Behavioral economics

Lecture I - **Introduction**

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References:

- Cartwright, E. (2018). *Behavioral economics*. Routledge.

What is behavioral economics?

- Behavioral economics is about understanding economic behavior and its consequences. It's about understanding why someone buys a hotdog, goes to work, saves for retirement, gives to charity, gets a qualification, sells an old car, gambles on a horse race, cannot quit smoking, etc. It's also about understanding whether people make good or bad choices, and could be helped to make better choices.

- Behavioral economics is about testing the standard economic model on humans, seeing when it works and when it does not, and asking whether it can be tweaked, or given an overhaul, to better fit what we observe.

- Behavioral economics is about applying insights from laboratory experiments, psychology and other social sciences in economics.

- If you combine all three definitions, I think we can strike a nice balance. Behavioral economics is about working constructively with the standard economic model to get a better understanding of economic behavior. The objective is definitely not to criticize the standard economic model, or to accentuate the negatives. Testing the standard model is a means to an end, and that end is to understand economic behavior as best we can.

- Behavioral economics has really come of age in the last 50 years or so, and so a lot of progress has been made. Various things could have happened as we started to put the standard economic model to the test. The model could have worked perfectly; that would have been fantastic news for economics, but not so exciting for the future of behavioral economics. At the other extreme, the model could have proved useless; that would be bad news all round (except for those who like to poke fun at economics). What has actually happened is an exciting mix in which the standard economic model sometimes seems to work very well, sometimes to work very badly, but most of the time is not far off, and with a bit of tweaking gets a lot better.

The history and controversies of behavioral economics

- It is difficult to say when behavioral economics began, but we can credit Adam Smith with being its founder. Any student of economics should be familiar with Adam Smith's book An Inquiry into the Causes of the Wealth of Nations, first published in 1776. In that book Smith famously explained the invisible hand of the market.

- Less well known to most economists is a book that Smith first published in 1759, called The Theory of Moral Sentiments. It was actually in this book that the invisible hand first made an appearance. More interesting, for our purpose, is how Smith explains that people are not motivated solely by self-interest, but also feel a natural sympathy with others, and have a natural sense of virtue.

- At the beginning of the twentieth century, however, economics turned away from psychology, and behavioral economics, if we can call it that, disappeared for over half a century. Psychology can be taken out of economics by focusing on choice rather than desire. Instead of trying to work out why people do things, we can make inferences based solely on what they do.This approach makes a lot of sense, because it allows to abstract away from difficult psychological questions and develop a mathematical theory of rational choice. If people are rational then they will reveal their desires through their choices, and so we need focus only on choice.

- Asking what happens if people are rational is a good, logical thing to do, because it provides a natural benchmark to work with. The same could be said of asking, as Smith did in discussing the invisible hand, what happens if people are selfish. Assuming for mathematical convenience that people are rational and selfish clearly does not mean, however, that people actually are rational or selfish.

- The problem is that these caveats can easily be forgotten in the beauty or simplicity of the argument. In the face of such appeal and convenience it became easy to overlook the fact that people are neither rational nor selfish; Homo economicus became king, and economics became very distant from psychology.

- To assume people are like rational and selfish Homo economicus is the most natural, objective place to begin thinking about modeling economic behavior. Indeed, economists often start by asking what a selfish, rational person would do. The crucial point, though, is that it is the start point and not the end point. It is the best way to start thinking about modeling economic behavior but not necessarily the best way to model economic behavior. A crucial distinction!

Behavioral economics is reborn

- From the 1960s onwards psychology gradually made a return to economics. First, Herbert Simon (Nobel Prize in Economics in 1978) seriously questioned the sense of approximating people by Homo economicus. For example, in a paper published in 1955, he solves for how a rational person should behave before stating: ‘My first empirical proposition is that there is a complete lack of evidence that, in actual human choice situations of any complexity, these computations can be, or are in fact, performed.’ Instead, Simon suggested looking at the information and computational capacities that humans possess, and using this as the starting point for economic models. Recognizing the limitations faced by humans led to the term ‘bounded rationality’.

- One thing notably lacking in much of what Simon wrote was proof that Homo economicus is not a good approximation of how people behave. He may have thought this was obvious (many do), but the lack of any formal proof made it easy for economists to ignore his work. The same could not be said of ‘your assumptions are wrong’ attack, and the main credit went to Daniel Kahneman and Amos Tversky. The approach is one of demonstrating that people really are very different from Homo economicus.

- Daniel Kahneman won the Nobel Prize in Economics in 2002 for ‘having integrated insights from psychological research into economic science, especially concerning human judgment and decision-making under uncertainty’ (Amos Tversky was, unfortunately, no longer alive). However, their attack was still too easy to dodge for economists confident in the standard economic model. After all, was it not obvious that people are not like Homo economicus? The real issue is whether models in which people are approximated by Homo economicus make good predictions. The early work of Kahneman, Tversky and others had less to say on this issue.

- To illustrate the point, we can get to the third element - ‘markets work’ revelation, and give the main credit to Vernon Smith. Starting in 1955 Smith performed a series of experiments to see whether basic predictions of the standard economic model about markets would prove correct. Basically the predictions proved good. A stunning result! Maybe, therefore, it does not matter if people are not like Homo economicus; the standard economic model can still work. These initial experiments led to a continuing line of research on market institutions that provides the most important results to have come out of behavioral economics. In 2002 Vernon Smith won the Nobel Prize in Economics ‘for having established laboratory experiments as a tool in empirical economic analysis, especially in the study of alternative market mechanisms’.

Behavioral economics is reborn

- The final element I will call the ‘what equilibrium to choose?’ problem, and give the main credit to Reinhard Selten. The problem became apparent with the rapid progress of game theory in the 1950s and 1960s. Game theory looks to capture behavior in strategic situations, and meant the demands on Homo economicus became ever more stringent. Not only should he or she be selfish, rational and cleverer than any economist, Homo economicus also needs to be telepathic in order to predict what others will do (and even that is not enough). Basically, in strategic situations, it usually becomes ambiguous what Homo economicus should do; it is ambiguous what the rational thing to do is.

- The technical way to express this problem is to say that there are multiple equilibria. Somehow we need to try and say which of the equilibria ‘makes more sense’ or ‘seems more likely to occur’. That’s a bit like throwing darts at a dartboard while blindfolded. To have any chance of success it makes sense to question how people might think or reason in such strategic situations and observe what people do when they play games. In other words, it made sense to draw a little on psychology and to run controlled experiments.

- Selten won the Nobel Prize in Economics in 1994, together with John Nash and John Harsanyi, ‘for their pioneering analysis of equilibria in the theory of non-cooperative games’. More than anything else, I think that game theory was instrumental in the rebirth of behavioral economics. That’s because it meant that the next logical step in developing the standard economic model was to draw from psychology and use experiments. The standard economic model had hit a dead end, and behavioral economics was needed to move it forward.

Behavioral economics and policy

- If behavioral economics can improve our understanding of the economy then we should be able to put it to good use. Consequently, there is a fifth element to be added the mix. This fifth element has little to do with the rebirth of behavioral economics but is proving instrumental in its rapid growth. Let's call it the 'policies that work' problem. By its nature, economics is an applied subject; it should inform on how to alleviate poverty, avoid unemployment, regulate industry, and so on. Many, however, have become frustrated by the inability of economists to provide good answers to the important policy questions!

- Increasingly, this problem is being traced back to an over-reliance on the standard economic model. The standard economic model suggests that intervention is needed only when markets fail because of things such as externalities, imperfect information or imperfect competition; if markets work, then people make the rational decision. So, if people do not save for retirement, then they clearly want to end their life in poverty. If someone buys a mortgage they cannot afford then they knowingly gambled everything on house prices rising. Similarly, if someone becomes addicted to heroin then they chose to do so taking into account their financial constraints. To anyone other than economists these kinds of statements sound weird. They also sound weird to a behavioral economist.

- Once we take into account the mistakes people make and the difficulties of coordinating on an equilibrium, the rationale for intervention becomes stronger. But it is important to realize that behavioral economics does not prescribe big government; rather, it prescribes clever government. I would distinguish two different elements to this.

- One thing behavioral economics does is give fresh insight into what policies will work and what will not. For instance, the traditional approach to increase saving for retirement has been complex tax breaks; these are the kinds of things that appeal to Homo economicus but are ignored by Homo sapiens. A behavioral economics approach suggests things such as the save more tomorrow plans, these are the kinds of things that appeal to Homo sapiens but are ignored by Homo economicus. It is partly for his groundbreaking work in this area that Richard Thaler was awarded the 2017 Nobel Prize in Economics 'for his contributions to behavioral economics'.

