

## Speaker's manuscript – Prize in Economic Sciences 2018

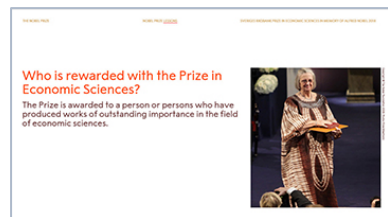
### Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2018

- 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 economics as one of his Prize categories. Instead Sveriges Riksbank, at its 300th anniversary in 1968, established an economics 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 Economics Prize is presented at the same ceremony as the Nobel Prize, on December 10 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 Economics 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 than to have them under public sector control.



### The 2018 Prize in Economic Sciences

- Economics is all about ensuring that there are enough resources – such as labour, time, money, raw materials or knowledge. All resources are finite.
- By using knowledge, it is possible to use resources in ways that impact nature as little as possible, while creating a society where people enjoy better lives, both economically and socially.



## The 2018 Laureates in Economic Sciences

- William Nordhaus works at Yale University and Paul Romer works at the Stern School of Business, New York University. Both Laureates are from the United States.
- William Nordhaus's models show how economics and climate change fit together.
- Paul Romer has shown how technological innovations are affected by what the market demands and by how the market is regulated.



## Ideas, technological change and economic growth

- Why do different countries have different growth rates? Paul Romer asked himself this question when he began his research in the 1980s. According to earlier economists, the answer is that the differences are because of technological change. People in different countries gain knowledge that leads to inventions that, in turn, lead to economic growth.
- But no one was previously able to explain what happens when people invent things that speed up economic growth. Through his research, Paul Romer was able to show how new ideas can develop with the help of the marketplace, and how political leaders should influence the market to ensure that it works as well as possible.



## The market and technological change

- The market can thus drive technological change – if it is possible to earn money from new ideas, this will increase the chances that these ideas will lead to technological change. But since it is difficult to earn money on inventions and developments that are free to everyone, technological change often leads to monopoly situations, which in turn will result in too little the newly invented products being made.
- New ideas may also lead to technological change that is harmful to society and to nature. In such cases, it is important to have regulations such as taxes on hazardous emissions and other substances that are bad for us humans. Paul Romer's model includes guidelines for various types of regulations.
- For example, to make sure that technological change benefits everyone, governments and institutions must invest in research and development as well as create a functioning patent system that both helps innovators and enables people can gain access to innovations without excessive cost.



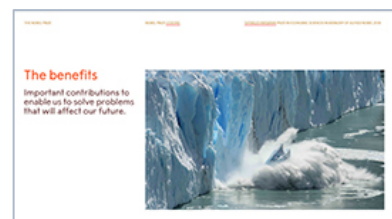
## Climate change and the economy

- Human activity affects the climate, and average global temperatures have increased rapidly over the past century. When William Nordhaus began his research in the 1970s, he became aware of the global warming problem. He developed tools for estimating how carbon dioxide emissions, the economy and energy use influence each other. These tools and calculations were turned into a path-breaking model that is now used by the Intergovernmental Panel on Climate Change (IPCC).
- The model enables us to estimate what the consequences will be if we continue production in the same ways as today, and what will happen if we change our production systems.
- Using his model, Nordhaus concluded that the best way of decreasing emissions would be to create a global system of taxes on carbon dioxide emissions. The idea is that each emitter should pay the estimated societal cost of its emissions.
- With the help of this model, for example, we can calculate how high the carbon tax should be if we want to prevent global temperature increases of more than 1.5 degrees Celsius.



## The benefits

- William Nordhaus and Paul Romer do not solve the actual problems of climate change, but they each deliver important research that will enable political leaders to make decisions leading to sustainable development and global economic growth.



## Quote

- This year's Laureate in Economic Sciences Paul Romer reminds us that technology doesn't just happen to us like the weather. It is a tool we can control.

