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ARTICLES /CASES

1. LEFT BRAIN, RIGHT STUFF: HOW LEADERS MAKE WINNING DECISIONS

Rated as the Best Business Book of 2014, Phil Rosenzweig's classic Left Brain, Right Stuff (Published by Profile Books Ltd) takes us through the world of big, strategic decisions and compels us to rethink about them. Here is a summary of this seminal book.

- **Features, Insights, and Limitations of Experiments**

Since 1970s, we have learned a great deal about judgment and choice, thanks mainly to finely crafted experiments pioneered by cognitive psychologists like Daniel Kahneman and Amos Tversky and others.

These experiments examined how people make judgments under uncertainty, how people make choices under conditions of uncertainty, and how the choices of people are affected by the manner in which options are framed.

Most experiments have the following features:

- Participants can choose the option they want, but can't alter the options.
- Subjects are asked to make judgments about things they cannot influence.
- Participants are asked to make the decisions that are best for them, without considering anyone else.
- There is no competitive dimension and participants don't have to think about what someone else might do.
- Participants are asked to make decisions fairly quickly and the outcomes are known right away. This ensures that all participants face the same circumstances and their answers can be compared without worrying about intervening factors.
- Participants are asked to decide as individuals, not as members of a group. They don't have to worry about how others (subordinates, peers, superiors, and so on) perceive their decisions. They don't have to bother whether their current decisions are consistent with their previous decisions.

Insights and Limitations of Experiments Carefully designed experiments have provided valuable insights into the way people make judgments and choices. As

psychologist Dan Ariely put it: “For social scientists, experiments are like microscopes or strobe lights, magnifying and illuminating the complex, multiple forces that simultaneously exert their influences on us. They help us show human behavior to a frame-by-frame narration of events, isolate individual factors, and examine them carefully and in more detail.”

The insights provided by such experiments have enriched our understanding in many fields. For example, in finance we have learned a great deal about the way people invest, in marketing we have a better understanding of how consumers make purchasing decisions, and in public policy we have a better idea about how people respond to various policy measures.

Although we know a lot about such decisions, we know less about decisions:

- Where the decision maker can alter the options and even influence the outcomes.
- That have a competitive dimension, implying that the decision maker not only seeks to do well, but do better than the rivals.
- That take a long time before the results are known, suggesting that the feedback is slow and imperfect.
- That are made by leaders of organisation who are concerned with perception and credibility.

To sum up, while experiments have added immensely to our understanding of the processes of judgment and choice, their findings cannot be applied to the complex decisions in the real world. As Philip Tetlock put it, “Much mischief can be wrought by transplanting this hypothesis-testing logic, which flourishes in controlled lab settings, into the hurly-burly of real-world settings where ceteris paribus never is, and never can be, satisfied.” While we have learned a great deal about decisions in many fields such as financial investments, consumer choice, and public policy, we know much less about complex decisions in the real world.

- **The Key to Great Decisions: Left Brain, Right Stuff**

In his book Thinking, Fast and Slow, Daniel Kahneman describes two systems of thinking. System 1 is intuitive and rapid. It is often effective but frequently erroneous. System 2 is reflective, deliberate, and slow. As Kahneman says: “The way to block errors that originate in System 1 is simple in principle: recognize the signs that you are in a cognitive minefield, slow down, and ask for reinforcement from System 2.”

To implement the advice of Kahneman, we need to know the right kinds of reinforcement from System 2. Phil Rosenzweig describes what some of these reinforcements might look like. He identifies specific ways we should think about complex real-world decisions—not the kinds of judgments and choices studied in laboratory experiments. According to him, wining decisions combine two very different skills that he calls left brain, right stuff.

Left brain is a shorthand for a deliberate, logical, and analytic approach to problem solving. (Of course, it is an oversimplified description because both of the brain's hemispheres are used in most of the tasks). According to Rosenzweig, using the left brain means:

- Knowing the difference between what is controllable and what is not.
- Knowing when absolute performance matters and when relative performance matters.
- Sensing whether it's better to err on the side of action or on the side of inaction.
- Determining whether the action is being taken by a lone individual or a leader in an organizational setting (who is supposed to inspire others).

While these factors are important, they are not enough. Rosenzweig explains, "Great decisions also demand a willingness to take risks, to push boundaries and to go beyond what has been done before. They call for something we call the right stuff."

