

Preface

At any point in time, a large number of people around the world are waiting for an organ transplant. There are also a lot of people who could choose to donate their organs, especially in the event of their death. It is not the case that every deceased person's organs can be used. It depends on a number of factors, such as age, lifestyle, manner of death, etc. For instance, I am a healthy male in my early 50's. I don't smoke and drink only moderately. I am in reasonably good shape physically. If I died from an accident tomorrow, doctors could potentially use my organs to save multiple lives. But this has to happen quickly; soon after my death. However, in order for this to happen, I (and my family members) have to agree beforehand that doctors can harvest my organs upon my death.

The problem is "easier" in the case of some organs, such as kidneys, than others like heart, liver or lungs. We need only one kidney to lead a healthy life. This creates the potential for "live" donations. So, if my partner needed a kidney, I could (and would happily) donate one of my two fully functional kidneys to her. But, this may not work; since my kidneys need to be a match for hers. This means that not only does she need a kidney, she needs it from a matched partner. In the US, the average waiting time for a kidney transplant is 3 to 5 years.

In 2012, the Nobel Prize in Economics went to Al Roth of Harvard Business School. Al Roth has long been known for his contributions to both economic theory and experimental economics. But, to a large extent, Roth's Nobel Prize was awarded in recognition of his contributions toward facilitating kidney exchanges. What is it that Roth, along with his collaborators Tayfun Sonmez and Utku Unver of Boston College, accomplished?

Consider two couples: Al and Barbara, and Charlotte and David. Al needs a kidney and so does Charlotte. Barbara and David are perfectly happy to donate a kidney to her/his partner but neither is a match for the respective partner. However, David's kidney is a match for Al, while Barbara's is a match for Charlotte. This sounds promising; but suppose Al and Barbara live in Boston, while Charlotte and David live in San Francisco. How do the couples go about finding one another? Social media? Maybe. Let us say they do. Now consider the medical and logistical challenges. Al and Barbara will have to show up to a hospital at the same time as Charlotte and David. Doctors need to remove the kidneys from Barbara and David to start with. Barbara's kidney now needs to be flown to San Francisco, while David's needs to be transported to Boston. Typically, either planes or helicopters are standing by to fly the kidneys to their designated destination. Once the kidneys arrive at their respective places, the team of surgeons, nurses, anaesthetists and others who helped remove Barbara's kidney now need to transplant David's kidney in Al, while Barbara's kidney goes to Charlotte, where the same procedure has to be carried out. Just imagine, the time, effort and personnel needed to pull off this one exchange.

But wait! Parties to the transaction may have second thoughts at the last moment. What if one of the couples pulls out? Also, how do you know that this is the best possible matched pair, since there could be many such pairs in the US, and possibly around the world? Who decides which are the best matches? Who puts them in touch with one another? How do you make sure that this complex daisy-chain of paired kidney swaps will be pulled off correctly? This is where Al Roth stepped in. Having done extensive work matching students to high schools in New York and matching medical residents to medical schools in Boston, Roth and his collaborators were extremely well-placed to figure out the answers to these questions. In recent times, Roth and his team have undertaken exchanges involving 13 pairs of donors and recipients, including ones located outside the US! In 2019, I heard Roth deliver a keynote speech on his kidney-exchange work at a conference in Dijon, France. It was probably the most fascinating talk I have ever heard; mostly because it sounded nothing like an academic talk, but rather, like the plot from an episode of E.R. or Grey's Anatomy.¹

While Roth's work with kidneys have literally been a lifesaver for many, the fact is that for many other transplants, like a heart or liver or lungs, there is no possibility of "live" donations. We need a pool of healthy deceased donors who are willing to donate their organs. Now, take a look at Figure P-1. It is clear that rates of deceased organ donation are quite different across countries. The countries included are mostly western, developed, industrialized, rich and market-based democracies, which share a swath of cultural and economic norms. But even if you look at countries located literally next door to each other, such as the Netherlands and Belgium, you will see big differences. Belgium is doing better than the Netherlands and has access to many more organ donors.

As you look at this picture, you could start to formulate arguments as to what could cause these differences. You may be tempted to frame these differences in terms of these countries' culture, history and demographics. But it turns out that there is a very simple reason why these differences come about. Believe it or not, these differences are caused by a single question on driver license forms. Some countries in the world ask applicants: "Would you like to be an organ donor? If so, check the box below." Other countries state: "We will assume that, in the event of your death, you will be willing to donate your organs. If you are not willing to do so, then check the box below."

¹ Much of this work is complex and technical in nature. I have certainly not done justice to the breadth and scope of this work here. If you find this interesting, you should certainly read Al Roth's eminently readable book: *Who Gets What — and Why: The New Economics of Matchmaking and Market Design*.