100 Rationality rate 0

100

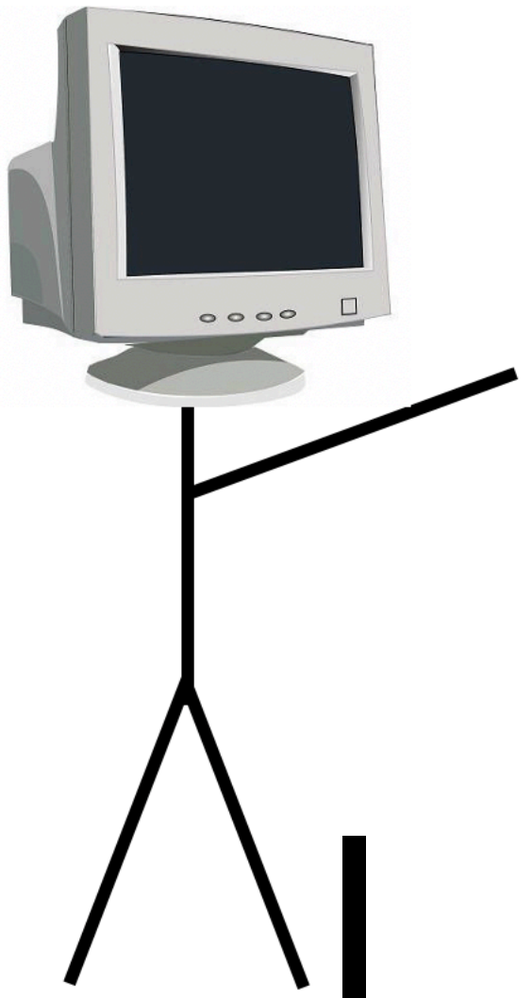
Rationality rate

0

Experimental observation 1

Experimental observation 2

Experimental observation 3



Why here???

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Rationality rate

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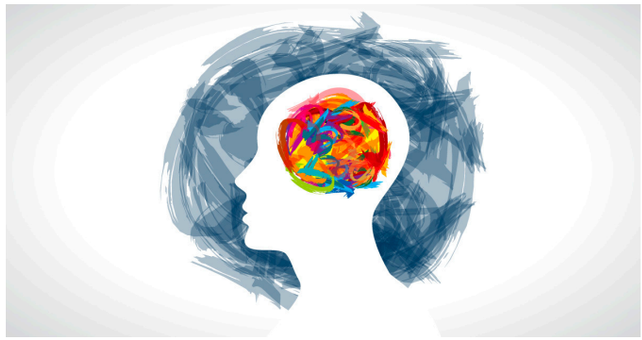
Experimental observation 1

Experimental observation 2

Experimental observation 3

Behavioral economics

Why here???



