
Nobel Prize in Economics for 2025

Pavel Sirůček , Zuzana Džbánkova 

Pavel Sirůček (email: pavel.sirucek@vse.cz), University of Economics in Prague, Faculty of Business Administration, Prague, Czech Republic

Zuzana Džbánkova (email: zuzana.dzbankova@vse.cz), University of Economics in Prague, Faculty of Business Administration, Prague, Czech Republic

The 2025 Nobel Prize in Economics (The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel) was awarded to three scientists for their research into the impact of innovation on economic growth. Half of the prize was awarded to American-Israeli economic historian Joel Mokyr (*1946), who works at Northwestern University, Evanston, and Tel Aviv University, for “*having explained innovation-driven economic growth*”. The other half was divided equally between growth theorists Philippe Mario Aghion (*1956) of France and Peter Wilkinson Howitt (*1946) of Canada for “*the theory of sustained growth through creative destruction*”. Aghion works at the Collège de France, Paris; INSEAD, Paris; and the London School of Economics and Political Science. At the time of the award, Howitt was listed as working at the Brown University, Providence. Since 1969, the number of Nobel Prize winners in economics has reached ninety-nine, including three women. American citizenship is listed or co-listed for seventy-six laureates.

The common theme among the winners is growth driven by technology and innovation. The award citation stated that their research explains how innovation provides impetus for further progress. Mokyr has shown the birth of a culture that enabled innovation. Aghion and Howitt have modelled how the economy prospers from innovation and that without creative destruction, there is no progress. They have interpreted economic growth as the endless replacement of the old with the new. Innovations arise because there is motivation to “*take over the market*” from those at the top. Patents temporarily protect the winners, but at the same time motivate others to dethrone them. A balance is created between stability and chaos, between growth and destruction. The laureates share the belief

that sustained growth is not a given, but rather an institutional and cultural phenomenon. They consider growth to be a civilizational skill that must be continually taught, protected and renewed. Most of history has been marked by economic stagnation, which is only broken by the arrival of innovative solutions based on new technologies. The application of the steam engine contributed to a fundamental acceleration of the transition from an agricultural to an industrial society. This led to economic growth in the countries involved and an increase in living standards.

J. Mokyr has used economic and technological history to empirically identify the reasons why centuries of stagnation in the global economy since around the 18th century have turned into growth in productivity and prosperity, continuing with certain fluctuations to this day. He has pointed to the importance of scientific knowledge. He has illuminated the process that enables the synergy of scientific discovery or invention and practical application, which is the essence of sustainable growth. For innovations to follow from one another, it is necessary not only to know that something works, but also to have a scientific explanation of why this is so. The latter was often lacking before the Industrial Revolution, which hampered the development and application of new discoveries and inventions. For their dissemination, it is important for society to be open to new ideas and to accept change. About 300 years ago, this ability was strengthened by the spread of the ideas of the Enlightenment and democracy.

According to Mokyr, economic growth is heavily dependent on the structure of society and institutions, not just on investment, although it is linked to the latter. To ensure growth, cooperation between scientists and engineers, *i.e.*, theorists and practitioners, is necessary. This was lacking, for example, throughout most of antiquity, when philosophers (including scientists) and engineers, then craftsmen, existed together but separately. Social conditions made cooperation difficult, and entrepreneurs at the time were not interested in new technology. Although advanced technologies existed (*e.g.*, primitive steam engines, gear wheels and water pumps), they were used to a limited extent and mainly as toys and curiosities. It was not until the Industrial Revolution that scientists, technicians, entrepreneurs and the state began to cooperate, leading to the commercialization of ideas.

J. Mokyr has talked about the industrial enlightenment, which enabled the combination of knowledge and the integration of inventions into the economy. Their continuous improvement also kick-started economic growth. Maintaining this growth requires two-way cooperation between theory (science) and practice (crafts, *etc.*). Last but not least, it is necessary to have a pro-science social structure and policies that do not hinder the development of science and technology. Despotic institutions hinder economic growth. J. Mokyr has

warned that, just as China once stagnated, today's world can also restrict the free movement of ideas, stifle academic freedom or allow a few companies to dominate entire innovation ecosystems.