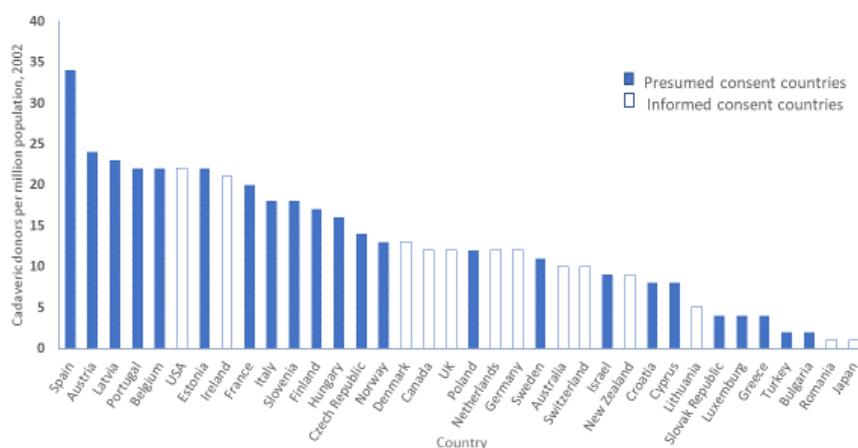


Figure P-1: Differences in deceased organ donations across 36 Western countries; Figure re-created by author on the basis of data in Abadie and Gay (2006).

The countries that implement the “opt-out” option are referred to as countries with “presumed consent”; i.e., we assume that you have given consent to donating your organs unless you specifically tell us otherwise. On the other hand, the countries that rely on the “opt-in” option are called “informed consent” countries; the assumption being that you have not consented to donating your organs unless you explicitly indicate this on your driver license.

It may be surprising, but the fact is that, in the first case, people do not check the box, and therefore, do not become organ donors. In the second case, people also do not check the box, and therefore, become organ donors by default! Now go back and look at the figure again. Guess what is common to all the countries that have higher rates of organ donation? *They all provide the second option: Check the box if you do not want to donate your organs.* This is sometimes called the “opt-out” option. You are in (i.e., you are an organ donor) unless you explicitly opt out by checking the box. The countries that do not do so well on the organ donation scale are the ones that provide the first option: *Do you wish to donate?* This may be thought of as the “opt-in” option; you are out (i.e., you are not an organ donor) unless you wish to opt in by checking the box. All of this over a simple decision (or the lack of one) to check a box!

Behavioural economists refer to this as the “*framing effect*”, or at times “*changing the default*”. You can get enormous shifts in behaviour simply by changing the way a particular question or problem is framed. Think about this. If you or someone close to you is waiting to receive a liver or kidney, it may make a huge difference as to whether you are in Spain or New Zealand; and all

because someone at the Department of Motor Vehicles decided how the organ donation question should be framed!

Organ donation, of course, is not an issue that faces many of us. I actually do not know anyone who has had an organ transplant. But this kind of behaviour is not restricted to organ donations. In their book “*Nudge*”, Richard Thaler of Chicago’s Booth School and Cass Sunstein of Harvard Law point out that similar issues of choice arise when people plan for their retirement. Most organizations around the world have a system for matching employee contributions to a pension fund. At the University of Auckland, where I work, I contribute 6.5% of my salary towards retirement saving (called “superannuation” over here down-under; in the US, the common term is a 401(K)) and the university matches this. So, anyone who manages to put away (say) \$6,500 in a year, gets another \$6,500 in employer contributions for a total of \$13,000. One catch: typically, you cannot touch this money until you are 65, which is the usual retirement age in many countries, at least in New Zealand. But given compound interest, amounts saved grow quickly. For most of us - indeed I will go out on a limb and say for all of us - it makes perfect sense to sign up to such plans. Unless someone is a financial wizard and knows of a secret recipe which can double one’s investment year on year, it is a safe bet to assume that we should sign on for such plans where employee contributions are matched by the employer. This is, as they say, a “no-brainer”. But by now, you know where I am headed. A lot of people do not sign up!

Is it because the ones not signing up are financial wizards who have better ideas on how to invest their money? No! It is simply because around the world, some employers choose the “opt-in” option: they ask the employee to check a box if they wish to join. Many employees do not check this box and do not join. Other employers rely on the “opt-out” option. They enrol employees automatically. Employees can check a box if they do not wish to join. Most employees do not check this box and therefore remain enrolled.