100 — Rationality rate — 0

Experimental observation 1

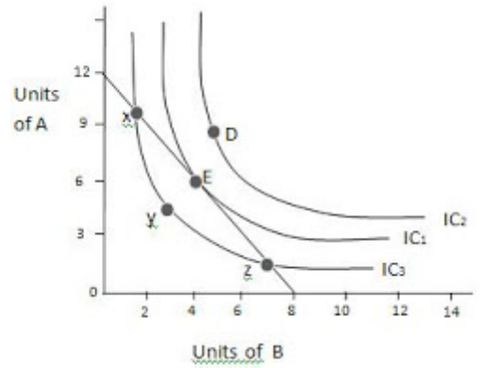
Experimental observation 2

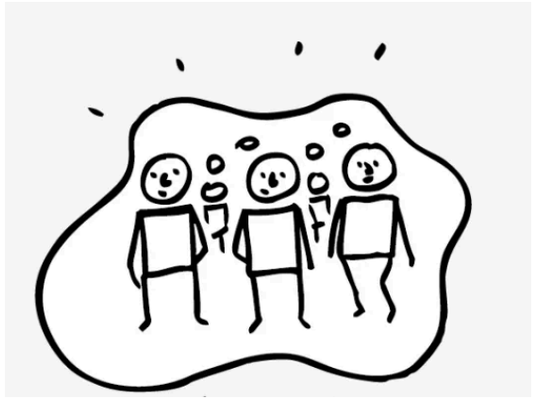
Experimental observation 3

Decision-making categories

Individual decisions

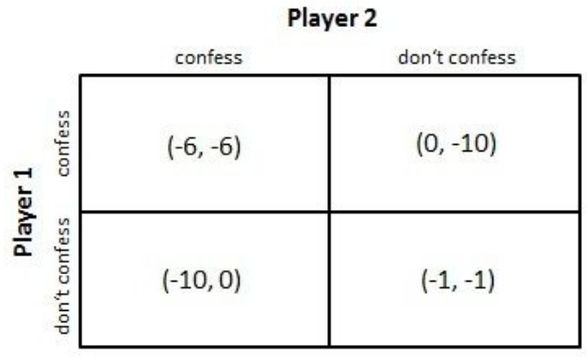
>> preferences
>> incentives





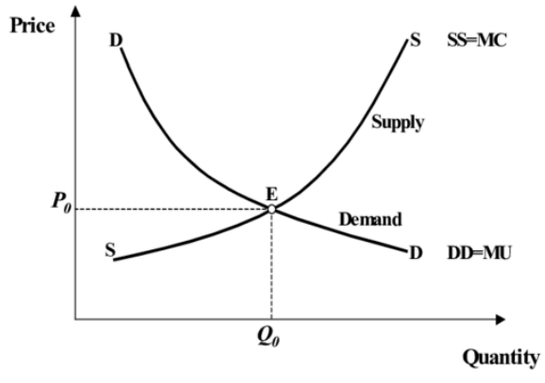
Strategic interactions

+ social norms

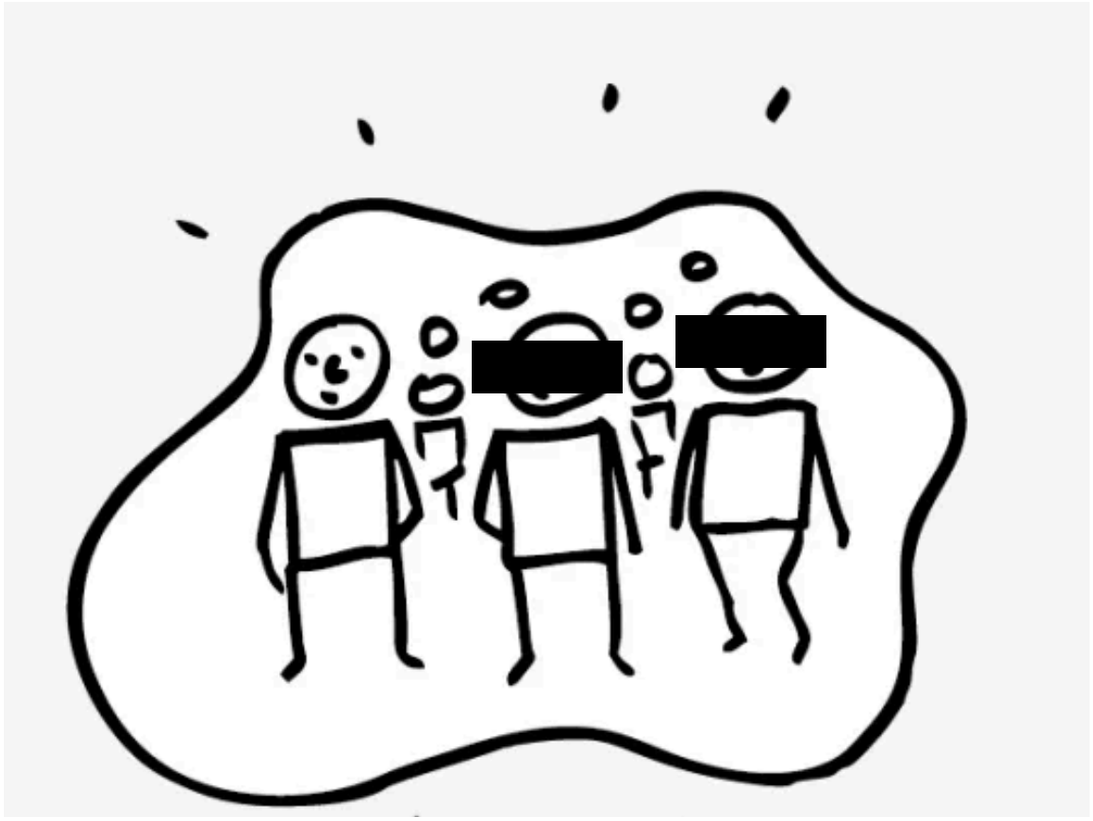


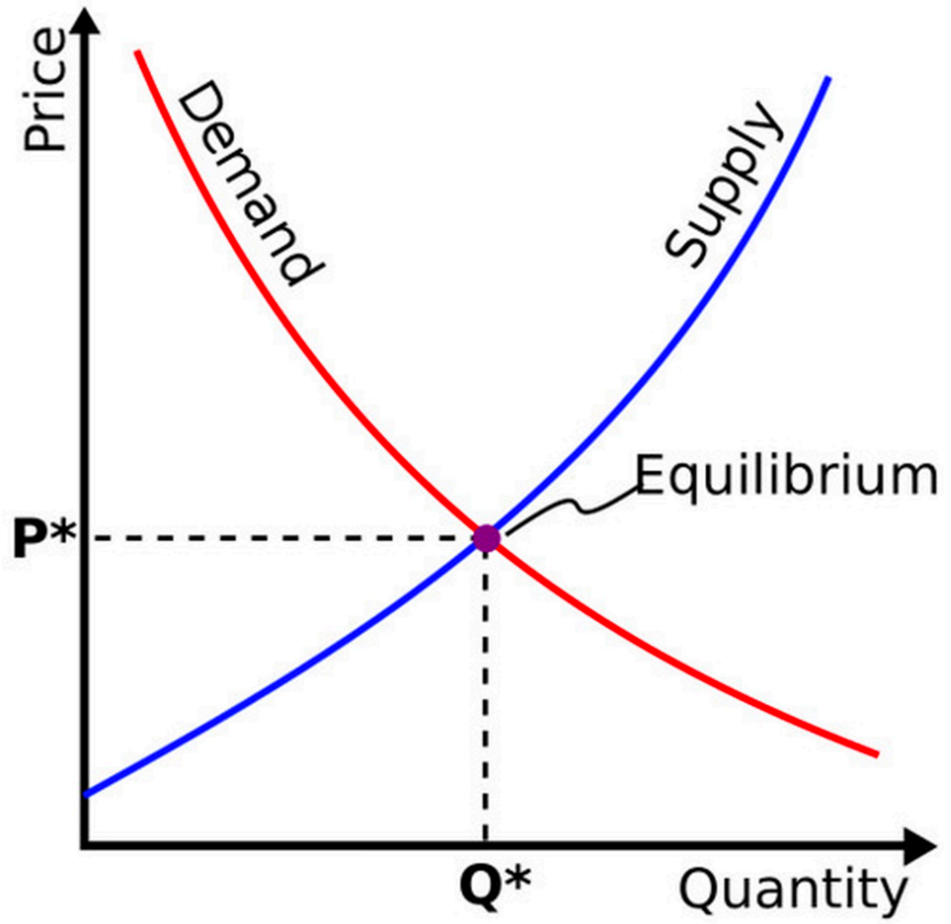
Market interactions

+ market rules



Market interactions



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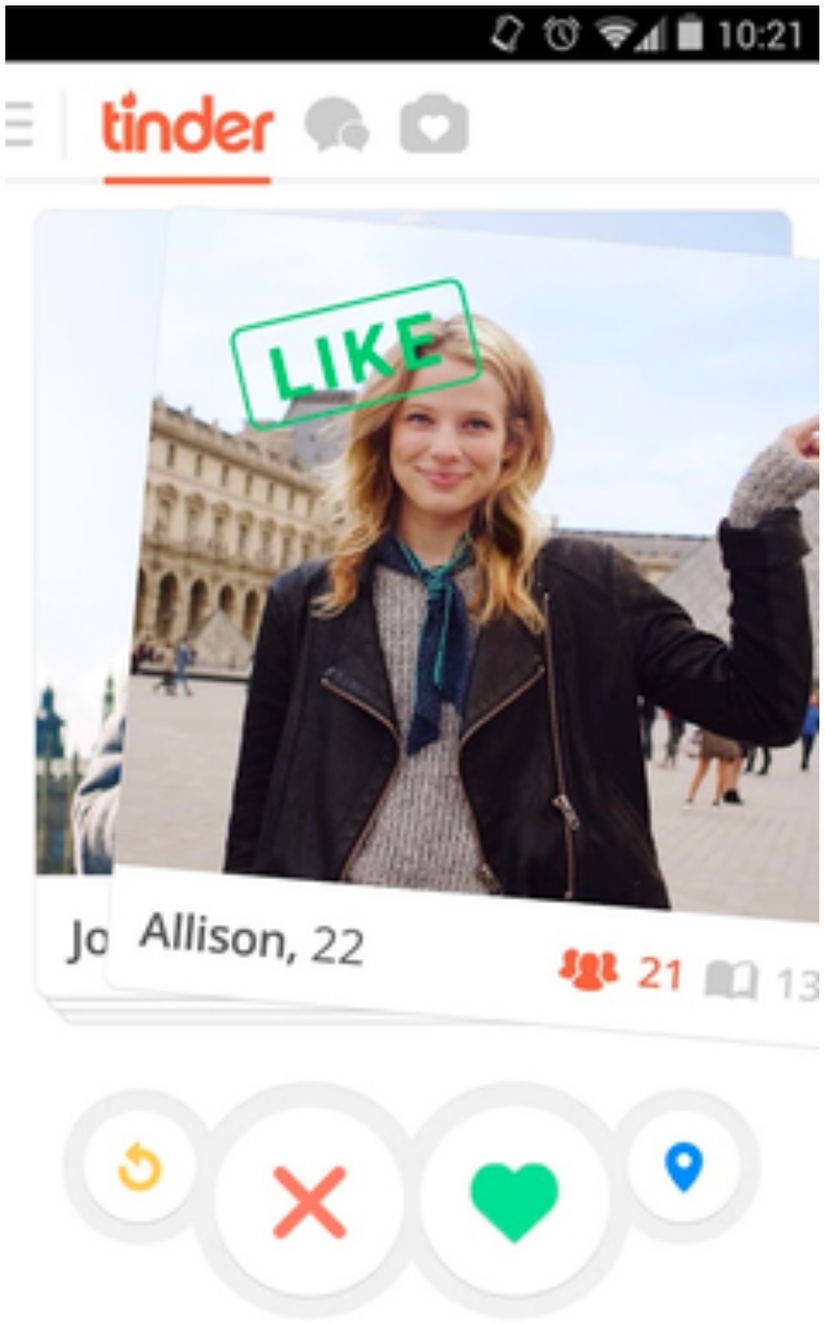
STOCK MARKET
ANDERSON'K
CHRISTIANPOST.COM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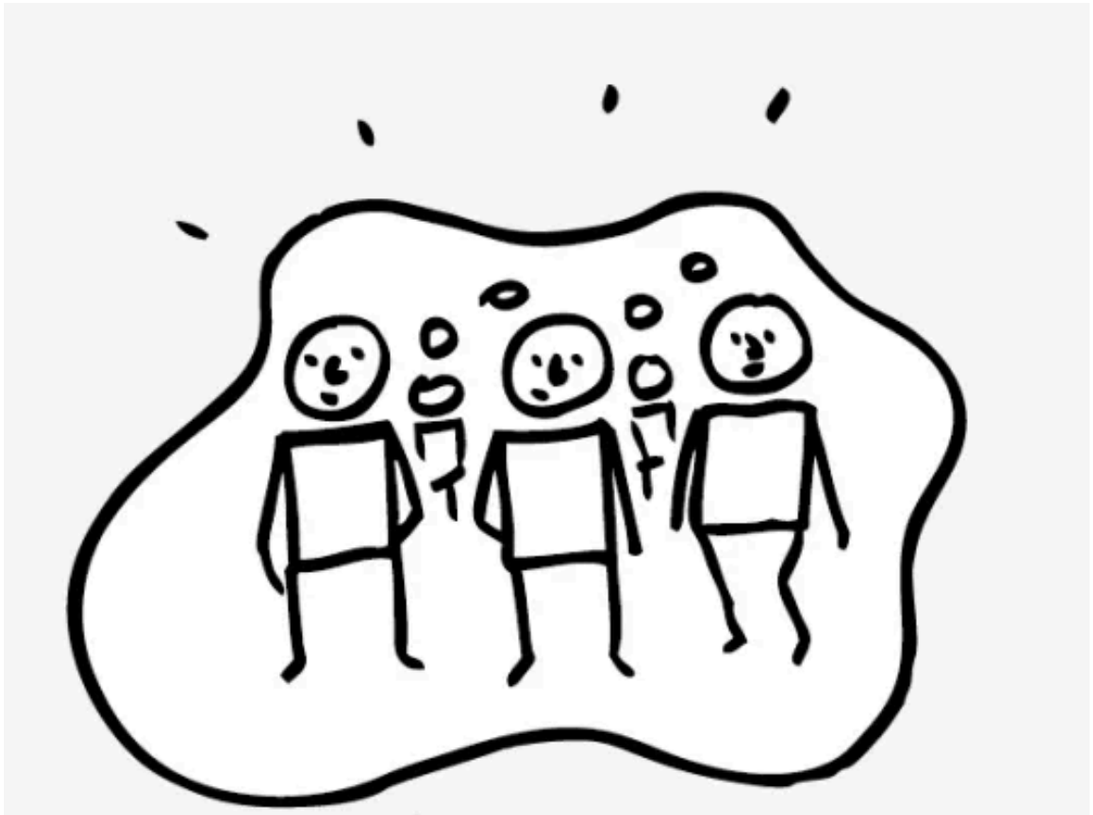
tinder
LIKE
Allison, 22
21