The conclusion about the need for openness to change has also been supported by the theoretical models of P. M. Aghion and P. W. Howitt, who have studied the mechanisms of sustainable growth. They have enriched growth models with innovation and entrepreneurship. They have updated J. A. Schumpeter's concept of creative destruction. A mathematical model of creative destruction was presented in the article *A Model of Growth Through Creative Destruction* (Aghion and Howitt, 1992). Old and inefficient methods, products or business structures are replaced by new and better ones, which is essential for prosperity and progress. Innovators gain temporary monopoly profits, which serve as motivation for further investment in research and development. However, this monopoly position is not permanent. The relationships between growth and market competition have been analysed. A lack of competition reduces the pressure to innovate, while excessive concentration slows down the pace of creative destruction. If a few tech giants control key platforms, new companies do not get a chance to succeed in the innovation race. What once led to growth can become an obstacle to it. However, too much competition also reduces the motivation to innovate, as the profits from innovation are too low. Therefore, if government policy is too focused on promoting a competitive environment, it may discourage innovators from making larger investments. Instead, they are motivated to seek their fortune in other countries or on other continents. This also applies to excessive regulation of the business environment, which is one of the problems faced by Europe today. The risk of stagnation in the European and global economies is linked to bottlenecks in innovation, which can take the form of inappropriate regulations, insufficient capital and inadequate financing.

Innovation is creative because it brings something new. At the same time, it is destructive because players whose technology becomes obsolete are pushed out of the market. Creative destruction creates conflicts that need to be resolved. This cannot be done without regulation. The state should support investment in research and development, regulate monopolies, cooperate with schools, create a flexible social security system, and so on. Growth requires the cooperation of the whole of society, and good policy is inseparable from growth.

The Nobel Prize winners in economics for 2025 surprised everyone by being honoured for long-term economic growth, a topic very similar to the prize awarded for 2024. Contemporary shifts in technology, led by AI, contribute to the relevance of the award-winning research. The prize may be an impetus for a revival of interest in the economics of innovation, or rather the legacy of J. A. Schumpeter and his followers, including F. Valenta. Innovation is

a dynamic category in a historical perspective that cannot be fully grasped by standard tools, significantly exceeding the boundaries of the standard system, especially the neoclassical one. That is why it does not feature much in standard micro- or macroeconomics textbooks.

Economic historian J. Mokyr

Joel Mokyr (born Joel Michael Mok) was born on 26 July 1946 in Leiden, the Netherlands, to a family that survived the Holocaust. His father died early, and his mother raised him in Haifa, Israel. He studied at the Hebrew University of Jerusalem (BA Economics and History, 1968) and Yale University (M.Phil. Economics, 1972; Ph.D. Economics, 1974). His doctoral dissertation was titled *Industrial Growth and Stagnation in the Low Countries, 1800–1850*.

Between 1972 and 1973, he served as a lecturer in acting at Yale University. In 1974, he joined Northwestern University in Evanston, where he successively held the following positions: assistant professor of economics (1974–1977), associate professor of economics (1978–1980), professor of economics (1980–1981) and professor of economics and history (1981–1994). He also held several visiting appointments as associate professor of economics at Stanford University (1979–1980), the University of Chicago (1981), Harvard University (1982–1983), University College Dublin (1986) and the Hebrew University of Jerusalem (1993). In addition, he taught as a visiting professor of history at the University of Manchester (1996) and as a visiting professor of economics at Tel Aviv University (1997, 2000, 2003, 2008, 2010, 2012). He was a member of the Center for Advanced Study in the Behavioral Sciences from 2001 to 2002. Since 1994, he has held the title of Robert H. Strotz Professor of Arts and Sciences and Professor of Economics and History at Northwestern University. Beginning in 2001, he has also served as a Sackler Professorial Fellow at the Eitan Berglas School of Economics at Tel Aviv University.

