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FEAR, LIQUIDITY PREFERENCE, AND DEPRESSIONS

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In his first inaugural address, in March 1933, Franklin Roosevelt famously said: “This great Nation will endure as it has endured, will revive and will prosper. So, first of all, let me assert my firm belief that the only thing we have to fear is fear itself—nameless, unreasoning, unjustified terror which paralyzes needed efforts to convert retreat into advance.” In a book published three years later, John Maynard Keynes said: “Most, probably, of our decisions to do something positive, the full consequences of which will be drawn out over many days to come, can only be taken as a result of animal spirits—of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities...Thus if the animal spirits are dimmed and the spontaneous optimism fades, enterprise will fade and die...It is our innate urge to activity which makes the wheels go round, our rational selves choosing between the alternatives as best we are able, calculating where we can, but often falling back for our motive on whim or sentiment or chance.”¹

¹ John Maynard Keynes, *The General Theory of Employment, Interest and Money* 161–163 (1936).

I want to try to connect these statements in the context of the challenge of dealing with the current depression, as I believe this “severe recession” is more properly regarded.

A depression or recession involves a sharp drop in output and therefore employment. It can result from a fall in demand for goods and services, leading to a fall in supply; and as employment and therefore income fall, demand is likely to fall farther, initiating a downward spiral, unless consumers reallocate savings to consumption. They have been unable or unwilling to do this in the current economic climate because the value of their savings has plummeted as a result of the housing and stock market crashes. With falling demand and an uncertain economic future, investment in future production declines too, adding to unemployment.

How do these economic phenomena connect with fear, on the one hand, and its converse, confidence, hope, or what Keynes called “animal spirits,” on the other hand? The key to the answer I believe lies in the distinction, first made by Frank Knight in 1921² and less clearly in Keynes’s treatise on probability, published the same year,³ between calculable risk—risk to which a numerical probability can be assigned, and, as in the case in which the risk follows a normal distribution, the likelihood, direction, and magnitude by which actual outcomes may deviate from the estimated (mean) risk

² Frank H. Knight, *Risk, Uncertainty, and Profit*, ch. 7 (1921).

³ John Maynard Keynes, *A Treatise on Probability*, ch. 3 (1921).

can also be estimated—and uncertainty, to which a numerical probability cannot be assigned.⁴ For example, when there are too few data concerning extreme outcomes to enable a standard deviation to be calculated, the normal distribution is not a good model. The Student t distribution with few degrees of freedom is preferable, and it results in thicker tails because not enough is known to allow them to be as thin as in the normal distribution. This thickening is preferable to ignoring the extreme events, but it does not enable a reliable quantified evaluation of the expected outcome.

Nor is the gap between risk and uncertainty closed by Bayes's theorem. It is a sensible guide to decision making and an improvement over frequentist probability, in which the future is expected to repeat the past. I have no problem with subjective probability. But Bayes's theorem presupposes the ability to quantify prior probabilities and the effect on them of subsequent evidence, and that is often impossible.

This is not to say that calculable risk and uncertainty are dichotomous. They are the opposite ends of a spectrum. Often one can say that one alternative decision is more likely or much more likely to be preferable to another without being able to quantify the probability.⁵

⁴ See Richard A. Posner, *Catastrophe: Risk and Response* 171–175 (2004). The distinction is explicit in J. M. Keynes, "The General Theory of Employment," 51 *Quarterly Journal of Economics* 158 (1937).

⁵ See, for example, Posner, note 4 above, at 184–186 ("tolerable windows" approach). There is also "inverse cost-benefit analysis," where a

Keynes argued plausibly that investment decisions are often made under considerable uncertainty, because by the time the investment begins to yield a return (suppose the investment is building a factory), the conditions bearing on its profitability—the conditions of demand and supply—may have changed. Some unanticipated changes can be hedged, but usually not all, especially those that are uncertain, because then it is difficult or impossible for an insurer (whether an insurance company or an informal insurer, such as the issuer of a credit-default swap or some other derivative) to calculate a premium. Still, businessmen do make risky investments—and they have been doing so since before there were any theories of probability.⁶

Examples of business decisions made under uncertainty are not limited to projects that have a long lead time before they begin to yield revenues. Some forms of insurance involve considerable uncertainty because the insurance product is sold far in advance of the insured-against event, and one response that has been observed is bureaucratic maneuvering within the insurance com-

probability is inferred by dividing the expenditure on preventing some loss (or realizing some gain) by the loss (or gain) if the outcome is not prevented. *Id.* at 176–184. So suppose the government spends \$1 to avoid a loss of \$1,000; the inference would be that the probability of the loss was at least one in a thousand. But the purpose of inverse cost-benefit analysis is not in fact to determine probabilities, but, by comparing the result of the analysis to an independent estimate of probability, to determine whether the expenditure on preventing the loss (or obtaining the gain) is cost-justified.