Hello Kidney

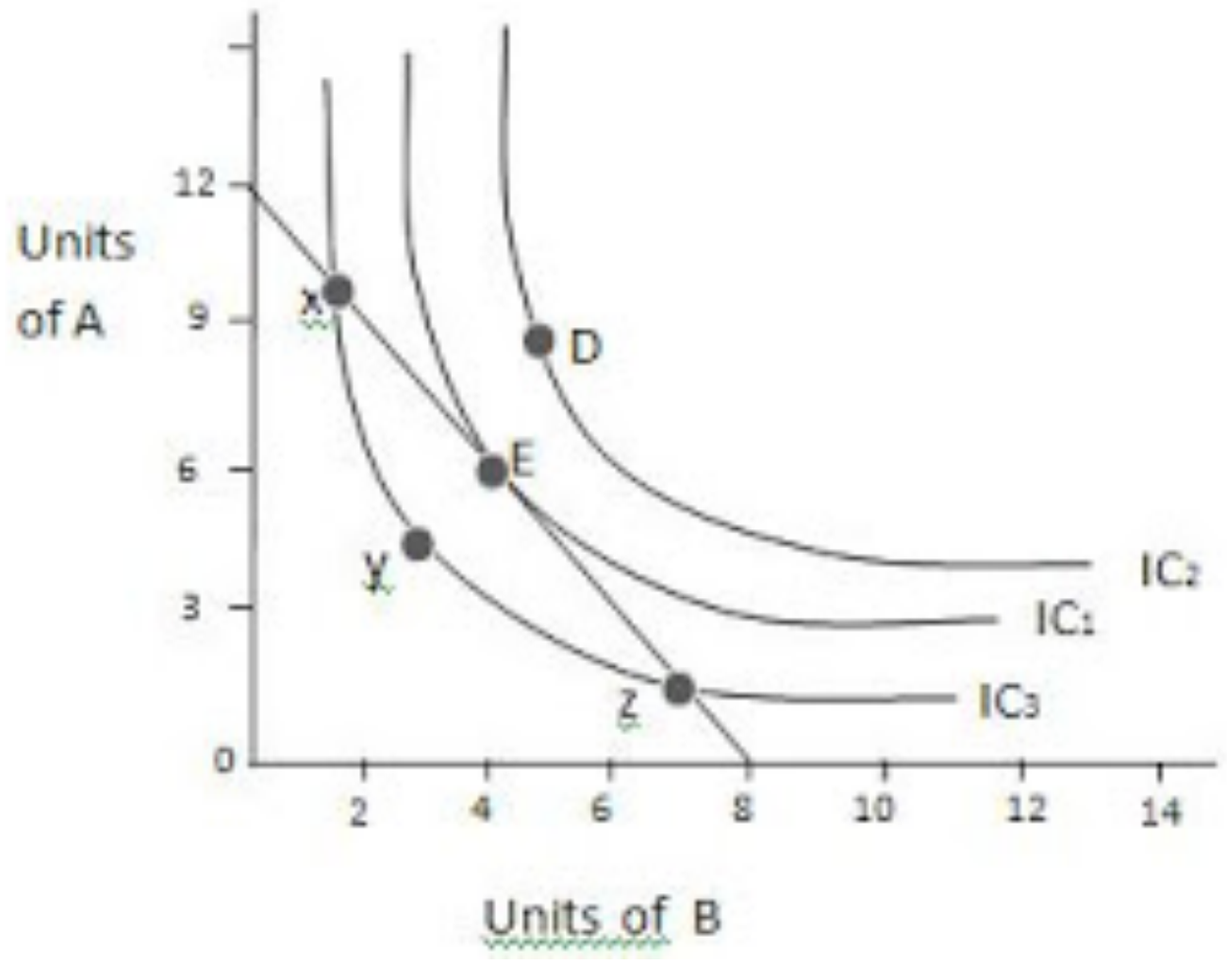
Strategic interactions



Player 1 \ Player 2	confess	don't confess
confess	(-6, -6)	(0, -10)
don't confess	(-10, 0)	(-1, -1)


gettyimages
25 YEARS
Greg Ceo
200399784-006

Individual decision-making



Are we rational?

- Rational people know what they want, their motives are known consciously and their preferences are stable and consistent. Their actions are deliberate and they know their consequences. Really?

- While people do respond to rational motivations, they also respond to emotions. Emotions interact with rational thinking in at least two important ways: they limit the number of options considered and also limit the aspects of the environment considered. In other words, emotions convey priorities.

- Both positive and negative effects of emotions or moods can influence behavior. We can distinguish between moods that are immediate or anticipatory, especially related to intertemporal choices involving risk or uncertainty. This is a different mechanism than immediate moods, which might be quite mild, but still influence choices at the time of the decision.

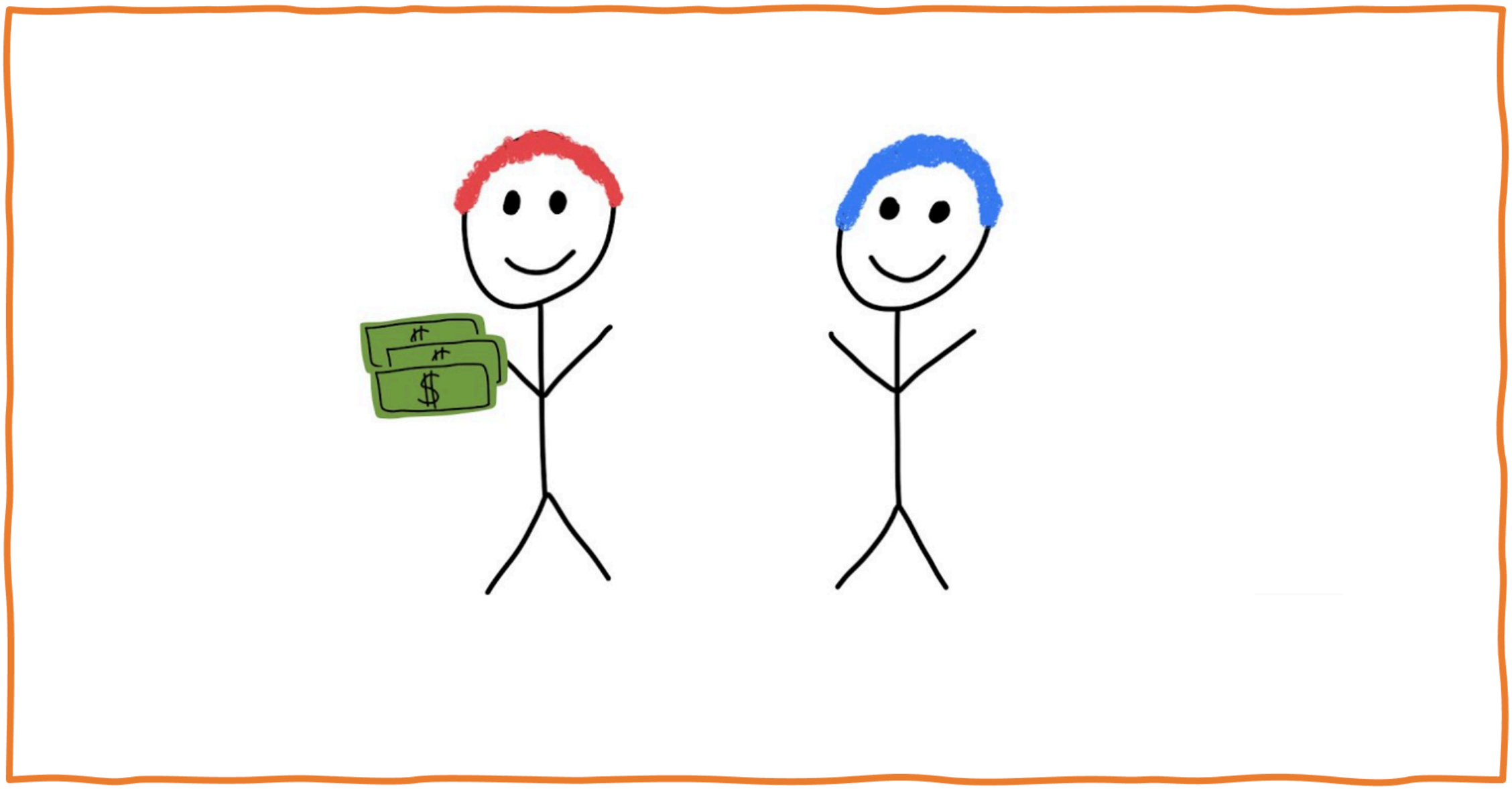
- If there is a primary affective reaction, people may be more ruled by emotions than is generally assumed in rationality discussions. For example, a strongly threatening stimulus leads to attempts to distance oneself as quickly as possible without really thinking until it is too late.