Since 1993, he has served as the editor-in-chief of *the Princeton Economic History of the Western World*, a book series published by Princeton University Press. From 1994 to 1998, he also held the position of co-editor of *the Journal of Economic History*. He chairs the advisory committee for the Institutions, Organizations, and Growth Program at the Canadian Institute for Advanced Research. He is a member of the American Academy of Arts and Sciences, the Econometric Society and the Royal Netherlands Academy of Arts and Sciences. His contributions to economic history have earned him several research awards. On 8 December 2025 he delivered the traditional Nobel Lecture titled *The Past and Future of Innovation: Can Progress be Sustained?*

J. Mokyr's work has focused on economic history, particularly the economics of technological progress and demographic change. He is the author or co-author of numerous books and dozens of articles. In explaining growth, he emphasizes the cognitive and cultural foundations of economic progress. The Industrial Revolution is one of his key topics. J. Mokyr has examined its various interpretations (1993a, *etc.*) and presented his explanation in the book *A Culture of Growth: The Origins of the Modern Economy* (Mokyr, 2016a). He has also highlighted growth-enhancing forces that extend beyond both state and market mechanisms. Economic growth occurs where science and practice come together in a single culture of "*useful knowledge*".

Mokyr has promoted the concept of the Industrial Enlightenment. He does not consider the Industrial Revolution in Great Britain to be a random phenomenon. It was not the result of mere capital accumulation or colonialism, but was made possible by the previous intellectual and cultural development of the Enlightenment. A direct link was established between the scientific revolution of the 17th century and the industrial revolution of the 18th and 19th centuries. The Enlightenment created a culture that valued knowledge, experimentation and the free exchange of ideas. A network of scholars, technicians and entrepreneurs emerged who systematically applied scientific knowledge to solve practical problems.

A distinction is made between propositional knowledge ("*knowing why*") and prescriptive knowledge as practical recipes for how to do something ("*knowing how*"). Economic growth depends on how well prescriptive knowledge is supported by propositional knowledge. The closer the connection, the easier it should be to improve and spread technological innovation. This explains why some societies have managed to achieve sustained technological progress, while others have stagnated after initial successes. This includes the fact that the scientific and technological revolution succeeded in Europe, while in China, for example, it stagnated for a long time. Europe's fragmented political system created a competitive environment where rulers attracted talented individuals and where innovations could find room for development elsewhere if they were suppressed in one country. An example is G. Galilei, whose work was banned in Rome but could be published in Protestant countries. R. Descartes left France for freedom in the Netherlands; J. A. Comenius found refuge with Queen Christina of Sweden and later in the Netherlands. The expulsion of the Huguenots from France and the Jews from Spain enriched the countries to which these minorities went. Fragmentation is supposed to bring freedom, and freedom prosperity. In contrast, centrally controlled China is still recovering from the policy of isolation established in the first quarter of the 15th century. It was only in recent decades that it achieved industrial enlightenment.

After the Enlightenment, knowledge began to accumulate, and Europe found a way to connect "*propositional knowledge*" and "*prescriptive knowledge*". Their connection gave

rise to the engine of modernity. However, knowledge alone is not enough; a society that tolerates change is also necessary. British institutions allowed new ideas to disrupt the old order. The Enlightenment broke the resistance of the old structures. And it was Britain that had an extraordinary concentration of technically skilled people. A new morality of growth was born. In Mokyr (2021), an explanation of British economic and technological leadership between 1760 and 1850 was discussed, with references to aspects of British society in the form of politics, natural resources and empire. J. Mokyr proposed a hypothesis that underscored the importance of workforce quality – particularly highly skilled workers such as engineers, toolmakers and millwrights. These specialists were responsible for translating inventors' innovative ideas and designs into functioning reality. On the eve of the Industrial Revolution, Britain possessed a more capable cadre of such workers than other countries, and this advantage played a decisive role in shaping the technological achievements of the period.

