Behavioural Economics and Policy Design

Examples from Singapore

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"Academics place much more importance on rigorous logic. There is also admiration in the profession for subtle reasoning. And mastery of the craft shows itself in the elegance of the intellectual super-structure. ... The practitioner, on the other hand, uses economic theory only to the extent that he finds it useful in comprehending the problem at hand, so that practical courses of action will emerge which can be evaluated not merely in narrow economic cost-benefit terms, but by taking into account a wider range of considerations. ... A practitioner is not judged by the rigour of his logic or by the elegance of his presentation. He is judged by results."

Goh Keng Swee

"The world is better served by syncretic economists and policymakers who can hold multiple ideas in their heads than by 'one-handed' economists who promote one big idea regardless of context."

Dani Rodrik

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FOREWORD

Recent events suggest that we are living in an era of increased turbulence. Take for example the wide-ranging impacts of the 1998 Asian financial crisis, the terrorist attacks of September 11, the Severe Acute Respiratory Syndrome (SARS) epidemic in 2003 and the 2008/2009 credit crisis. The common thread running across each of these crises is that they were all not foreseen sufficiently early. Yet it was not the lack of information or the absence of early warning signs that caused governments and businesses to mostly ignore the risks of an impending crisis. Indeed, the crises were predictable, or at least, they should have been better anticipated. So why weren't they?

The research that has emerged from complex systems suggests that much of our failure to have anticipated these and other low-probability, high-impact events has to do with the way we perceive and analyse the world. The standard approaches we use to assess risks are usually based on linear causal relationships, derived from past experience. These approaches assume — implicitly — that the world is governed by definite and repeatable cause-and-effect relationships. They fail to take into account the *external* reality of complexity and inherent unpredictability, which suggests that many of the problems we face cannot be reduced to simple and precise cause-and-effect relationships. The weather, the economy and the natural world are examples of complex systems. Such systems exhibit regularity without being entirely predictable. They are capable of producing entirely new and unexpected forms of behaviour. In complex systems, the relationship between cause and effect is not as consistent as in the regular, simple systems we are familiar in dealing with.

At the same time, the research from cognitive psychology and behavioural economics suggests that the standard economic approaches we are familiar with also fail to account for people's *internal* limitations in handling probabilities and in managing risk and uncertainty. Conventional economics, for instance, starts with the assumption that people are rational agents capable of maximising their interests and of calculating the pros and cons of their decisions in a cool and dispassionate way. The reality — as behavioural economists and cognitive psychologists have discovered — is far more complicated.

In recent years, behavioural economists have begun to apply Plato's idea that human beings have two distinct decision-making systems. When confronted with situations that require us to make decisions in a short span of time, we think in ways that are quite different than if we are given more time to make up our minds. We use the Automatic System to deal with matters that require quick decisions. The Automatic System, as the name suggests, is intuitive, unconscious (in that we make decisions even without knowing that we are making them), uncontrolled, effortless, habitual, and based on practice skills. This is the system of thinking we use in our day-to-day activities and when we have only a short time to make decisions.

When we have sufficient time for reflection and to process the information presented to us, we rely more on the Reflective System. This mode of thinking is controlled, slow, deliberate, conscious and effortful. Most of what we are taught in schools, our reasoning and analytical skills, as well as the scientific method, is based on the Reflective System. The economics that we were taught in schools and universities is also based on the assumption of rational consumers and firms making decisions using the Reflective System.

How different are these two systems of thought? Consider and answer this question as quickly as you can:

The combined cost of a ball and a bat is \$1.10 and the bat costs \$1 more than the ball. What is the price of the ball?

If you answered ten cents, do not be surprised. The large majority of people who have taken this test also answered “ten cents”. That is the result of the Automatic System. It takes a deliberate effort to override this automatic response. If you had more time to answer the question, your Reflective System would have arrived at the correct answer of five cents.

The problem is not that we have two systems of thinking and decision making. The problem arises when we rely on one system in situations when we should be using the other system. For example, if you are faced with a decision that requires you to assess risks and probabilities — such as which health insurance plan you should purchase — you ought to rely on your Reflective System. Relying on your instincts to deal with a problem which you are not familiar and have little prior experience with will probably result in poor decisions.

There are other occasions when our decisions deviate from what rational choice models in standard economics prescribe. A well known finding from behavioural economics is that people value losses more heavily than gains of the same size. Thus they value more highly a programme that restores a loss than one which provides them a gain of the same size. Similarly, they cite a much higher price to give up something they already possess as compared to the price which they are prepared to pay for exactly the same thing that they do not have.

Why do these deviations from standard economics matter for policymakers? There are at least two levels in which policymakers should take the insights of behavioural economics seriously. At one level, policymakers should appreciate the various ways in which people make decisions that depart — predictably and regularly — from the strict tenets of rationality. Behavioural economists have documented a number of cognitive biases and mental traits that can skew people’s judgements of probability and uncertainty. For instance, procrastination, laziness or unfamiliarity with alternatives often lead to people having a strong bias in favour of the status quo in their choice of investment or savings plan. Knowing this, social security policymakers should think

carefully about the defaults that are assigned to citizens, since it is quite likely that the average citizen will stick with whatever choice is set for him.