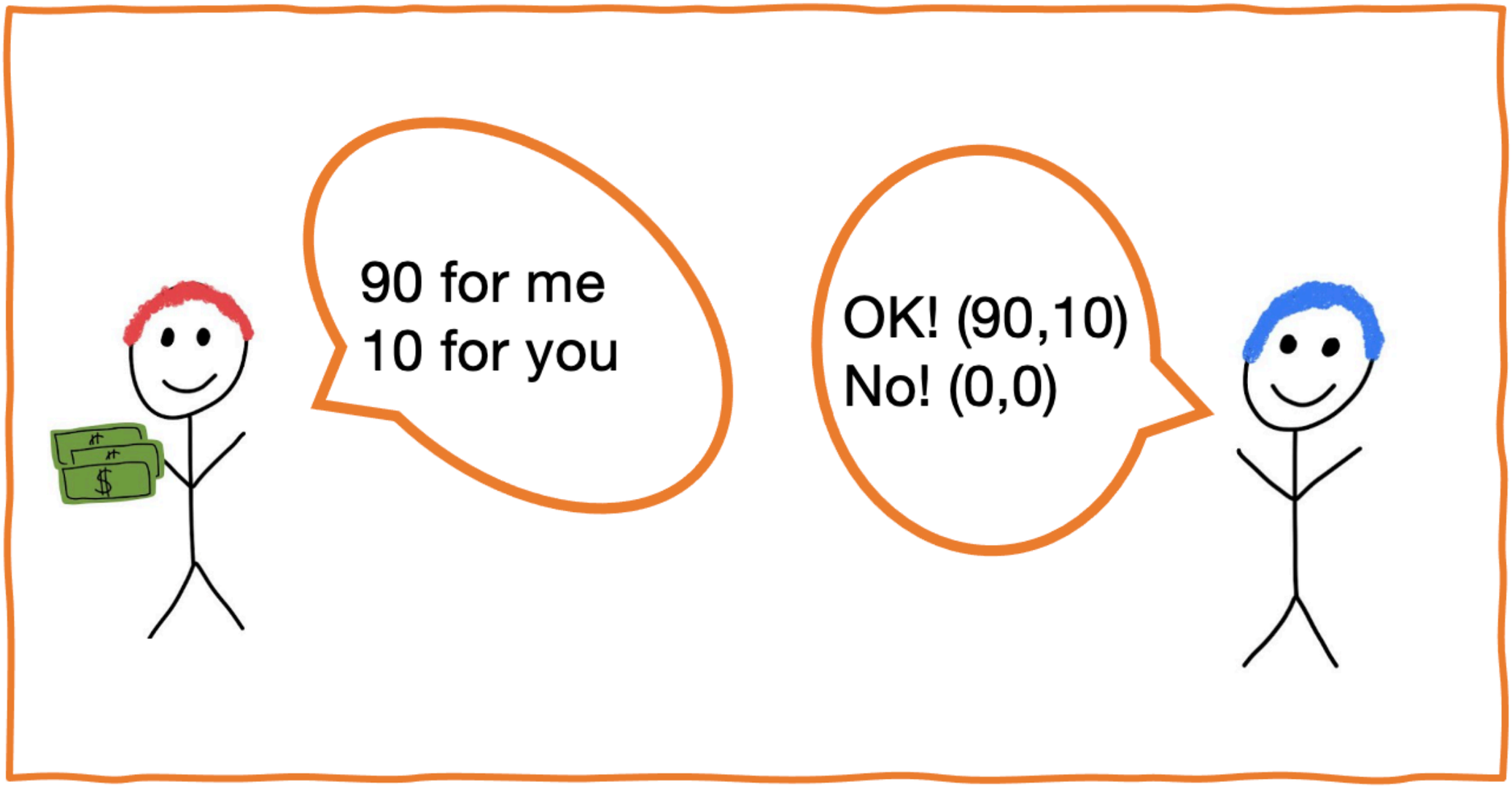
- People also base many decisions on affective forecasts: predictions about their emotional reactions to future events influence their choices, including regrets for being “wrong.” Affective forecasts often display an impact bias, meaning that people overestimate the intensity and duration of their emotional reactions to future events. People fail to anticipate how quickly they will make sense of things that happen to them in a way that speeds emotional recovery. This is especially true when predicting reactions to negative events.

- Descartes’ error (Antonio Damasio)

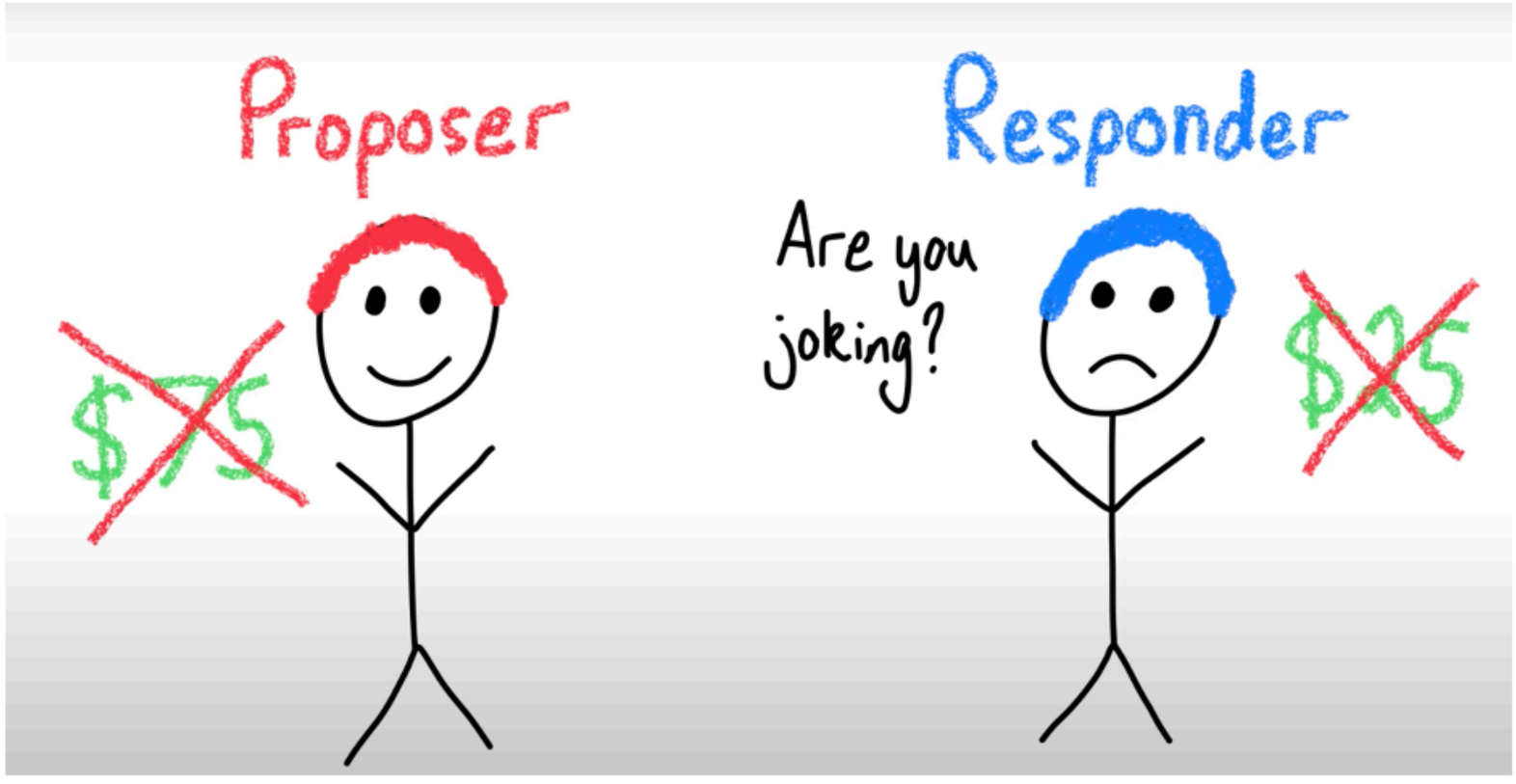

NETFLIX
TODAY
TOMORROW

When 0 EUR is more than 10 EUR




90 for me
10 for you
OK! (90,10)
No! (0,0)