Mokyr's book *The Gifts of Athena: Historical Origins of the Knowledge Economy* (2002) explored the historical foundations and mechanisms of the knowledge-based economy. It interpreted the expansion of technological and scientific knowledge over the past two centuries as the key driving force in the world's economic and social development, culminating in today's knowledge economy. According to Mokyr, the rapid growth experienced in the modern West during this period stemmed not only from the emergence of new technological ideas, but also from society's improved ability to access and circulate them. This was enabled by a network of institutions – including universities, publishers, professional scientific communities and related organizations – that facilitated the diffusion of useful knowledge. Mokyr demonstrated how transformations in the intellectual climate, social structures and institutional settings in which knowledge was produced and spread paved the way for the Industrial Revolution and, subsequently, for sustained economic growth and continuous technological progress.

J. Mokyr has drawn connections between the intellectual currents of the European Enlightenment and the economic transformations of the 19th century, tracing their influence into the 20th century. He has also investigated several major outcomes of the knowledge revolution, including the emergence and subsequent decline of *the "factory system"* as a dominant organizational model in modern economic life. In addition, he has analysed how this revolution reshaped information and communication technologies, public health and patterns of household organization. By exploring the social and political foundations of resistance to new forms of knowledge, Mokyr has linked the expansion of knowledge to political economy and situated the economic history of technology within the broader framework of new institutional economics.

Mokyr (2018) discussed the current ominous prophecies of slow growth and long-term stagnation from the perspective of economic history. It reminded us that for roughly 97% of recorded history, the long-term dynamics of the global economy have been described as stationary. Growth in history has been slow, intermittent and reversible. The Industrial Revolution ended in a period of sustained economic growth. From the perspective of its sustainability, the brakes on economic growth before the Industrial Revolution were analysed and the mechanisms for releasing them were identified. According to J. Mokyr, there is no technological reason for a slowdown in economic prosperity, although institutions in some spheres may become a problem for the sustainability of growth.

Main book publications:

Industrialization in the Low Countries, 1795–1850 (Yale University Press, 1976); *Why Ireland Starved: An Analytical and Quantitative Study of Irish Poverty, 1800–1851* (George Allen and Unwin, 1983); *The Economics of the Industrial Revolution* (Rowman and Allanheld, 1985 – co-editor N. J. Totowa); *The Lever of Riches: Technological Creativity and Economic Progress* (Oxford University Press, 1990a); *Twenty Five Centuries of Technological Change: An Historical Survey* (Harwood Academic Publishers, 1990b); *The British Industrial Revolution: an Economic Perspective* (Westview Press, 1993a); *The Gifts of Athena: Historical Origins of the Knowledge Economy* (Princeton University Press, 2002); *The Enlightened Economy: An Economic History of Britain 1700–1850* (Yale University Press, 2009a); *The Invention of Enterprise: Entrepreneurship from Ancient Mesopotamia to Modern Times* (Princeton University Press, 2009b – co-editors W. J. Baumol, D. S. Landes); *The Birth of Modern Europe: Culture and Economy, 1400–1800: Essays in Honor of Jan de Vries* (Brill, 2010 – co-editor L. Cruz); *A Culture of Growth: Origins of the Modern Economy* (Princeton University Press, 2016a); *Economics in the Test of Time: Issues in Economic History* (Open University of Israel Press, 2017 – co-author A. Ofer); *Two Paths to Prosperity: Culture and Institutions in Europe and China, 1200–2000* (Princeton University Press, 2025 – co-authors A. Greif, G. Tabellini).

Key articles and journal contributions:

The Industrial Revolution in the Low Countries: A Comparative Case Study (*Journal of Economic History*, 1974, 34(2)); Demand vs. Supply in the Industrial Revolution (*Journal of Economic History*, 1977, 37(4)); Industrialization and Poverty in Ireland and the Netherlands: Some Notes Toward a Comparative Case-Study (*Journal of Interdisciplinary History*, 1980, 10(3)); Technological Inertia in Economic History (*Journal of Economic History*, 1992, 52(2)); Technological Progress and the Decline of European Mortality (*American Economic Review*, 1993b, 83(2)); Why Was There More Work for Mother? Technological Change and

the Household, 1880-1930 (*Journal of Economic History*, 2000, 60(1)); Long-term Economic Growth and the History of Technology (In: Aghion, P. M., Durlauf, S.: *Handbook of Economic Growth*. Elsevier, 2005); Cultural Entrepreneurs and the Origins of Modern Economic Growth (*Scandinavian Economic History Review*, 2013, 61(1)); The Past and the Future of Innovation: Some lessons from Economic History (*Explorations in Economic History*, 2018, 69); „The Holy Land of Industrialism“: Rethinking the Industrial Revolution (*Journal of the British Academy*, 2021, 9); Incentives, Institutions, and Industrialization: A Prelude to Modern Economic Growth (*Rivista di Storia Economica*, 2022, 38(2)); The Mechanics of the Industrial Revolution (*Journal of Political Economy*, 2023, 131(1) – co-authors M. Kelly, C. Ó Gráda); Social Organizations and Political Institutions: Why China and Europe Diverged (*Economica*, 2024, 91(362) – co-author G. Tabellini).

Additional information:

Hospodářské dějiny a ekonomické teorie (vývoj-současnost-výhledy) (Sirůček, P. et al., Melandrium, 2007); The Market for Ideas and the Origins of Economic Growth in Eighteenth Century Europe (Mokyr, J., *Tijdschrift voor Sociale en Economische Geschiedenis*, 2007, 4(1)); *Clans, Guilds, and Markets: Apprenticeship Institutions and Growth in the Pre-Industrial Economy* (Croix de la, D., Doepke, M., Mokyr, J., NBER Working Papers No. 22131, 2016b); <https://faculty.wcas.northwestern.edu/jmokyr/>.

Pioneer of new growth theories P. M. Aghion

Philippe Mario Aghion, born on 17 August 1956 in Paris, pursued his studies at the École Normale Supérieure de Cachan (Mathematics, 1976–1980), Université de Paris I (Diplôme d'Études Approfondies in Mathematical Economics, 1981), Université de Paris I–Panthéon-Sorbonne (Doctorat de 3^e cycle in Mathematical Economics, 1983) and Harvard University (Ph.D. in Economics, 1987). He has held academic positions at the Massachusetts Institute of Technology (assistant professor, 1987–1989), the University of Oxford (official fellow of Nuffield College, 1992–1996), University College London (professor of economics, 1996–2002) and Harvard University (professor of economics, 2002–2015). Aghion also served as a visiting scholar at the Institute of International Economic Studies in Stockholm (2009–2015) and at Harvard University (2018–2020). In 2015, he became professor of economics at the London School of Economics and professor in the Department of Institutions, Innovation and Growth at the Collège de France. Since 2020, he has served as professor of innovation and growth at the Institut Européen d'Administration des Affaires (INSEAD).

He is also a researcher at the Centre National de la Recherche Scientifique. Between 1990 and 1992, he served as Deputy Chief Economist at the European Bank for Reconstruction and Development, where he later worked as research coordinator from 1992 to 2000. He has contributed to the work of a UN expert group and has provided advisory support to the World Bank and the International Monetary Fund. He is a member of the American Academy of Arts and Sciences, the British Academy, the Econometric Society and several other academic bodies. In addition, he serves as an editor for scholarly journals and sits on the management board of CERGE-EI, among other roles. On 8 December 2025, he delivered his Nobel Lecture titled *The Economics of Creative Destruction*.

His research focuses on economic growth and innovation. In collaboration with P. W. Howitt, he has developed the so-called Schumpeterian paradigm. Aghion is often classified as belonging to the highly heterogeneous neo-Schumpeterian economics, inspired by the legacy of J. A. Schumpeter, including the concept of creative destruction. Neo-Schumpeterians place technological innovation at the core of growth and transformation processes. In explaining innovation, they emphasize endogenous factors such as science and technology policies or corporate research and development strategies. P. M. Aghion is one of the founders of endogenous growth theories, pointing to the role of technological progress. The Aghion-Howitt growth model does not neglect institutional factors and is used in new institutional economics.