The right stuff is concerned with the intelligent management of risk. As Rosenzweig puts it: "Having the right stuff means: summoning high levels of confidence, even levels that might seem excessive, but that are useful to achieve high performance going beyond past performance and pushing the envelope to seek levels that are unprecedented; instilling in others the willingness to take appropriate risks."

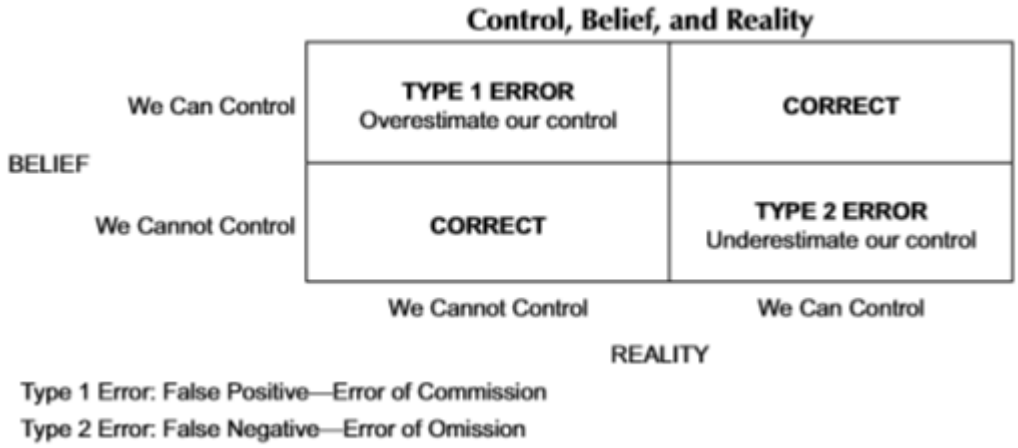
The message of Left Brain, Right Stuff is that all great decisions call for an ability for considered and careful reasoning along with a willingness to take huge risks.

- **What We Can Control and What We Cannot**

There is a need to distinguish between what we can control and what we cannot. This is stated eloquently in the Serenity Prayer: "God grant me the serenity to accept the things that I cannot change, courage to change the things I can, and the wisdom always to know the difference." People do not always overestimate their level of control, as some cognitive psychologists claim. When control is low, they tend to overestimate. However,

when control is high they tend to underestimate. Thus, people can and do err in both directions.

Often we don't know the difference between what we can change and what we cannot. When we are not sure, should we overestimate our control or underestimate our control. To think about this question, Rosenzeig presents the following matrix.



Rosenzweig's advice is: "As a rule of thumb, it's better to err on the side of thinking we can get things done rather than assuming we cannot. The upside is greater and the downside less."

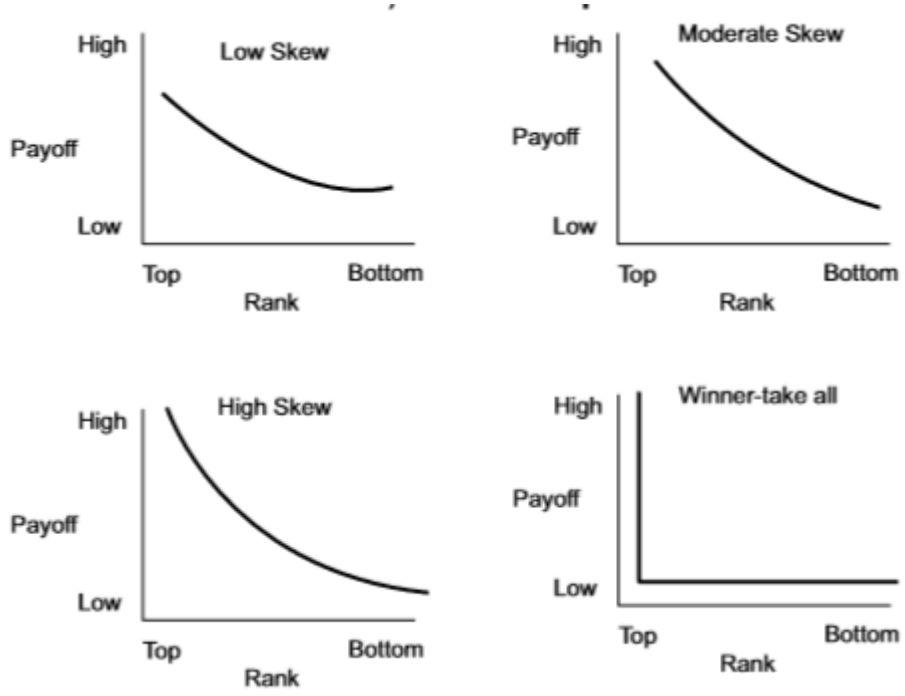
- **Absolute Performance vs. Relative Performance**