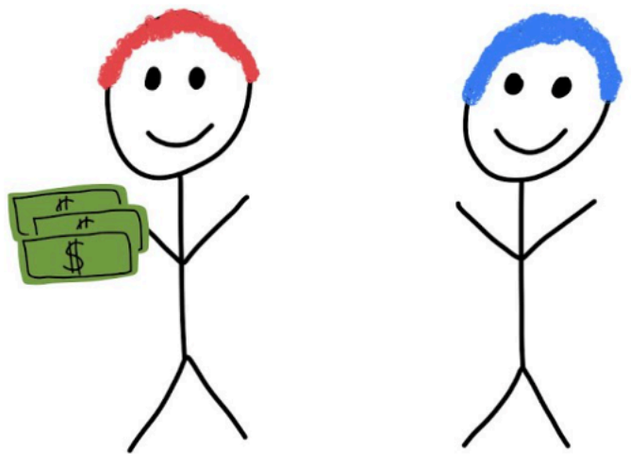
Ultimatum game



Econometrica, Vol. 66, No. 3 (May, 1998), 569–596

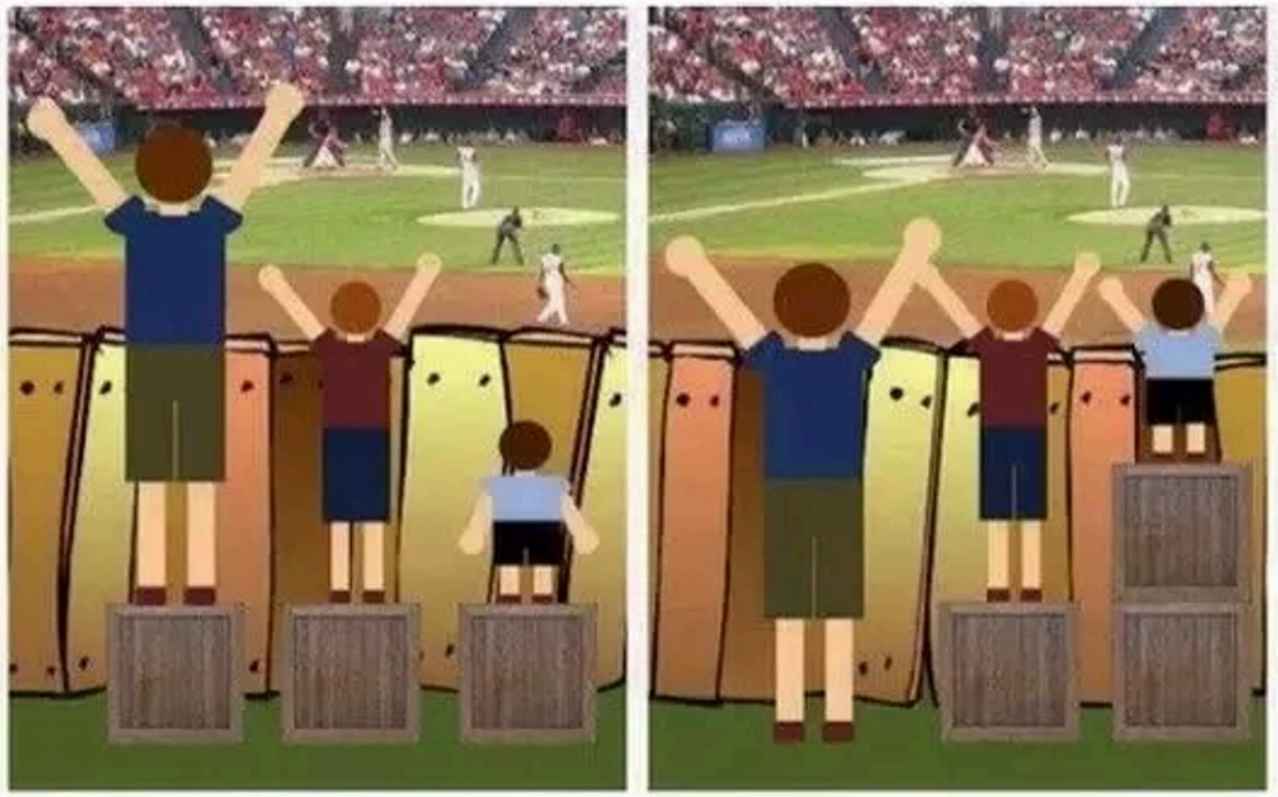
LEARNING IN HIGH STAKES ULTIMATUM GAMES: AN EXPERIMENT IN THE SLOVAK REPUBLIC

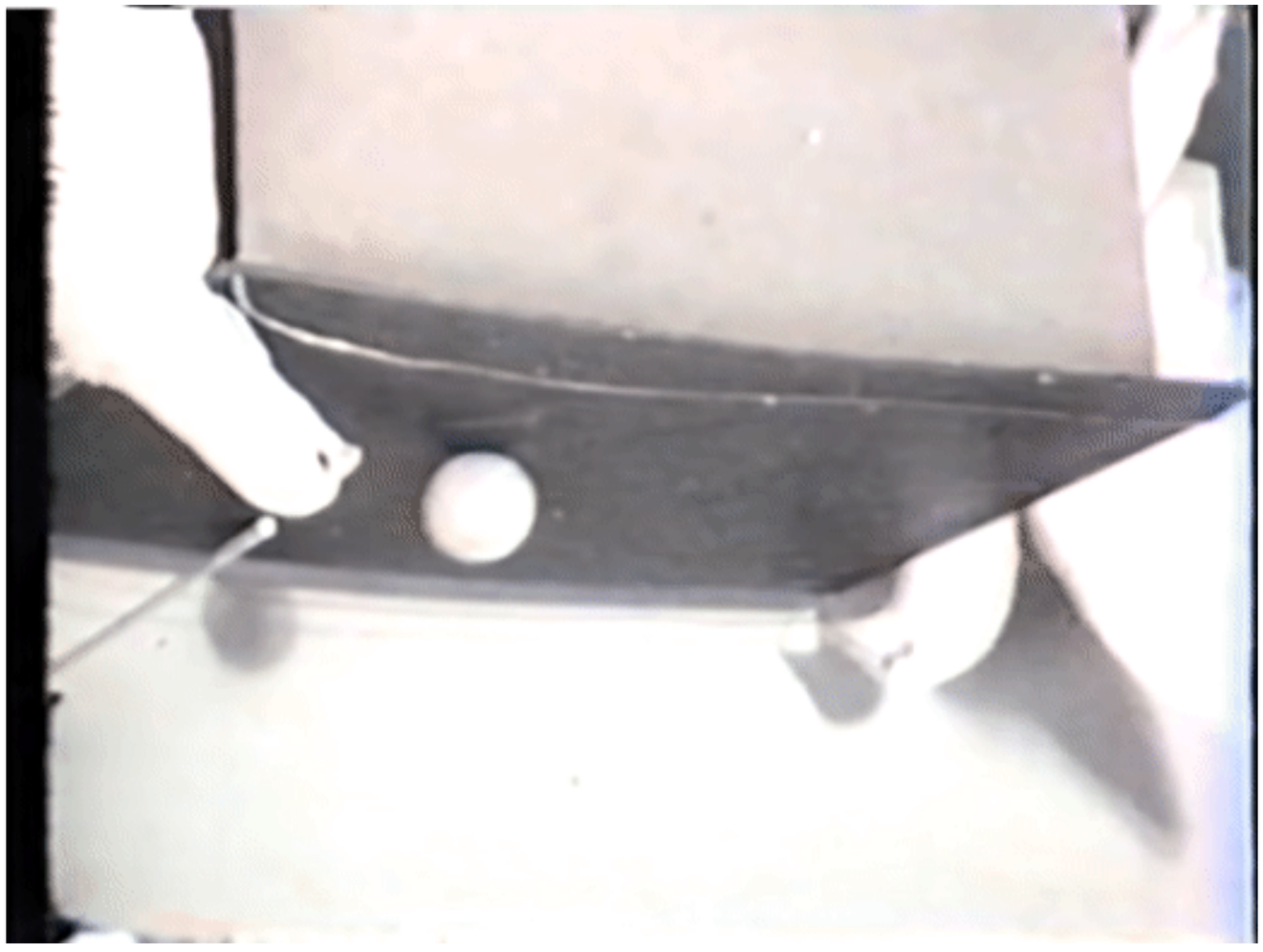
BY ROBERT SLONIM AND ALVIN E. ROTH[1]