As Thaler and Sunstein point out: In one firm with a default contribution rate of 3% of salary, more than one-quarter of workers contributed exactly that amount to the plan, even though the employer matched contributions dollar for dollar up to 6% of salary. Once the firm switched to a 6% default, workers started contributing the same proportion. A 2013 report in the Guardian found that approximately one year after Britain introduced automatic enrolment with an opt-out feature, there were 1.6 million more savers in workplace pensions. Only 9% chose to opt out.

This is a serious issue because around the world, many people do not manage to save enough for retirement, hence poverty rates among the elderly are quite high and the aged are often overly reliant on the social safety net such as Medicare in the US. This led Richard Thaler and his collaborator Shlomo Benartzi to propose the Save More Tomorrow (SMT) plan. Under this plan,

people commit in advance to allocate a portion of their future salary increases towards retirement savings. I will discuss later, why it is easier to get people to give up a larger proportion of their *future* salary rather than their *current* salary. 78% of the people offered the SMT plan elected to use it; 80% remained enrolled through the next three pay raises. The average saving rates for SMT plan participants increased from 3.5% to 11.6% over the course of 28 months.

Want other examples of such seemingly irrational behaviour? All around the world, offices have a coffee corner. They work on an honour system. You can help yourself to a cuppa but in return you are expected to leave some money in the box. Not surprisingly, some people leave money; others don't. But if you want more people to leave money, then you can resort to a simple trick. Put a pair of eyes on top of the donation box. Or even better, add a message underneath the pair of eyes: *Put 50 cents in the box; we are watching you*. No one is really watching! It is just a pair of eyes drawn on a piece of paper. But with the watching eyes, more people will put money in.

It was 2001 and I was working at Washington State University. My wife was offered a post-doc at Tufts Medical School (in downtown Boston) and I managed to get a job at Wellesley College, a highly selective all-women's college just outside of Boston. My wife and I decided to drive across the country. Over a week, we drove around 3000 miles across the United States; along the way, we stopped at places like Butte, Montana; Rapid City, South Dakota; Wisconsin Dells, Chicago, Youngstown, Ohio and so on. At each of these places we ate lunch and dinner and sundry other meals. At the end of each meal, we left a tip even though we knew fully well that we would not go back to any those places, and even if we did, we would certainly not go back to the same restaurant. So, even if the wait-staff at any of these establishments thought poorly of us for not leaving a tip, it should not have mattered much to us. We would never see them again! Why was I leaving money? Was I afraid that the waitperson would call me names? So, what? I was not going to be around to hear that. As they say, "*Sticks and stones...*". Why do I care if someone, who I will never see again, calls me a name?

How irrational is this? As Dan Ariely of Duke points out, humans are "predictably irrational". People make apparently irrational choices but there is some method to the madness. It is not simply that people are irrational; but there is a degree of predictability, or in other words, pattern, to their irrationality. This in turn suggests that if we understand the underlying patterns and commonalities, we can use those insights to design better policy. This is going to be one of my principal goals here: to discuss how to understand such irrationality and how to make use of that insight in the design of public policy.

But there are nuances here. There is, at least, one particularly distinctive aspect to the different types of behavioural irrationalities mentioned. This distinction applies to how people

respond if and when you draw their attention to this issue. For instance, if I highlight the apparent irrationality involved in the case of checking (or not checking) boxes in the case of organ donation or contributing to retirement funds, you will most likely take this information on board and will (hopefully) change your decision. But in the case of the watching eyes or leaving tips in restaurants that you will never go back to, you will most likely not change your behaviour even if I pointed out the “error” of your ways. The well-known Cornell economist and author Robert Frank suggests that there are some “mistakes” we might rectify when pointed out (such as the organ donation or retirement savings example), but there are other “mistakes” we will not correct even when brought to our attention; such as tipping in restaurants that one will never go back to. Why?

These are the kinds of questions that I will address in this book. I intend to provide a broad overview of research in human decision-making: the things we get right, the ones we get wrong; an accounting of our biases, and more importantly, how to understand these so that we can design better policies. In recent years, behavioural economics has emerged as an exciting new area of research, since these are the kinds of questions which behavioural economics is shedding light on. Part of the appeal of behavioural economics comes from the fact that it enriches the traditional approach in economics by infusing it with key insights from human psychology. This, in turn, holds the promise of making a serious difference in terms of public policy. This contribution of behavioural economics to public policy and the recognition of the difference it can make to people’s lives is also why a number of Nobel Prizes in Economics in recent times have been awarded to people working in what is perceived as behavioural economics research (though I am not entirely sure if the recipients themselves would necessarily attach this label to their work). But maybe this is beside the point; behavioural economics is clearly a broad church and happy to include people from disparate backgrounds.