To make great decisions one must know whether one has to do well in absolute terms or relative terms. For example, in personal investment management the focus should be on doing well in absolute terms. The standard recipe for this is to select the right asset allocation, invest regularly, choose passive investments (like index funds), avoid market timing, ignore short-term fluctuations, periodically rebalance, and have a long-term orientation.

In business situations that involve competition, the focus should be on doing well in relative terms. Avinash Dixit and Barry Nalebuff have defined strategic thinking as "the art of outdoing an adversary, knowing that the adversary is trying to do the same to you."

Distribution of Payoffs In a situation involving competition, the distribution of payoffs among top, middle, and bottom performers depends on how skewed is the distribution of outcomes. This is illustrated by the following diagram drawn from Rosenzweig's book:

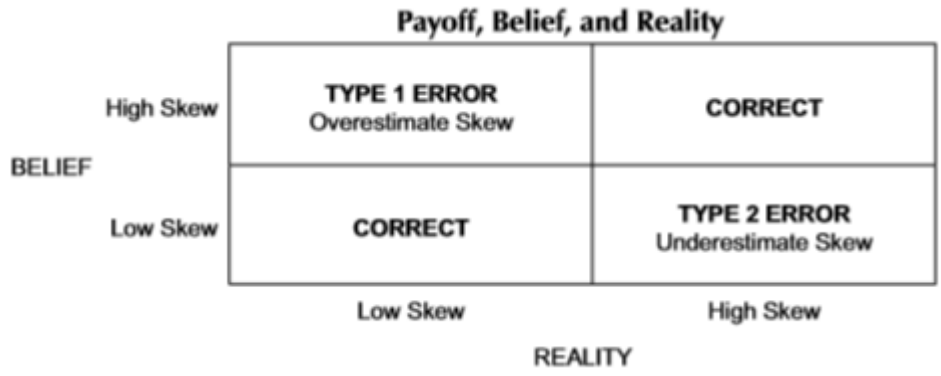
Distribution of Payoffs and Examples of Skew



Sporting events, elections, and game shows have highly skewed payoffs (winner-take all) and clear end points. In other kinds of competition, such as business, even if performance is relative, it is rarely a winner-take all. Further, competition in business is typically ongoing and open-ended.

Aspiration Point and Survival Point To devise a successful business strategy, one must understand the distribution of payoffs and decide how much risk to take. Since managers are uncertain about the intensity of competition and the degree of skewness of payoffs, they often use a rule of thumb that relies on two points: the aspiration point and the survival point. As Rosenzweig explains: "The aspiration point asks: What's the best I can do? Is it worth making a risky bet that could bring great benefits? The survival point asks: What's the least I need to do in order to stay alive? What must I do to avoid being eliminated, so that at a minimum I can live to fight another day?" Managers hope to reach the aspiration point but at least make sure that they pass the survival point.

Payoff, Belief, and Reality When performance is relative, the appropriate action depends on how skewed the payoff is. The relationship between belief, reality, and payoff is as follows:



Bias for Action In a situation where the decision maker has the ability to exert control as well as the need to outperform rivals, bias for action is often necessary. As Andy Grove said, "In times of change, managers almost always know which direction they should go in, but usually act too late and do too little. Correct for this tendency: Advance the pace of your actions and increase their magnitude. You will find that you are more likely to be close to right."

According to Robert Sutton, one of the rules for innovation is to "reward success and failure, punish inactions." The title of Richard Branson's book Screw It, Let's Do It emphasises the need for action. In their book A Bias for Action, Heike Brunch and Sumantra Ghosal extended this idea further: "While experimentation and flexibility are important for companies, in our observation the most critical challenge for companies is exactly the opposite: determined, persistent, and relentless action-taking to achieve a purpose, against all odds."

It must be emphasised that a bias for action here means a preference for action over inaction and not cognitive bias (which is studied in decision research) that needs to be avoided.

