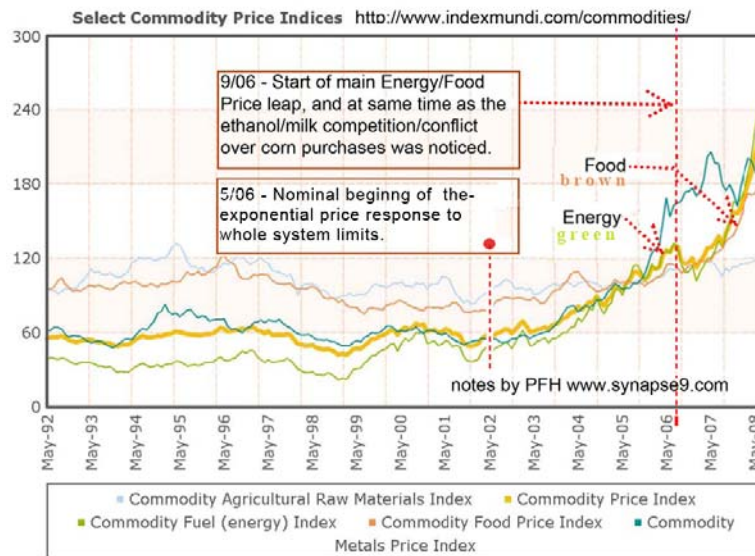


## Profiting in Scarcity - P.F. Henshaw

– our compounding investments in the depletion of necessities –

There seems to be a useful way to say why our economic “tsunami early warning system” didn’t work. Our economic steering systems saw and responded to the signal, but got the message backwards. There’s a marvelously simple natural cause. At a point we were not paying attention, and so didn’t notice, nature reversed her signals!

Natural diminishing returns on physical investment is a signal of long term increasing complications and scarcity, and the approach of natural limits for investment. It’s in the nature of development of any kind that the learning curve of success first follows a path of discovering ever more return for the same effort. Then that reverses and follows a path of ever less return, however you measure that physically. People respond to that promptly and rationally for all kinds of things, when they get the signal straight. The problem is when we read only the price and the profit signals, and have no understanding of the whole system that is sending the signals... Then our ‘natural’ reaction is often to read the signal backwards.



We’ve had increasing global costs and complications for obtaining increased resources for economic growth for quite some time. The turning point between when obtaining resources was getting physically ever easier to getting successively harder may have been in the 1970’s or somewhat before. We don’t have high quality statistics. There are no easy direct measures of that. The good diagnostic measures, like environmental groups such as WorldWatch and others collect, don’t help because we have not learned how to read them. What is being read by the reversal in outcomes in nature’s responses to us is the same price signals economies have been reading all along, in the same way. The recent commodity price explosion shows the problem. You can see it as a diagnostic measure of the whole relationship between the economy and the earth, indicating one of our collective reaction to developing natural resistance to growth, if you think it through.

The first thing to notice is that this is the most extreme sort of misbehavior for any economic system, exploding costs for the whole spectrum of life's primary necessities. A little more intriguingly, it also indicates a complete breakdown in the economic principle of supply and demand. One need not read into it much more than that. It says that when the global uniform price of our main resources, food and fuel, started to diverge from their long stable levels, the world did not respond as usual to correct that. It did not create more supply in response to more demand. The dramatic departure from price stability does not say exactly how or why, but is clear evidence that the system as a whole did in fact collide with some physical constraint. The long exponential price divergence starting in 2002 shows that the system abruptly lost the effectiveness of its previously well lubricated means of self-regulating prices. It broke from the old price level, and found no new one, and that then allowed speculators to push the price ever higher. The tragedy of the commons is in how that price mechanism breakdown increased the profits in accelerating the problem, giving us entirely the wrong signal.

The other real key to this is that as natural costs & complications create relative scarcity for necessities, the reactions of others to that pushes up the prices of necessities faster than other things. It sends several positive (positively negative you might say) feedback signals. It signals increasing profitability, and opportunity for limitless investment and profit, but in accelerating the depletion and hastening the collapse of the resource system entirely. The signal we missed was the point of diminishing returns, presumably back in the 1960's or 70's. That was nature's signal that she was reversing the meaning of profits as a signal for increased resource extraction, that we didn't notice.

That we get the signals backwards is one of the very hardest things to explain, and there are lots of people who have been struggling with that for decades. Both I and JM Tainter have focused on it as a central common feature of the collapses of complex societies of the past, what happened to Rome, the Mayans, the Easter Islanders, etc. It means we can be pushed to unsustainability by what amounts to sustainable design. Those societies all got into the same productivity trap and ground their worlds into dust with it, or so it would appear. It's also the basic issue in the "tragedy of the commons" discussion, and central to why our life-boat system is designed to multiply its solutions to a point of overshoot and collapse. It's not that we don't use self-interest as a guide, it's that we get the signals backwards when we're not looking at the whole system that they're coming from. The confusion even seems to strike well meaning, ethical and competent people more severely than the devious cheaters, because sincere people often are less likely to question their own beliefs. It's "expert error".

Now that the world is beginning to display this phenomenon in "living color" you might say. It's becomes visible as an "expert mistake" created by well constructed expert misunderstanding. The most productive thing we can do might be to start thinking about how better to read the signals and what measures would help the most. The review of current world development policy on the OilDrum (The IEA WEO 2008 from the Perspective of Biophysical Economics <http://eroi.theoil Drum.com/node/4762> ) accentuates the problem. The world's experts still seem intent on solving the shortage problems of natural limits by compounding investment in depleting resources at accelerating rates. It's profitable!

The next issue is whether it's possible for us to build a bridge over this chasm opening up in front of us. It seems the rate of decline of the non-sustainable system we built may then be too rapid to allow us to build a sustainable one. It's a question of our using up our 'seed' resource, without building a plant and roots designed for only seasonal growth, that could be self sustaining. To stop reading the wrong signals we'd need to teach our experts to read physical system signals like natural systems do. That's not a small feat, but seems generally a matter of watching the natural "learning curves" (,,,'-`',,,) for

Draft for the OilDrum

physical system development and reading the “leading curves” (rates of change) of their returns on our efforts. That would take some doing of course, but seems somewhat possible. pfh