A non-exhaustive list of Nobel Prize winners for work in behavioural economics includes Daniel Kahneman and Vernon Smith in 2002, Elinor Ostrom in 2009, Al Roth in 2012, Robert Schiller in 2013, Richard Thaler in 2017 and most recently (at the time of writing in early 2020) Abhijit Banerjee, Esther Duflo and Michael Kremer in 2019. In retrospect, other recipients such as Thomas Schelling (2005), George Akerlof (2001), Reinhard Selten (1994), Maurice Allais (1988) and Herbert Simon (1978) would certainly qualify for the “behavioural economist” sobriquet and the reason that they are not usually thought of as being in that mould is that they predated the prevalence of the term. I also include Muhammad Yunus, the founder of Grameen Bank in Bangladesh, and the winner of the 2006 Nobel Peace Prize, among this group.² Work done by

² These were the early days in the rise of behavioural economics but Yunus was very clearly relying on behavioural insights from economics and psychology in his work to combat poverty in Bangladesh. But possibly because it was

some of the above and many others have led to startling and significant new discoveries that have contributed to our understanding of human decisions and human foibles.

The book is designed to be an introduction to this area. It is meant for people who are curious to know what behavioural economics is all about. In doing so, I am going to provide an overview of a host of issues, rather than engage in deep dives in any one. Many of the topics discussed can form the basis of entire courses and often do. For instance, I spend two chapters on the heuristics and biases literature, but these and their applications to policy design and choice architecture can be an entire stand-alone course. Those who are interested in deep dives can and should follow up with other more advanced texts and/or courses dedicated to specialized topics and sub-fields. My point is to draw the horse near the water and get it thirsty; how much it drinks is the horse's call. I do not assume much in the way of technical expertise other than exposure to basic numeracy and concepts in probability. I do understand that many of the terms in this paragraph are relative; some topics will feel like a deeper dive than others and some will find the material more quantitatively challenging than others. Some of this reflects my own preferences and expertise. I know more about some topics and their applications than others since I have done more work in those areas. Some basic numeracy skills are unavoidable such as in the material on decision making under uncertainty. But at all points, I will try my best to explain the material so that it is accessible to a general audience.

So, all I am really asking for is a healthy dose of curiosity about the world around us and why we (individuals/groups/societies/governments) make the decisions that we do. And as I tell my students, the reason for asking them to do some numerical calculations is not because I want to torment them, but because it forms an integral part of logical thinking. This is not that different from learning how to code, study logic, or, for that matter, learn Latin. Of course, no one speaks Latin but studying it helps us understand the structure of most Western languages such as English, French, Italian or German. Studying these topics with the aid of some basic math helps develop a formal way of thinking that is often essential in complex decision-making tasks.

Providing an overview of human decision making is not a particularly easy undertaking since “behavioural economics” actually means different things to different people, and depending on who is teaching the course, the course content may be very different. Earlier, I stated that

early days and because behavioural economics, particularly behavioural development economics, was still considered far outside the mainstream of Economics, Yunus had to settle for the Peace Prize rather than the Prize in Economics. Knowing Yunus, I doubt the distinction mattered to him. In case you are not aware, the Peace Prize is handed out in Oslo, Norway, while all the other prizes are awarded in Stockholm, Sweden. It is also the case that the Nobel Prize in Economics is very much a late-comer and was not part of Alfred Nobel's original endowment. The Economics prize was instituted in 1969 by the Swedish Reserve Bank and is actually referred to as the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel. This is why the other “real” Nobel Prize winners like the ones in literature, physics or chemistry do not consider the Economics Nobel Prize as a real Nobel Prize!

behavioural economics is a discipline that infuses economic thinking with insights from psychology. But, this presupposes that there is a well-defined domain of economic thinking and an equally well-defined set of psychological principles that can be applied to the former in order to generate more realistic predictions of human behaviour. This is not necessarily true because economists often disagree with one another about central assumptions in the field; as do psychologists. Given that, at the end of the day, both disciplines are really off-shoots of philosophy and are primarily interested in understanding human decision-making, there are clear overlaps in research questions. But there is not necessarily agreement about first principles. For instance, social psychologists are often at loggerheads with evolutionary psychologists; over things such as the role and impact of nature versus nurture. Economists also disagree about crucial matters such as the impact of inflation and the role of governments in regulating industry. Matters have been made complicated, or possibly more exciting, by the entry of neuroscientists who are now routinely trying to peek inside the black-box of the brain via techniques such as functional magnetic resonance imaging (fMRI) to try and understand the nuances of decision-making. I will touch upon some of these neuro-economic findings at various points in the text.