When it comes to control, the more serious error may be the type 2 error arising from a failure to understand the extent of control you have and when it comes from understanding performance too the more serious error may be the type 2 error arising from a failure to recognise how much payoffs are skewed. The implications of this are expressed by Rosenzweig as follows: "Putting them together, not only can we improve outcomes by taking action, but given the nature of competitive forces we're much better off erring on the side of action."

- **Confidence … and Overconfidence**

Of all the errors and biases that impair our judgment, overconfidence is cited most frequently. Here is a sampling of some influential voices:

- Behavioural economist Richard Thaler: “Perhaps the most robust finding in the psychology of judgment and choice is that people are overconfident.”
- Psychologist Scott Plous: “No problem in judgment and decision making is more potentially catastrophic than overconfidence.”
- Pulitzer Prize-winning business journalist Joseph Hallinan: “[M]ost of us tend to be overconfident, and overconfidence is a leading cause of human error.”
- New York Times columnist David Brooks: “The human mind is an overconfidence machine.”
- Nate Silver: “[O]f the various cognitive biases that investors suffer from, overconfidence is the most pernicious. Perhaps the central finding of behavioural economics is that most of us are overconfident when we make predictions.”

Given the ubiquity of overconfidence, we are advised to acknowledge it as our natural tendency and beware of it.

Prima facie its seems good advice. Yet, just the way positive illusions can improve performance, can a high degree of confidence could also do good. When performance is relative, a high degree of confidence may be useful and even necessary to outrival the competitors. As Rosenzweig asks, “We need to ask: If *overconfident means too confident, too confident* compared to what? If *overconfidence* means *greater confidence than circumstances warrant*, which circumstances are we talking about? Very soon, what seems like a simple idea becomes much more complicated.”

In an essay titled “Politics and the English Language,” George Orwell cautioned us about the ill- effects of slovenly language. He wrote: “A man may take to drink because he feels himself to be a failure, and then fail all the more completely because he drinks. It is rather the same thing that is happening to English language. It becomes ugly and inaccurate because our thoughts are foolish, but the slovenliness of our language makes it easier for us to have foolish thoughts.” This seems to be a good summary of the current state of affairs about overconfidence.

In an article titled, “The Trouble with Overconfidence,” Don Moore and Paul J. Healy said that the word overconfidence has been used to mean three very different things, which they call overprecision, overestimation, and overplacement. **Overprecision** is the tendency to be too certain about the accuracy of one’s judgment. Example: Stock market forecasters are usually 90 percent confident that the stock index will be in a

narrow band. **Overestimation** is the belief that a person can perform at a level beyond what is objectively warranted. Example: We often believe that we can complete a task in a period shorter than we can. Overestimation reflects an absolute evaluation; it depends on an assessment of ourselves without reference to anyone. **Overplacement** is a belief that we can perform better in comparison to others. It is a relative assessment, not an absolute assessment. Example: 90 percent of American drivers believe they are better than average.

What is the empirical evidence for these three kinds of overconfidence. There is strong evidence for overprecision. The evidence for overestimation is not as strong as the evidence for overprecision. For ordinary tasks there is good evidence of overestimation but for difficult tasks the evidence is mixed. The evidence for overplacement is even weaker. For routine tasks like driving there is strong evidence for overplacement. But for non-routine tasks like drawing or difficult tasks like juggling, most people think they're below average, not realising that almost everyone else has the same view.

Thus, once we break down overconfidence into its different parts and examine them closely, it is clear that we are not overconfidence machines. As Rosenzweig put it: "Responses depend on the specific skill in question and on the information we have. Rather than claim that people are biased, it might be more accurate to say they're myopic. They see themselves clearly, but have less information about others, and generally make sensible inferences accordingly."

Far from being "overconfidence machines" most people seem to lack confidence. The vast number of books meant to instil confidence in readers seem to suggest that most people want more confidence, not less. Mark Twain famously remarked: "All you need in this life is ignorance and confidence; then success is sure."

- **Base Rate Bias**

When people make judgments under uncertainty, they tend to focus on the case at hand ('case rate') overlooking the nature of the broader population ('base rate'). They rely on representativeness heuristic. As Kahneman and Tversky observed: "The base-rate frequencies of these categories, which are either known to the subjects from their daily experience or stated explicitly in the question, were largely neglected."