Behavioural economists have also found that people have a general inclination to judge things relative to some arbitrary reference point — this is known as the anchoring bias. For example, if a person is exposed to a high number just before he makes a purchase, he tends to be willing to pay a higher price than if he were subject to a low number, even if the number has nothing to do with the object being considered for purchase. How problems or options are framed to citizens can also have an important bearing on people's responses. People are more likely to accept a programme that has a 90% success rate than one which has a 10% failure rate, even though both statements carry identical information. Policymakers should be conscious of how citizens' responses can be altered — sometimes quite significantly — by different ways in which information or choices are presented to them.

At this level of analysis, behavioural economics can help policymakers *structure* choices and information for their citizens in ways that take into account their cognitive biases and complications. By offering governments a more realistic understanding of how people decide under conditions of risk, uncertainty and complexity, behavioural economics provides governments with the means to design policies that are sensitive to people's psychology.

At another level, behavioural economics can also help governments to be more self-aware and to assess the risks they face more rigorously. The same cognitive biases that behavioural economists say ordinary citizens are affected by may also apply to policymakers and decision-makers in government. For instance, just as the average citizen may get anchored on a certain argument or number, so too may policymakers cling to their prevailing assumptions by mistakenly interpreting any evidence as supportive even if it is actually contradictory. This tendency to rationalise things in terms we are familiar or comfortable with can lead to governments (or other organisations) being blindsided by risks or problems that they have not contemplated before. The failure of most mainstream

economists to anticipate the financial crisis of 2008 is a case in point. Most of them did not question the prevailing wisdom of the times — that we were living in an era of the Great Moderation (low inflation, sustained growth), that central banks had figured out how to stabilise the economy, and that financial innovation had diversified and reduced risks — and were therefore caught out by the crisis.

Related to this is the tendency of the human mind to see what it wants to see and to ignore evidence that contradicts its beliefs. This confirmation bias, combined with over-confidence (another mental trait that behavioural economists have identified), can lead to hubris and the inability to imagine that something very bad could happen — a phenomenon known as “disaster myopia”. Disaster myopia afflicts organisations as much as it does individuals. The lesson for governments in all this is to remember the motto of Delphi — “Know Thyself” — and to understand the role that emotions and cognitive biases play in our decision-making processes.

This book is a valuable contribution to the discussion on how behavioural economics can help governments do better — both in terms of designing policies that accommodate people’s cognitive biases as well as being conscious of their own. Good ideas in public policy are not developed in the laboratory. They must take into account how the ideas are translated into implementable, enforceable and accepted policies. Singapore’s experience is useful in this regard. As many of the chapters here attest, there was a conscious effort on the part of Singapore’s policymakers to incorporate people’s likely responses and reactions into the design of policies. Even when policies are grounded in sound economic logic, there is no guarantee that they will be widely accepted. Often, they have to be tweaked, adjusted or significantly reframed to ensure public acceptance. The combination of standard economic principles and insights from behavioural economics is an important contributing factor to sound public policies in Singapore.

Having encouraged the Civil Service College, Singapore to expand its repertoire of programmes to include behavioural economics and its applications in public policy, I am heartened to see

the publication of this book. I am also thankful that my colleagues in the civil service have made a great effort to bring these examples of complex policy formulation into the public domain. Their effort is worthwhile as it will bring about a greater appreciation of the value of behavioural economics in public administration. The book will be an important source of cases for the teaching of behavioural economics at the college. It will also provide ideas on how behavioural economics and, more generally, insights from the cognitive sciences can be of value to governments. Finally, I hope the book will encourage readers to reflect on how public policies can be improved and refined as we understand human behaviour better.

Lam Chuan Leong

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I owe a huge debt of gratitude to two individuals. The first is Professor Jack Knetsch, Emeritus Professor of Economics at Simon Fraser University. Professor Knetsch is one of the pioneers in behavioural economics. As a Senior Visiting Fellow of the Civil Service College, he helped to establish the college's training and research programmes in behavioural economics and public policy. He provided wise counsel throughout the entire journey of this book — from its conceptualisation, to the identification of chapters, to providing specific ideas on how each of them could be made more credible and persuasive. The second individual is Dawn Yip who tirelessly read through early drafts of the chapters and provided valuable editorial and content inputs.

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Outside of the college, I had the privilege of working with some of the best minds in the Singapore public service: Lim Siong Guan, Peter Ho, Ravi Menon, Lam Chuan Leong, Yong Ying-I, Chan Lai Fung, Philip Ong, Lai Wei Lin, Tai Wei Shyong, Chia Der Jiun, Francis Chong, Edward Robinson, Lee Kok Fatt, Dominic Soon, Devadas Krishnadas, Koh Tsin Yen, Keith Tan, Thia Jang Ping, Yip Chun Seng, Jeffrey Siow, Neo Bee Leng, Amanda Chua, Valerie Yuen, Godwin Tang, Bernard Toh, Sheila Pakir, Jeanette Kwek and Liu Feng-yuan. They gave me plenty of food for thought and abundant opportunities for intellectual sparring — not just for this book, but also in many other aspects of public policy. Sam Lam and Alan Sim at Linkage Asia encouraged me to bring the ideas of behavioural economics to audiences outside of the government, while Professors Neo Boon Siong and Henri Ghesquiere — the authors of two excellent books on the Singapore government — gave valuable suggestions on what policymakers elsewhere and students of government might find useful about Singapore's experience.

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Donald Low
30 April 2011

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