As noted, my aim is to reach out to the novice who wants an introduction to the area; who is looking to dip his or her toe in the water. The topics covered reflect my views on what such a person should and needs to know. Reasonable people will differ on the selection of those topics as well as the depth and breadth. But I am reasonably confident that the coverage will serve a wide range of people and most readers will emerge on the other side with some new-found insights and a new perspective on thinking about social problems.

The book can be used by different types of readers. It is primarily designed to serve as a textbook for a one-semester course in decision-making. The topics covered should provide ample material for 12-14-week long semesters of approximately 75-90 minutes of contact time per week. Such courses will most likely be undergraduate courses. Second- or third-year courses could probably rely on this material alone. Fourth year seminar type courses or graduate level courses would probably find it useful to get students to read some of the actual articles discussed in the book. I teach this material or variants thereof at the undergraduate level at the University of Auckland. I have also used this for my graduate course in Experimental Economics, where I supplement this with other material and journal articles. I am aware of colleagues who use the book for other applied Master's level courses as well as people who use it for first year interdisciplinary honours-type seminars.

Second, the book can be used by a lay reader looking to get a handle on the topic. This current book is, in many ways, an extension of my earlier book *Experiments in Economics: Playing*

Fair with Money.” That book was meant for a general audience with no background in Economics nor anything related to it. David Cooper of Florida State University wrote a very positive review of that book in the *Journal of Economic Literature*. Among other things, he said the following:

“...*What this book is perfect for is giving interested readers who are not professional economists a flavour of what experimental economics does and why it is important. It is the book I gave my mother when she wanted to understand what I was always babbling about (she loved it!) ...*”

So, to all those of you who work in this area and struggle to explain what you do to your parents, here is the book you want to buy as the next Mother’s Day/Father’s Day gift. Lay readers should easily skip some of the more technical parts. I indicate the parts that lay readers should feel free to ignore without hampering their understanding of other parts of the book.

But less facetiously, practitioners from a wide range of fields and those working in public policy should be able to get value out of this book. During Spring 2020, I used this material to teach *MLD 302: Behavioural Decision Making* to students at Harvard Kennedy School.³ Most of these students were pursuing Master’s degrees in public policy or public administration. Some came from Tufts University’s Fletcher School of Government, while others from the Chan School of Public Health. I think I had one or more students from Harvard’s Graduate School of Design. I also had a number of members from the American Leadership Initiative at the Kennedy School. These are typically people who have already had a distinguished career and are looking for a new challenge or a shift in vocation/avocation toward pursuing a new goal. Some of them are lawyers or entrepreneurs. Both formal and informal feedback suggested that all of these people found parts of the material interesting, thought-provoking and applicable to things that they were working on or were interested in. So, if you are a public policy practitioner, then there should be something in this book for you. If nothing else, you can use this as a substitute for doing MLD 302 at Harvard Kennedy School.

Third, the book can be a useful supplementary or recommended text for undergraduate or graduate courses in experimental economics that devote a substantial amount of time to issues such as ultimatum, trust, social dilemma and coordination games. The same is true for a variety of upper-level courses in microeconomics or game theory where the instructor might wish to discuss experimental findings and behavioural implications of the theoretical models of behaviour.

Fourth, findings in this area have broad overlaps with social psychology, organizational behaviour, management and other business-related disciplines, and as such, the book should appeal to researchers and students in those areas as well. Parts of the material, especially ones

³ At the Kennedy School, courses are allocated to different teaching areas. Mine belonged to MLD: Management, Leadership and Decision-Making.

related to heuristics and biases, rightfully belong to the psychology literature. This material may be well-known to students with a background in psychology. But, chances are that these students will get value from the discussion of strategic thinking and the variety of experimental games.

The material on trust, gift-exchange and how to resolve problems of coordination failure in organizations should be of particular interest to human resource managers and might provide insights into ways of motivating their workforce. Parts of the book dealing with strategic thinking, Bayesian updating, and the concepts of fairness and trust and their economic implications should be of interest to social and evolutionary psychologists. I spend quite a bit of time on problems of collective action; this again should find wide applicability to a range of issues across disciplines.

I can think of no better way to end this preface than to quote from John Maynard Keynes' preface to the *General Theory of Employment, Interest and Money*, which eloquently sums up what I would like to say to the prospective reader.

The composition of this book has been for the author a long struggle of escape, and so must the reading of it be for most readers if the author's assault upon them is to be successful – a struggle of escape from habitual modes of thought and expression. The ideas which are here expressed so laboriously are extremely simple and should be obvious. The difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those brought up as most of us have been, into every corner of our minds.