Kahneman and Tversky identified the base rate bias in the early 1970s. To illustrate this bias, suppose a taxicab hits a pedestrian and speeds away during the evening rush hour at a busy intersection. A witness identifies it as a Blue Cab. In that city 15 percent

of taxis are Blue Cabs and the other 85 percent are Green Cabs. The vision test of the witness establishes that he can identify the colour of a taxicab correctly 80 percent of the time. If the witness testifies that the car was blue what is the probability that it really was a Blue Cab?

Most people estimated the probability of the Blue Cab to be greater than 50 percent and many believed it was close to 80 percent.

What is the correct probability that the car is blue given that it is identified as blue? Such conditional probability can be calculated by Bayes's theorem, which says.

$$P(B/1B) = P(1B/B) \times \frac{P(B)}{P(1B)}$$

where P (B/IB) is the probability that the car is blue when it is identified as blue, P (IB/B) is the probability that the car is identified blue when it is blue, P (B) is the probability that the car is blue, and P (IB) is the probability that the car is identified as blue.

From the information given, we know that P (IB/B) = 0.8 and P (B) = 0.15

What is P (IB)? P (IB) is equal to:

$$P(1B) = (PB) \times P(1B/B) + P(NB) \times P(1B/NB)$$

$$= 0.15 \times 0.8 + 0.85 \times 0.2 = 0.29$$

In this equation P (IB/NB) is the probability that the car is identified as blue when it is not blue. So, we get:

$$P(B/1B) = 0.8 \times \frac{0.15}{0.29} = 0.414$$

This experiment illustrates the base rate bias. Kahneman and Tversky observed: "The base-rate frequencies of these categories, which were either known to the subjects from their daily experience or stated explicitly in the question, were largely neglected."

Base rate bias is considered as one of the common errors in our thinking and people are counselled to stepback and consider the broader population.

While this is a step in the right direction, further probing is required. In the cab experiment, the following questions may be asked: How many Blue and Green Cabs

were in operation on that particular evening? Better still, how many of each colour were in operation that particular evening in the area where the accident occurred? How accurate is the vision of the witness in the evening?

The point of this complication is to emphasize that Bayes's theorem is not of much help, if we don't know the relevant base rate. In the real world, however, base rates are not given. As Nassim Taleb wrote in The Black Swan: "The casino is the only venture I know where the probabilities are known… In real life you do not know the odds; you need to discover them, and the sources of uncertainty are not defined." A further problem is that base rates may change over time.

- **How Useful Is Deliberate Practice**

As we have seen great decisions come from understanding whether outcomes can be influenced and whether performance is relative or absolute. Another important ingredient is learning and improvement over time. Deliberate practice—practice in which there is a well-defined process of action, feedback, and action again-improves performance.

Earlier we learned that when we can influence outcomes, positive thinking can enhance performance. Given the benefit of deliberate practice, we may say that positive thinking is effective when it is combined with objective feedback and adjustment. The combination results in what the psychologist Martin Seligman calls learned optimism. Here a static view, which assumes a single mindset at all time, is replaced with a dynamic view, which allows for a shift between mindsets.

In recent years, many books such as *Outliers* by Malcolm Gladwell, *Talent Is Overrated* by Geoff Colvin, and *Moonwalking with Einstein* by Joshua Foer have touted the virtues of deliberate practice as the key to outstanding performance. Anders Ericsson even said that "outstanding performance is the product of years of deliberate practice and coaching, not of any innate talent or skill."

One should be wary of such claims because deliberate practice is hardly the cure-all that some suggest for at least two reasons. First, there is a growing body of evidence that talent matters a great deal. Second, one can pick examples after the fact and attribute success to deliberate practice. In *Outliers,* Gladwell chooses the examples of Bill Gates and The Beatles, to illustrate the value of sustained deliberate practice, whether programming computers or playing music. However, he did not consider the legions of people who practiced assiduously but did not achieve great heights of success. Psychologist Steven Pinker was irked by Gladwell's argument: "The reasoning

in *Outliers,* which consists of cherry-picked anecdotes, post-hoc sophistry and false dichotomies had me gnawing on my Kindle."

It appears that deliberate practice is very useful for some activities but less useful for others. According to Rosenzweig, the following table shows its usefulness or otherwise.

When Is Deliberate Practice Useful?

