KUNGL. VETENSKAPS-AKADEMIEN
THE ROYAL SWEDISH ACADEMY OF SCIENCES

The Royal Swedish Academy of Sciences has decided to award the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2025 "for having explained innovation-driven economic growth" with one half to **Joel Mokyr** "for having identified the prerequisites for sustained growth through technological progress" and the other half jointly to **Philippe Aghion** and **Peter Howitt** "for the theory of sustained growth through creative destruction".

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2025

From stagnation to sustained growth

This year's laureates in economic sciences – Joel Mokyr, Philippe Aghion and Peter Howitt – demonstrated how a constant flow of technological innovation has fuelled economic growth over the past 200 years. These developments have had a revolutionary effect on people's living standards and laid the foundation of economic prosperity.

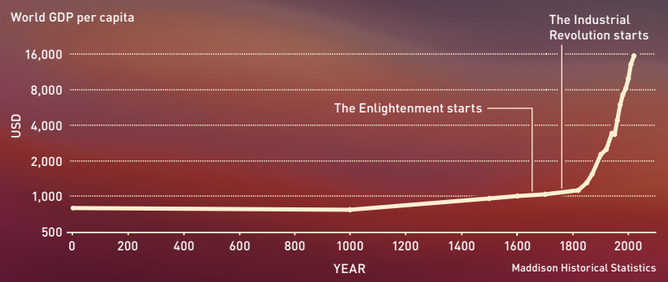
For most of human history, stagnation, not growth, was the norm. Even if important discoveries sometimes improved the standard of living, growth always eventually levelled off.

With the Industrial Revolution, this fundamentally changed: technological innovation and scientific advances began to follow each other, step by step, rather than occurring as isolated events. The result was sustained and surprisingly stable growth.

Joel Mokyr explains this development by demonstrating that sustained growth requires both knowledge *that* something works and an understanding of *why* something works. Before the Industrial Revolution, the latter was often lacking, which made it difficult to build upon new discoveries. Mokyr also emphasises the importance of a society that is open to ideas and to change – without this, development stops.

Philippe Aghion and **Peter Howitt** constructed a mathematical model for the phenomenon called *creative destruction*. The model shows how corporate investments in research and development (R&D) lead to improvements in existing goods and production methods. Commercial gains arise when a company succeeds, but these will eventually disappear when a new and better innovation enters the market.

The three laureates show that we cannot take growth for granted. Creative destruction leads to conflicts, and their research has provided us with tools for managing innovation-led growth in the best way possible.



Creative destruction

Sustained growth arises through a phenomenon called creative destruction – new processes and better products replace old ones. This process is creative because it builds upon innovation, but it is also destructive because older products become obsolete and lose their commercial value.

Innovation thus create both winners and losers, not only among companies, but also among their employees. High growth often requires a lot of creative destruction, which means that more jobs disappear and unemployment may rise. It is thus important to support people who are affected and facilitate their transition to new workplaces.

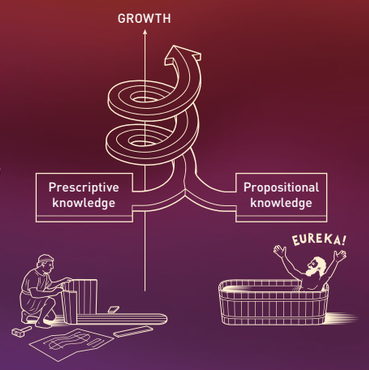
Transformative change

Throughout history, there have been many discoveries and technological changes that did not result in economic growth. The Enlightenment helped lay the foundation of sustained growth in two ways: deeper knowledge about why things worked, and the establishment of institutions and a societal culture that enabled creative destruction.

Sustained economic growth started in Britain during the Industrial Revolution, when skilled engineers and craftsmen turned ideas into products. In addition, society was open to change and different interest groups had opportunities to meet and reach compromises.

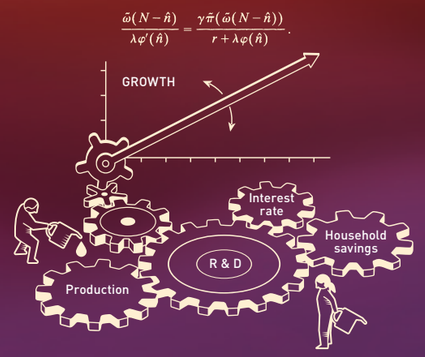
Useful knowledge

Joel Mokyr has demonstrated that a continual flow of *useful knowledge* is necessary for growth to occur. Useful knowledge has two parts: one is *prescriptive knowledge* – practical instructions, drawings or recipes that describe *how* something works. The other is *propositional knowledge*, an understanding of natural laws and principles that show *why* something works. Before the Industrial Revolution, propositional knowledge was limited, which made it difficult to build upon new discoveries. Instead, it sometimes resulted in haphazard enterprises, such as building a perpetual motion machine or using alchemy to make gold.



A pioneering model

Aghion and Howitt's model shows that there are strong forces working in opposing directions. Incentives to invest in R&D increase with profit opportunities, but decrease when competition is tough and innovations are quickly replaced. The need to subsidise R&D therefore varies across markets and time periods. As the money for investment in R&D originates in household savings, which are affected by interest rates and growth rates, production, R&D, financial markets and savings are all interlinked and must be analysed together.



Joel Mokyr
Born 1946 in Leiden, the Netherlands. Professor at Northwestern University, USA and Eitan Berglas School of Economics, Tel Aviv University, Israel.

Philippe Aghion
Born 1956 in Paris, France. Professor at Collège de France and INSEAD, Paris, France and The London School of Economics and Political Science, UK.

Peter Howitt
Born 1946 in Toronto, Canada. Professor at Brown University, USA.

Photo: Portrait of Joel Mokyr: Shane Collins, Northwestern University; portrait of Philippe Aghion: Patrick Imbert, Collège de France; portrait of Peter Howitt: Alis Buckman

LEARN MORE ABOUT THE PRIZE IN ECONOMIC SCIENCES AT WWW.KVA.SE

More information about the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2025 is available at *www.kva.se/prizeeconomicsciences2025* and *www.nobelprize.org*, with video and detailed information about the prize and the laureates.

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