TW Notes on
Nate Silver (2012) The Signal and the Noise Penguin

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He refers to the global financial crisis as "a catastrophic failure of prediction"
He stresses the distinction between risk and uncertainty.
He notes many economists identified the housing bubble, but few understood how devastating the effects of the burst would be.
"The everyone made the same mistake" defense
In all of the cases of prediction failure surrounding the crisis, the data evaluation ignored key pieces of context such as there hadn't been ratings of such complex securities before. and the financial system had never been so highly leveraged before.
Also the failure to recognize that recoveries after financial crises aren't as fast - out of sample problems
"Out of sample, out of mind: a formula for a failed prediction" p 44
"In complex systems ... mistakes are not measured in degrees but in whole orders of magnitude." p 45
As the amount of information is growing the gap between what we know and what we think we know may also be increasing

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The syndrome of "very precise-seeming predictions that are not at all accurate" p 45

Ch 2 The prediction errors of political pundits

Philip Tetlock at UC Berkeley started evaluating prediction errors in politics

"The right attitude for making better predictions, be foxy not a hedgehog with one big idea from Isiah Berlin + Archilochus

— but hedgehogs make better TV guests

"Hedgehogs... have more ~~tr~~ trouble distinguishing their rooting interests from their analysis" p 57

"Moneyball Revolution

Suggestions to improve predictions:

1 Think probabilistically

(His background in two disciplines, sports and poker)

2 "Today's forecast is the first forecast of the rest of your life

3 Look for consensus

Beware of magic-bullet forecasts

Weighing qualitative information

It isn't easy to be objective

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How chaos theory is like Linsanity
Making major discoveries purely
by accident
After 7 or 8 days chaos takes
over in weather forecasting and
the models start to show not
just zero but negative skills
For public forecasting presentation
and apparent precision take
precedence over accuracy
Ch 5 "Desperately Seeking Signal"
earthquakes
"Overfitting: The most important
scientific problem you've
never heard of"
"so overly specific solution
to general problem"
"The beauty of noise:... complex
processes produce order and
beauty when you zoom out
and look at them from enough
distance" 153
Ch 6 "How to drown in three feet of water"
"The importance of communicating
uncertainty
"Are economists rational?" p 179
survey of professional forecasters
His study Average forecasts are about 20%
more accurate than the average
of individual forecasts for GDP,
10% for unemployment and 30% for inflation

Nov 2007 forecast for 2008 - mean forecast of growth + 2.4% actual - 3.3%
study 1993 - 2010
They give 90% confidence ranges. The outcomes fell outside 1/3 of time
Another study 50%

In 1990s predicted only 2 of 60 recessions
correlations without causation
an economic uncertainty principle - Goodhart's Law - once policy makers start to target a variable it loses its value as an indicator
An every changing economy
Economic data is very noisy
When biased forecasts are rational - The less reputation you have to lose by bad forecasts and the more to gain from wild ones that turn out correct
Conversely with a good reputation you don't want to get far out of line
Overcoming bias

"Technological improvements may not help much if they are offset by human biases" 201

Robin Hanson at George Mason advocates a supply side approach based on prediction markets

Demand side - becoming better consumers of forecasts

Hanson "We have a demand for experts in our society, but we don't actually have that much of a demand for accurate forecasts" 202

Self fulfilling and self canceling predictions

Problem of false positives

John Ioannidis, medical researcher.

2005 article "Why Most Published Research Findings Are False"

He advocates a Bayesian approach - Bayes Theorem was developed by Laplace - concept of rationality as a probabilistic matter

conditional probability - start with a prior

prior x
probability of a given b   y
" " " ~b   z
posterior probability $\frac{x \cdot y}{xy + z(1-x)}$

RA Fisher - main alternative
criticized Bayesian prior
He argued uncertainty comes
from small samples - sampling error
ignores human error
For many issues appropriate
sample population isn't clear

Financial behavior

In 1950's a stock was held for
average of 6.3 years. 70s 4.5
80s 1.9, 2000s 0.5
The reason for so much trading
"is one of the greatest mysteries
in finance" p 330
"More and more people seem to think
they can outpredict the collective
wisdom of the market" 331

The Bayesian invisible hand
Like market - a consensus seeking
process
"We must accept the fallibility
of our judgment if we want to come
to more accurate predictions" 350

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discussion of the efficient market hypothesis
Past performance is not indicative of future returns
The misery of the chartist
statistical vs economic significance
1966 to 1975 58% of time a stock market rise is followed by another. Incredibly high statistical significance, but you couldn't make money off of this, because of transaction costs
Efficient markets meet irrational exuberance
Fama the term bubble "has totally lost its meaning" ... A bubble is something that has a predictable ending
If you can't tell you're in a bubble it's not a bubble p 347
Robert Shiller and mean reversion of P/E ratios
Most traders are short term focused. There may be some long run predictability but "it is just not within their job description to exploit it" 352

The cost to a trader of betting with the market even when it turns out wrong is low, but cost of betting against and being wrong are high

It would take a "near-certainty" of a crash for it to be rational to short the market. 354-6

Henry Blodget - herding

Bubbles form because "it's in everybody's interest to keep markets going up" 356

Irrational behavior of markets may result from rational ~~actions~~ actions of the participants

"So long as most traders are judged on the basis short-term performance, bubbles ... are possible and perhaps even inevitable" 357

Why we herd

Overconfidence and the Winner's Curse

~~Perhaps~~ "Perhaps the central finding of behavioral economics is that most of us are overconfident when we make predictions" 357

Terrance Odean at UC Berkeley

Difficulties of short selling

Richard Thaler and the
two aspects of the EMH,
no free lunch and the
price is right
"bubbles are easier to detect
than to burst" 362
Consensus - broad agreement
after a process of discussion

Thomas ~~[illegible]~~ Schelling - confusion
between unfamiliar and improbable

"Our brains process information
by means of aproximation" 449

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