	Useful	Less Useful
Duration	Short	Long
Feedback	Immediate	Slow
Order	Sequential	Concurrent
Performance	Absolute	Relative

- **Decisions of a Leader**

So far we focused on decisions made by individuals, such as investors or consumers. The vast majority of decision research has studied such decisions.

Now we look at decisions made by a leader, such as the CEO or the manager of a team. The task of a leader is to mobilise people to achieve a purpose. As Jack Welch put it: "As a leader, your job is to steer and inspire."

A leader must be perceived as authentic, genuine, and trust worthy. Otherwise, people will not follow him.

Leaders mobilise others to achieve a purpose and leaders often make decisions that are more complex and consequential compared to routine decisions which are more amenable to deliberate practice.

To make winning decisions, leaders must bear in mind the following:

1. They have to instill in others a level of confidence that may appear exaggerated, but necessary to induce high performance.
2. Leaders often get only one chance to make truly strategic decisions. So they have to deliberate wisely, taking into account the implications of Type 1 and Type 2 errors.
3. Since it is difficult to evaluate complex and long-term decisions with precision, leaders must have an eye on how they are supposed to behave. They should be seen as persistent, decisive, and courageous.

- **Usefulness of Models**

Decision models have made enormous contributions to a wide variety of fields. They avoid some of the common biases that undermine our judgments. So their use has surged in recent years, thanks to growing access to large databases.

Decision models are very useful in a variety of contexts such as credit rating, clinical prediction, political forecasting, weather prediction, and even predicting the quality of wine. A shared characteristic of such situations is that the thing that is being predicted is not amenable to influence. For example, a credit rating model can predict whether a loan will be repaid, but can't change the probability that a given loan will be repaid on time.

Thus, for things we cannot directly influence, decision models must be embraced. However, when we can directly influence the outcome, the task is not to predict what will happen, but to make it happen. In such a situation, positive thinking is conducive to achieving success.

While decision models are often a way to be smart, they must be used wisely. The growing popularity of quantitatively sophisticated models has an unfortunate side effect: people tend to think less about what the numbers actually mean. As Rosenzweig put it: "When we use models without a clear understanding of when they are appropriate, we are not going to make great decisions—no matter how big the data set or how sophisticated the model appears to be."

- **Winning Decisions**

Making a High-Stakes Competitive Bid Competitive bids have been studied intensively in decision research and a lot of attention has been paid to the phenomenon of winner's curse. Winner's curse refers to the tendency of winners, in a competitive auction, to overpay. It is not a cognitive bias that stems from an error of cognition. Rather, it arises from the bidding process itself. In a competitive bidding situation, the participants are notoriously vulnerable to rising commitments. As Warren Buffett said, the thrill of the chase may blind the acquirer to the outcome thereof.

A variety of experiments have studied winner's curse. In one experiment, Max Bazerman and William Samuelson filled a glass jar with nickels and asked a group of students to closely inspect the jar and make a sealed bid for the contents of the jar. Not known to the students, the jar contained 160 nickels, worth $8. The average of the highest bid, in several such auctions, was $10.01. Thus, on average, the winner paid 25 percent more than the worth of the jar's contents. Behavioural finance literature cautions investors to beware of the winner's curse and to avoid its perils.

A moment of reflection will show that the nickel auction and the purchase of a stock have one thing in common. In both cases, the buyer cannot exert control over the value of the asset. They are examples of a *common value auction*, implying that the item on offer has the same value for all bidders.

Another kind of auction is a private value auction in which the value for two persons may not be the same. The difference may be due to entirely subjective reasons, as in the case of a rare painting (Beauty, as they say, lies in the eyes of the beholder). Or, it may be due to commercial reasons, because different potential buyers may have different abilities to generate cash flows from the same asset. So, in the case of a private value auctions paying more than other bidders may make sense, if the successful bidder can extract more value from the asset. As Rosenzweig put it: "When we can influence outcomes and drive gains, especially when the time horizon is long, we can and should bid beyond what is currently justified. And where competitive dynamics are crucial, it may be essential to do so." He added: "We must consider not only the dangers of paying too much—a Type 1 error—but also the consequences of failing to push aggressively—a type 2 error." Wisdom represents a combination of clear and detached thinking (properties of the left brain) and the willingness to take bold action (the hall mark of the right stuff.