Fairness

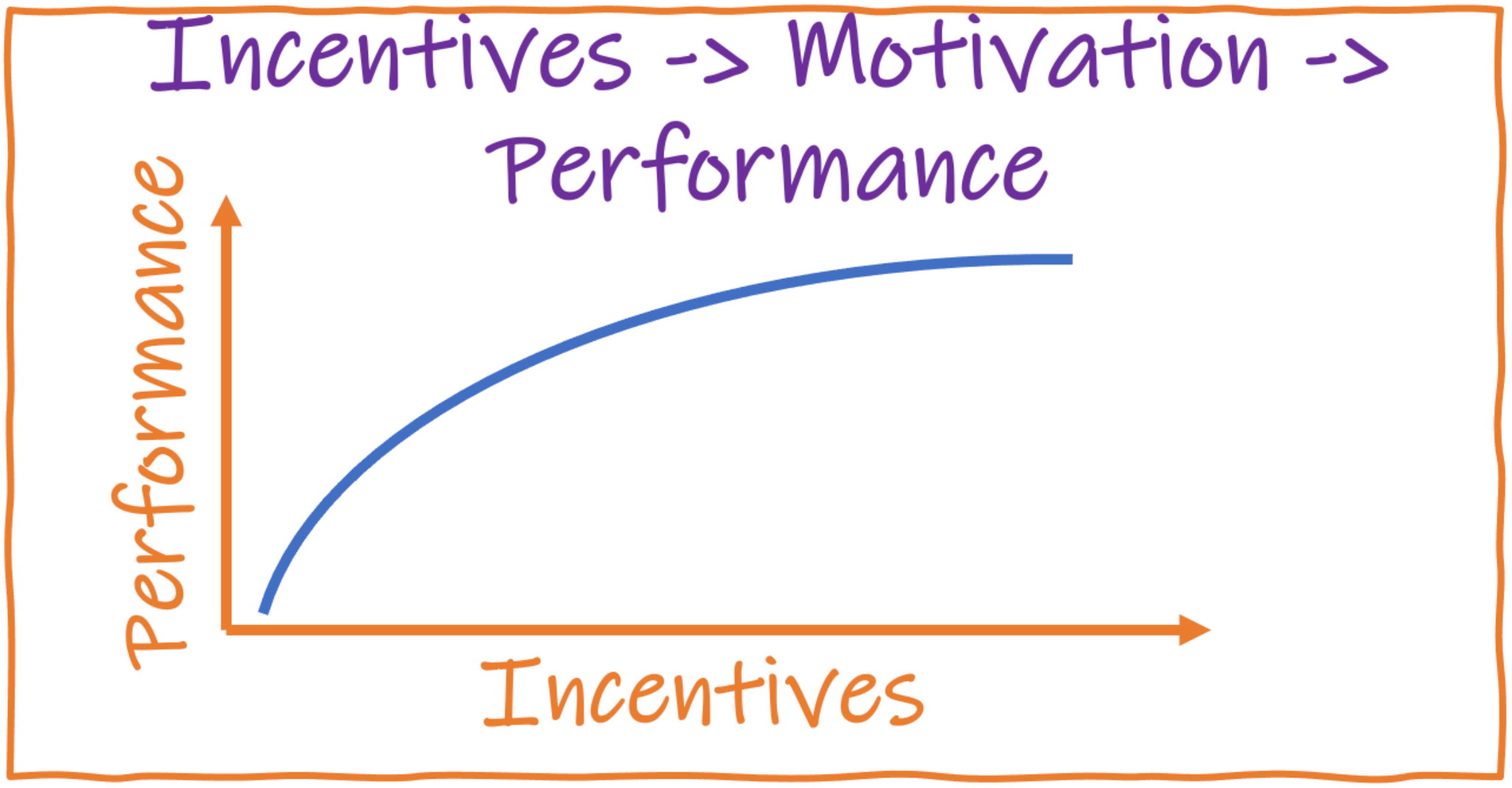
EQUAL FAIR

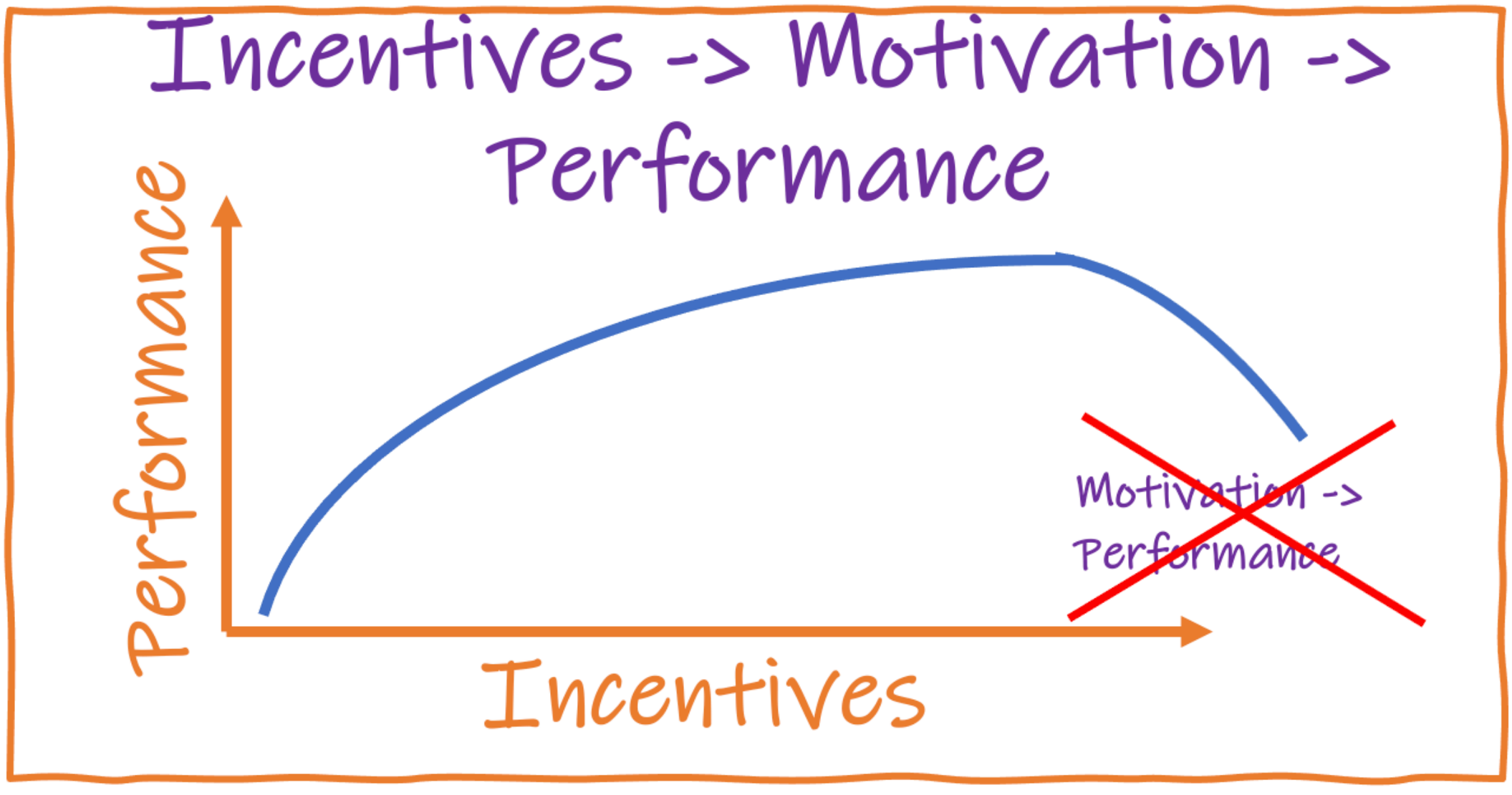





Wolfsburg


ONE
TOKEN


Incentives -> Motivation ->
Performance
Performance
Incentives


Incentives -> Motivation -> Performance
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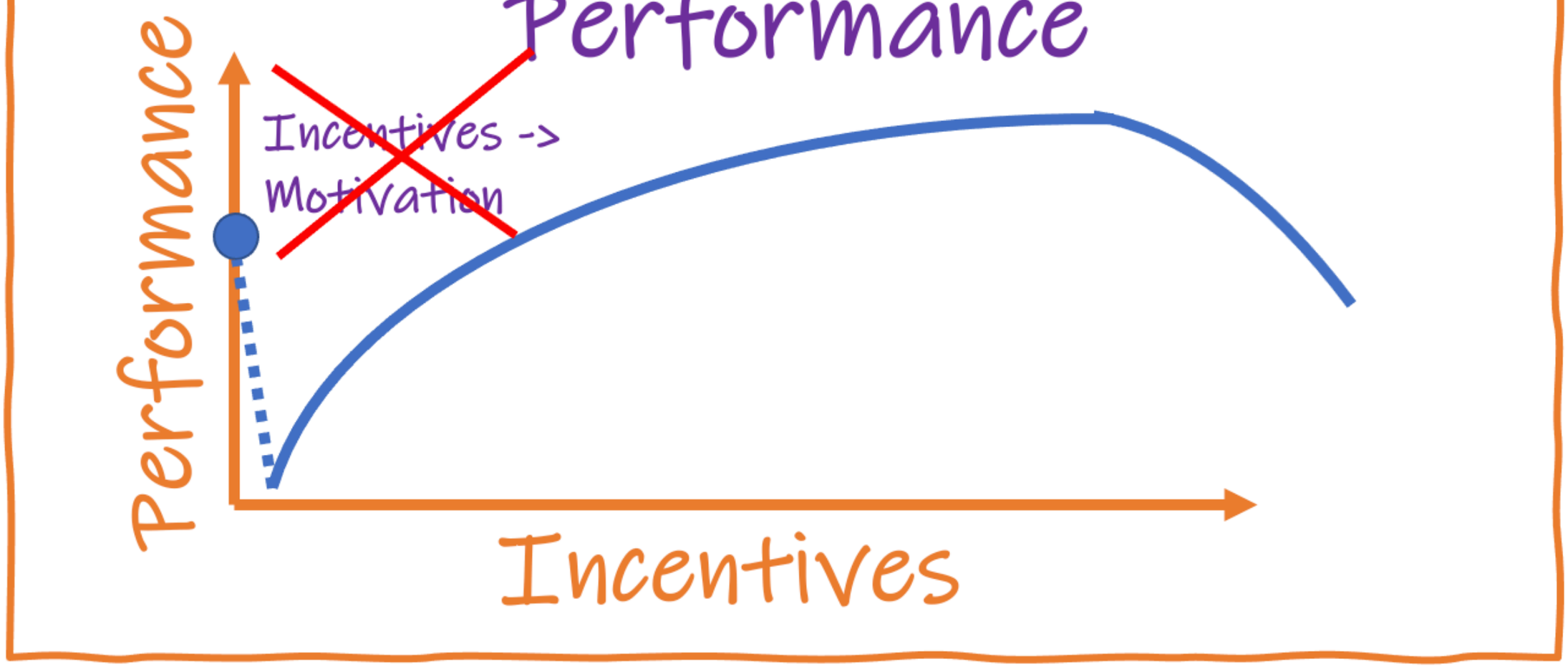
Incentives -> Motivation -> Performance



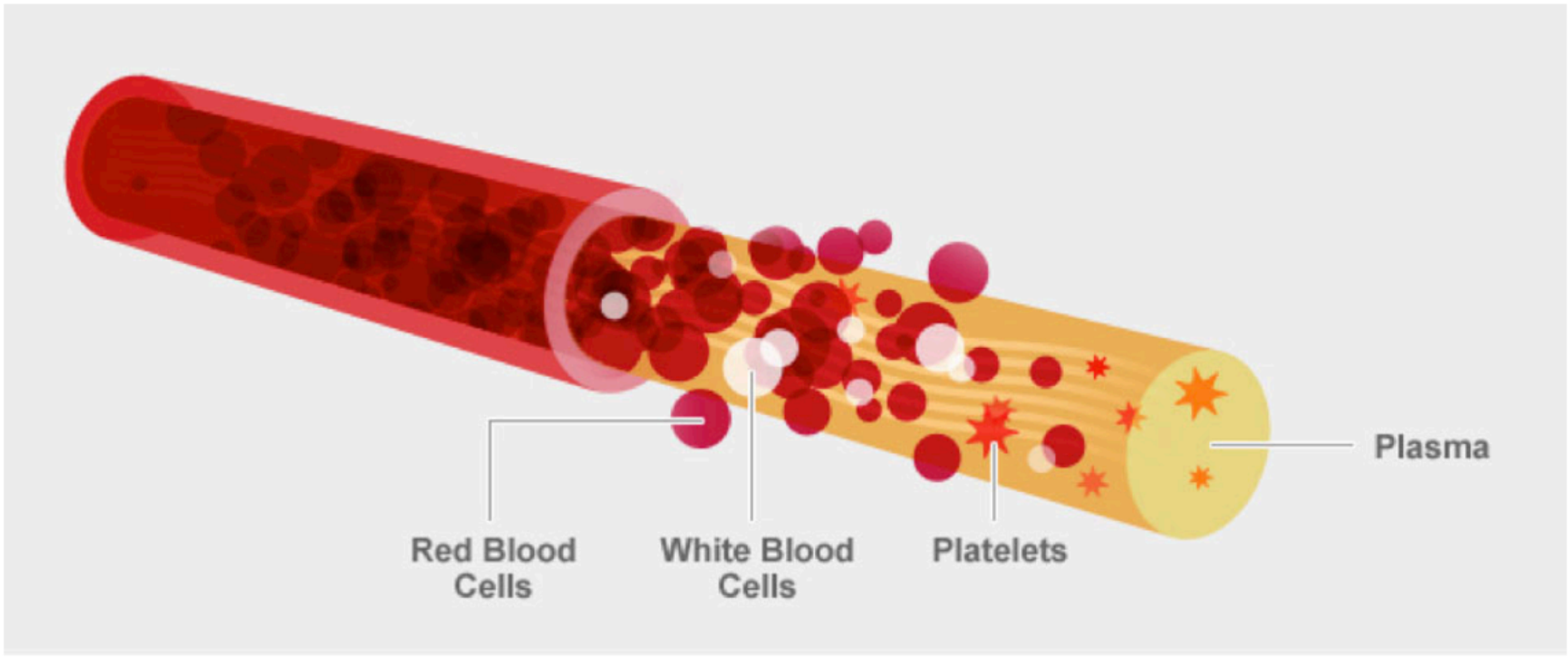
Extrinsic vs. Intrinsic motivation

Autonomy

Relatedness

Competence

Altruism vs. warm glow




STORY
梦想
Dream
飞
Flying


Alpia

