mini ice age in Europe (E)**
- **The European Monetary Union breaks down (E)**
- **The price of energy drops by 90% (E)**
- **A die-off of bees devastates Austrian agriculture (E)**
- **Internet crashes become common and unpredictable (E/I)**
- **A major Austrian bank collapses (I)**
- **There is a Chernobyl-type explosion in a nuclear plant in the Czech Republic (E)**
- **A series of very warm winters leads to very little snow cover in the Alpine regions (E)**
- **A breakdown/poisoning of Vienna's water supply (I)**
- **Austrian Airlines goes bankrupt (I)**

Let's look briefly at a couple of these X-events as a hypothetical exercise for how a full-scale Austrian study might be structured. Consider the first X-event on the list, a major slowdown in economic growth in Germany.

A dramatic decline in economic growth in Germany could come from either internal or external events. These might include a total unraveling of the Euro zone, leading to a return to national currencies. Or it might be the disappearance of worldwide export markets due to a global depression. Internally, it's easy to imagine a loss of trust in the government generating social unrest and political stress that could be devastating to the German economy. Most likely, a major decline in growth would be a combination of such factors aided and abetted by other X-events like climate change and/or major shifts in the global geopolitical landscape. The point is that there are *many* ways for such a crash to occur.

How would a German economic die-off impact Austria? Given that nearly 30% of Austrian trade is with Germany, when the German economy sneezes, Austria is in serious danger of catching pneumonia. The situation in the other direction is even worse, as upwards of 40% of Austrian exports go to Germany. So the impact of a German decline on the Austrian way of life is not a pretty picture at all, showing empty Alpine ski slopes, a deserted Stephansplatz, and shuttered boutique clothing stores and jewelry shops on Mariahilferstrasse and

Getreidemarkt. And these would be only surface manifestations of a precipitous slowdown in the German economic machine. The details of such a scenario remain to be worked out. But the overall impact is painfully clear.

What could/should Austria do today to be more resilient to such a shock? The obvious answer is to take actions to reduce economic dependence on Germany. Developing new markets to spread the risk is easy to say, but specific actions in this direction depend on so many social, political, and economic considerations that a full-scale study would be needed to address the problem in any detail for any specific organization. But it's crucially important to remember that an ounce of prevention is worth a pound of cure. So the right time to create some kind of contingency plan is now, *before* the X-event occurs, not when you're trying to clean up the mess afterwards.

As for other X-events on the list, the reader will note that two of them, warm winters and a mini ice age, are direct opposites. It's not hard to imagine how either of them might take place, although current odds seem to favor global warming and warm winters. No matter. The impact on Austria will be the same in either case: no more skiing in the winter, far more flooding in the spring, and a lot less food produced in the summer.

The bankruptcy of Austrian Airlines is an especially interesting item on the list. On the one hand, it's not at all difficult to imagine how this might happen. Basically, the method is for AUA to just keep doing what it has been doing and such a "shock" will not be very shocking, at all. Some would argue that this would doom the hopes of Vienna Airport to emerge as a major travel hub. Maybe. But one could argue just the opposite by pointing to the consequences of the bankruptcy of Swiss Air in 2001. While the two situations are far from identical, the similarities are worth considering. In the Swiss case, the old airline vanished to be quickly replaced by a new slimmed-down, competitive carrier, Swiss, with no noticeable damage at all to the position of Zurich Airport as a major travel hub.

This tale of two airlines is a good place to close, as it shows that X-events are not necessarily bad. In the short term, the price to be paid for an economic crash or an airline bankruptcy is indeed a negative shock, especially to those whose livelihoods are immediately impacted. But in the broader perspective most of these shocks end up falling into the category of what the famed Austrian

economist Joseph Schumpeter termed “creative destruction.” The old has to disappear entirely in order to open up degrees of freedom for the new to emerge. Almost without exception humans are reluctant to voluntarily “downsize” anything, even their waistlines. So at some point inexorable pressures, social and otherwise, step in to create an enforced downsizing through the agency of an X-event. The idea of a *resilient* social system involves recognizing that X-events are inevitable and can neither be predicted nor avoided. The perceptive decision-maker today will be putting in place plans to exploit those new degrees of freedom that an X-event necessarily opens up for tomorrow. But to do that, planners must have some idea of what types of X-events might arise and what sorts of opportunities they will present, recognizing that success always begins with failure.



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