Starting a New Venture The vast majority of new ventures fail. Hardly one-fifths of the new ventures survive beyond seven years.

Given the high failure rate of new ventures, why do people start them? Economic theory offers few explanations. First, the spectacular success of a few new ventures suggests that starting new ventures, on the whole, has a positive expected value. Second, entrepreneurs enjoy the thrill of starting a new venture and derive satisfaction from being their own boss. These nonfinancial benefits offset financial losses.

Decision research offers an explanation in terms of judgmental biases, in particular overconfidence and base rate bias.

Despite all the fuss about new venture failure, the vibrant culture for entrepreneurship in the U.S. is hailed and other countries strive to emulate it. Why? Perhaps it is believed that even if most new ventures fail there is a spillover benefit for the economy at large. Entrepreneurs are regarded as "optimistic martyrs." While overconfidence is harmful at the individual level, it serves as the engine of capitalism that is beneficial to the economy.

The view that society at large benefits from the reckless ambition and arrogance of entrepreneurs is appealing but contains an error. Even though many new ventures

close down, most entrepreneurs successfully manage risks to limit their losses. They shift directions and exploit the upside while limiting their losses. As Saras Saraswathy put it, “Entrepreneurs can mold, shape, transform and reconstitute current realities, including their own resources, into new opportunities.”

The elements for a winning decision relating to starting a new venture are an ability to distinguish between what one can control and what one cannot, a realisation of the importance of relative performance, an appreciation of the temporal dimension of the decisions, and an awareness of the social context of the decisions in which leaders have to motivate others to do seemingly impossible things.

The Stuff of Winning Decisions Dan Lavallo and Olivier Sibony argue that very few corporate strategists making important decisions consciously consider the cognitive biases revealed by behavioural economics and hence urge managers to make a conscious effort to apply the lessons of behavioural research. However, their advice has not been heeded by managers because strategic decisions are, as we have learnt, very different from the kinds of decisions studied in behavioural research.

While an awareness of common errors and biases is a good starting point, we should pose incisive second-order questions. According to Rosenzweig, the following questions should be asked.

- Is the decision about something that is amenable to one’s control or beyond one’s control?
- Is the decision concerned with absolute performance or relative performance?
- Does the decision lend itself to rapid feedback so that adjustment can be made in the next round?
- Is the decision being made as an individual or as a leader in a social setting?
- Is there clarity about what is meant by overconfidence?
- Has careful thought been given to relevant base rates?
- Is their sufficient appreciation of the limits as well strengths of decision models?
- Is it better to commit Type 1 error or Type 2 error?

Success is never guaranteed in a competitive arena like business. However, a better understanding of decision making and the role of analysis and action can improve the odds of success.

2. Nobel Toast

Eugene F. Fama

Your Majesties, Your Royal Highnesses, Your Excellencies, Honored Laureates, Ladies and Gentlemen.

Let me begin by thanking the committee for granting this year's prize in Economic Sciences to me, my colleague Lars Peter Hansen, and Robert Shiller.

I have learned much over the years from Lars's work and from listening to his penetrating comments on the work of others in the University of Chicago's many research workshops. I have also learned a great deal from Bob's writings and from his presentations at Chicago over the years. Bob and I agree on many things in finance, we disagree on others, but always cordially and with an eye toward learning more from someone with a different viewpoint.

Important to me personally is the recognition the Prize gives to the standing of finance in economics. When I started in the early 1960s, finance as a serious research area was just getting started. We had harry Markowitz' magnificent Chicago Ph.D. thesis on portfolio theory, and we had the theorems of Merton Miller and Franco Modigliani on the irrelevance of the financing decisions of firms. Spurred by the coming of computers, empirical research on what became the theory of efficient markets was getting getting underway. That was it in terms of major paradigms, there were no good research journals in finance, and almost all the serious action in finance was at two places, Chicago and MIT.

Research in finance exploded over the next 20 years. William Sharpe, John Lintner, Robert Merton, Robert Lucas, Douglas Breeden, and others developed our major asset pricing models- prescriptions about how risk should be measured and the relation between risk and expected return. Fischer Black, Myron Scholes and Robert Merton developed the first rigorous options pricing model. Equally important, an army of excellent young empirical researchers (Lars and Bob are among the best) entered finance, and all the major theoretical paradigms were put through the empirical wringer many times.