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EURO
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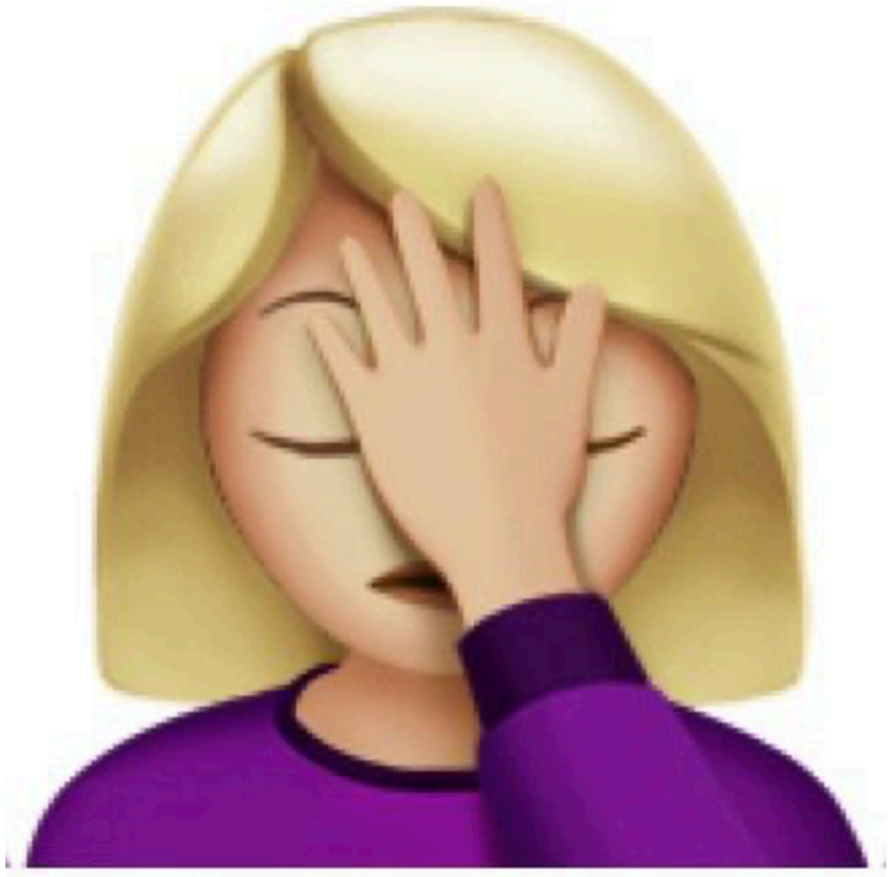


Willing to buy toy car for $50. Toy car on sale for $35.
Consumer surplus of $15


500
EURO


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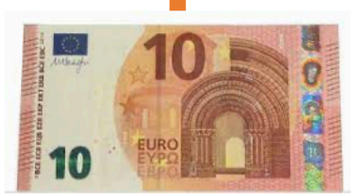
500 EURO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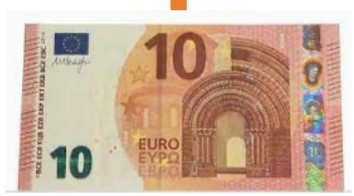
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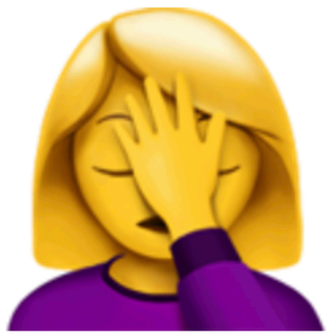


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