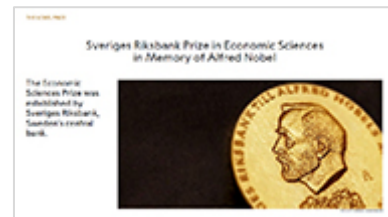


## Speaker's manuscript – Prize in economic sciences 2021 Natural experiments help answer important questions

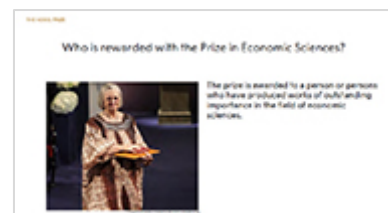
### Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel

- In 1901 the Nobel Prize was awarded for the first time. It is a prize in five categories, established by Swedish inventor and industrialist Alfred Nobel (1833-1896).
- The Nobel Prize categories are Physics, Chemistry, Physiology or Medicine, Literature and Peace. Alfred Nobel thus did not choose economic sciences as one of his prize categories.
- Instead Sveriges Riksbank, at its 300th anniversary in 1968, established an economic sciences prize in memory of Nobel. It was awarded for the first time in 1969 and is called the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel.
- The prize is presented at the same ceremony as the Nobel Prize, on 10 December each year.



### Who is rewarded with the prize in economic sciences?

- The prize is awarded to a person or persons who have produced works of outstanding importance in the field of economic sciences. The laureates have analysed various economic problems and found ways to solve or understand them.
- Examples of economic sciences laureates are Daniel Kahneman (2002), who used research in both psychology and economic in order to understand human decision-making, and Elinor Ostrom (2009), who analysed economic governance by the commons: community-owned natural resources. Ostrom showed that it may be better for the people that use the commons to manage them jointly than to have them under public sector control or sell them to an individual.



## The 2021 prize in economic sciences

- If we want to make good decisions, we need to understand the consequences of our choices. This applies to both private individuals and public policy makers.
- For example, young people might consider how more years of education could affect their future earnings, whilst politicians might want to know what effects different reforms could have on unemployment.
- Answering questions about cause and effect is not easy, since it's hard to know what would have happened if a different choice had been made.
- This year's laureates have demonstrated that, despite the challenges, it is still possible to answer these kinds of questions by using so-called natural experiments. The key is to make use of situations in which chance or policy changes result in groups of people being treated differently.
- The laureates' research is a great help to people trying to make decisions that serve the best interests of society.



## The 2021 economic sciences laureates

- The 2021 prize in economic sciences is awarded with one half to David Card and the other half jointly to Joshua Angrist and Guido Imbens.
- David Card has used natural experiments to answer important questions for society, such as what happens to unemployment if we raise the minimum wage.
- Joshua Angrist and Guido Imbens have demonstrated exactly what conclusions we can draw about cause and effect from natural experiments.
- Together, the laureates have revolutionized empirical research in the economic sciences. Thousands of researchers around the world now use the laureates' methods to answer questions that economists in the past were unable to answer.



## Natural experiments

- If researchers in the natural sciences want to determine the effects of a certain medicine, they can randomly divide the study participants into two groups – one that gets the medicine and one that gets a placebo.
- But this method is not useful in some other cases, such as studying how minimum wages affect unemployment. Policy makers cannot decide that in the interest of research one group of people will be paid more than another group for the same work. That would be unethical.
- The solution developed by the economic sciences laureates is instead to use so-called natural experiments – that is, experiment-like situations that arise in real life. For example, they could study how people are affected by policy decisions that have already been made.



- One of the laureates compared how unemployment in two neighbouring states in the U.S. was affected when the minimum wage was raised in one state but not the other.

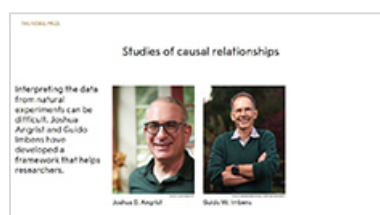
## Understanding the labour market

- In a number of different studies, David Card has examined the effects of minimum wages, immigration and education with the help of natural experiments.
- The results of these studies demonstrated that raising the minimum wage and increasing immigration did not lead to higher unemployment, as many believed.
- Card's studies also demonstrated that investments in education have a significant effect on how well students succeed in the labour market later in life.
- Thanks to Card's research, we now have a much clearer picture of how the labour market works than we did thirty years ago.



## Studies of causal relationships

- Joshua Angrist and Guido Imbens have also used natural experiments in their studies of causal relationships.
- However, data from natural experiments are hard to interpret. For example, raising the required minimum number of years of education for a group of students (but not others) does not affect everyone in the group in the same way. Of course, some of them would have stayed in school anyway. Is it even possible to draw any conclusions about the effect of staying in school for one more year?
- In the mid-1990s, Angrist and Imbens solved this problem and demonstrated what conclusions about cause and effect could be drawn from natural experiments.
- The framework that Angrist and Imbens developed has been used ever since by researchers all over the world.



## A revolution for empirical research

- The laureates' work has demonstrated that it is possible to answer important societal questions about cause and effect using natural experiments.
- Each one's work complements and strengthens that of the others. Angrist and Imbens methodological insights about natural experiments and Card's applications of them showed the way forward for other researchers.
- Taken together, the laureates' contributions have revolutionized empirical research in the social sciences and have enhanced researchers' ability to answer urgent questions that are of great importance to all of us.