⁶ Peter L. Bernstein, “Risk as a History of Ideas,” *Financial Analysts Journal*, Jan.–Feb. 1995), p. 7.

pany to protect one's rear end against recriminations should disaster strike, and procyclicality, or making hay while the sun shines.⁷

Is it rational to make an investment when you cannot calculate the expected net benefit, or even have a solid basis for confidence that there will *be* an expected net benefit? The question didn't arise for Keynes, because his analysis was informal and did not depend on any very definite assumptions about human behavior. It was enough that he observed businessmen taking non-calculable risks. Without people who were willing to do so—people who had in his words an “urge to action”—a capitalist economy would grind to a halt. Business is a field of activity attractive to such people—call them the bold—and timid people of equal intelligence become civil servants or middle managers instead of entrepreneurs.

The notion of an “urge to action” as an essential motivator is related to the philosophical conundrum of “Buridan's Ass,” a donkey who starves to death because, placed equidistant between two equally large piles of straw, he has no basis for choosing between them; and to David Hume's dictum that reason is the slave of the passions, meaning that reason alone (as exemplified by cost-benefit analysis) cannot make decisions but can only provide information; the impetus to act on the information must come from something else.

⁷ Sean M. Fitzpatrick, “Fear is the Key: A Behavioral Guide to Underwriting Cycles,” 10 *Connecticut Insurance Law Journal* 255 (2004).

All that is needed to connect Keynes's analysis of uncertainty to depression issues is to assume, plausibly as it seems to me, that the "urge to action" is decreasing in uncertainty, at least for most people; equivalently, "fear" is increasing in uncertainty. This is implicit in such common expressions as "fear of change" and "fear of the unknown."⁸ These are evolutionarily plausible emotions, and a common (and again, an evolutionarily plausible) reaction to them is to freeze. For that is a way of gaining time to analyze an uncertain situation and perhaps reduce its uncertainty. The downward spiral that marks a depression increases the uncertainty of the business environment, and businessmen tend to react by freezing, that is, by hoarding instead of investing. In other words, what Keynes called "liquidity preference" is increasing in uncertainty.

Keynes thought it puzzling that anyone would want to hold cash (except in a deflation), because it is neither a consumption item (except for a miser) nor an investment that yields a return. Of course one needs some cash for transactions, but one observes that, especially in depressions (and irrespective of expectations of deflation, though such expectations create a powerful financial incentive for hoarding cash), the amount of cash people hold is greatly in excess of that need. And so with banks, which today are holding \$824 billion in

⁸ See Henry Cao et al., "Fear of the Unknown: Familiarity and Economic Decisions" (Munich Personal RePEc Archive, MPRA Paper No. 6512, Jan. 2008), <http://mrpa.ub.uni-muenchen.de/6512/>.

excess reserves (i.e., cash they are free to lend, as distinct from required reserves), which is roughly 400 times what they held a year ago.

Call this the “emergency” motive for liquidity. If the environment is uncertain, the demand for cash increases because the likelihood of needing cash in a hurry to make up for a fall in income increases, especially if, as in the current economic crisis, it is difficult to borrow because banks are reluctant to lend.

The curious phenomenon of the current crisis that rich women are reducing their consumption of luxury goods illustrates the operation of liquidity preference in a depression. Being wealthy implies that one’s marginal utility of income is low (one is surfeited with goods and services), and this reduces the cost of liquidity. So even if the likelihood of ruination seems remote, one knows that rich people do get wiped out occasionally, especially in a very severe economic downturn, and therefore it may be rational for rich women to reduce their consumption.

Notice that acting on liquidity preference, in this example, presupposes discretion in consumption. People living at a subsistence level cannot shift consumption to saving. But plenty of Americans’ personal consumption expenditures are discretionary, and so their economic fears can spur an increase in savings. The personal savings rate has risen in the last twelve months from 1 percent to 4.2 percent.

Notice that uncertainty aversion (which is distinct from risk aversion, which assumes calculable risk) or liquidity preference is related to option theory. The greater the uncertainty, the more time it may take to learn enough about the situation to have a solid basis for investment of consumption. One pays for this valuable waiting time by accepting a zero return on a part of one's wealth.⁹

A normative implication of the analysis that is directly applicable to our current economic situation is that government should try to avoid doing anything during a depression to increase the uncertainty of the economic environment. It should not harass business by limiting bonuses or other compensation, or subject it to new regulations, even if, were the economy not in a depressed state, these might be worthwhile measures. It should seek to allay the fear of consumers and businessmen alike, not by lying about the economic situation but by projecting as Roosevelt did so successfully an aura of confidence, control, and determination.

⁹ David Dequech, "Asset Choice, Liquidity Preference, and Rationality under Uncertainty," 34 *Journal of Economic Issues* 159, 166–168 (2000).