Today, research in finance continues its impressive growth. Most major universities have first rate research faculties in finance. There are now at least five excellent research journals in finance and there are others that are better than anything we had in the 60s. The major paradigms of finance are familiar to Ph. D students in other areas of economics, and (due to the work of people like Lars and Bob) finance now has a major role in macroeconomics.

In my view, after 50+ years of vertiginous growth, finance is now comfortably first among the areas of economics in which there is a rich interplay between theory, empirical tests, and the development of models to accommodate the challenges raised by evidence.

In the applied domain, finance is far and away the most successful area of economics in terms of penetration of theory and evidence into real world applications. The expansion of the finance industry over the last 50 years parallels the development of academic research in finance and has borrowed heavily from it.

Research in finance has been and continues to be a great ride. It has been incredibly satisfying to participate in the growth of finance and to know and learn from all the old giants who created the field and the new giants (like Lars and Bob) who continue to push its boundaries.

B. SNIPPETS

1. The Capital Group

Founded in 1931, The Capital Group is one of the largest fund houses in the workd. Four things strike you about. The Capital Group.

- In is an employee- owned organization.
- For such a large fund manager, it maintains an extremely low profile, relying on its track record, rather than publicity and promotion to generate new business.
- It has a long- term, value- oriented investment philosophy. The average holding period of its investments is nearly four years, compared to an industry average of just 15 months.
- It recognized relatively early the value of global investing and portfolio diversification.

It aspires to be ‘the best investment management firm in the world.’

2. Trends in Global Value Chain

There are four major trends in global value chains:

1. Since the early 1990s, international fragmentation, as measured by the foreign value- added content of production has increased.
2. A greater proportion of value is being added by capital and high- skilled labour and a less proportion of value is being added by less- skilled labour.
3. Advanced nations, as the theory of comparative advantage would suggest, are increasingly specializing in activities performed by high- skilled workers.
4. Surprisingly, emerging economies are specializing in capital – intensive activities. Hence, while the share of capital in their value added is rising, the share of low- skilled labour in their value added is declining

Market Cap to GDP Ratio

This ratio is defined as follows:

$$\text{Market Cap to GDP} = \frac{\text{Market Capitalization of Equity Stock of the Country}}{\text{GDP of the Country}} \text{X100}$$

This ratio measures market capitalization of stocks as a percentage of GDP.

An indication of long-term valuation, this ratio has become popular in recent years, thanks to Warren Buffett. In a Fortune Magazine interview in 2001, he said "it is probably the single best measure of where valuations stand at any given moment."

One can interpret this ratio as follows:

Ratio	**Valuation**
Ratio < 50%	Significant undervaluation
50% < Ratio < 75%	Modest undervaluation
75% <Ratio < 90%	Fair Valuation
90% Ratio< 115%	Modest overvaluation
Ratio > 115%	Significant overvaluation

3. Excessive Product Diversity is Anti – Investor

The received wisdom in mutual fund industry is that varied products must be offered to meet the diverse needs of investors based on income segmentation, demographics risk appetite, geographies, and so on. Based on this notion, a vast range of differentiated mutual products have been offered.

Excessive product diversity, however, helps the providers of mutual fund products, not the consumers (investors). Let me explain.

It helps the mutual fund industry in garnering more funds from investors who are often not well informed or even gullible. Equally important, such diversity makes performance evaluation difficult. Bad performance is not likely to receive close scrutiny.

It hurts investors because they may not understand the complexity of various products and succumb to the persuasive messages of the sellers. Further, it increases the average expense ratio, which has an important bearing on the returns enjoyed by the investors.

According to Dhirendra Kumar, all legitimate investment needs of individual investors can be taken care of by no more than four or five types of mutual funds. Excessive diversity is fraught with risk.

PART C: WIT AND WIDSOM

1. **HUMOUR**

- At a seminary, when the parents were invited for a week end, the cook prepared a sumptuous buffet that had assorted appetizers, savoury roasts, a range of breads and cakes, and colourful salads. Looking at the display, a potential candidate explained. “Wow, if this is poverty, I wonder what chastity is like.”

- Indians delight in passing laws and take greater delight in bypassing them. Jairam Ramesh.

2. **WISE SAWS**

- Don’t worry about those who talk behind you back. They are behind for a reason.
- Whenever you find yourself on the side of the majority. It is times to pause and reflect.