For a discussion of the renewed interest in certain ideas of J. A. Schumpeter – specifically the integration of innovation into models of economic growth – see, for example, Aghion et al. (2005d). A comprehensive treatment of the theoretical and empirical issues raised within modern growth theory was presented in *Endogenous Growth Theory* (Aghion and Howitt, 1998). This work developed an analytical framework that illuminated not only the mechanisms behind economic growth itself, but also a wide range of related phenomena that interact with growth, including inequality, unemployment, capital accumulation, education, competition, natural resources, international trade, business cycles and public policy. To understand the complex and sometimes conflicting effects of technological change on the economy and society, it is essential to examine the structural features of the innovation process and to analyse how laws, institutions, norms and regulations influence individuals' incentives and capacities to create new knowledge and benefit from it. The authors drew on Schumpeter's concept of creative destruction – a competitive process in which entrepreneurs continuously seek new ideas that render their rivals' innovations obsolete.

A summary of long-term research was presented in the book *The Power of Creative Destruction* (Aghion et al., 2021). The authors analysed what drives economic growth and

the plan for prosperity under capitalism. The answer to current pressing problems is to create a better capitalism by understanding and harnessing the power of creative destruction – innovation. The text argued that our modern standard of living is the result of innovations enabled by free-market capitalism. At the same time, it maintained that state intervention – with proper checks and balances – is essential. Such involvement is needed to foster ongoing economic creativity, to mitigate the social disruptions that innovation can produce, and to prevent today’s leading innovators from blocking the breakthroughs of tomorrow. Creative destruction is necessary, and societies that suppress it risk stagnation. However, creative destruction creates conflicts that need to be managed constructively. Without adequate government policies, destruction can turn into cynicism. Competition and openness are the oxygen of innovation. When a few companies or countries dominate knowledge, growth is stifled. The future depends on a culture of change.

Main book publications:

Endogenous Growth Theory (MIT Press, 1998 – co-author P. W. Howitt); *Inequality, Growth, and Globalization: Theory, History and Policy* (Cambridge University Press, 1999 – co-author J. Williamson); *An Agenda for a Growing Europe: The Sapir Report* (Oxford University Press, 2003 – co-authors G. Bertola, M. Hellwig, J. Pisani-Ferry, A. Sapir, J. Vinals, H. Wallace); *Education et Croissance* (La Documentation Française, 2004 – co-author E. Cohen); *Competition and Growth* (MIT Press, 2005a – co-author R. Griffith); *Handbook of Economic Growth*. 1A, 1B (Elsevier, 2005b – co-author S. N. V. Banerjee); *Competition and Growth* (MIT Press, 2006a – co-author R. Griffith); *The Economics of Growth* (MIT Press, 2009, co-author P. W. Howitt); *Repenser l’Etat* (Seuil, 2011 – co-author A. Roulet); *Changer de modele* (Odile Jacob, 2014 – co-authors G. Cette, E. Cohen); *Repenser la croissance économique* (Fayard, 2016a); *Le pouvoir de la destruction creatrice* (Odile Jacob, 2020 – co-authors C. Antonin, S. Bunel); *The Power of Creative Destruction: Economic Upheaval and the Wealth of Nations* (Harvard University Press, 2021 – co-authors C. Antonin, S. Bunel).

Key articles and journal contributions:

On the Generic Inefficiency of Differentiable Market Games (*Journal of Economic Theory*, 1985, 37(1)); Contracts as a Barrier to Entry (*American Economic Review*, 1987, 77(3) – together with P. Bolton); A Model of Growth Through Creative Destruction (*Econometrica*, 1992, 60(2) – co-author P. W. Howitt); The Management of Innovation (*Quarterly Journal of Economics*, 1994, *Growth*, 1996a, 1(1) – co-author P. W. Howitt); The Observational Implications of Schumpeterian Growth Theory (*Empirical Economics*, 1996b, 21 – co-author P. W. Howitt); A Schumpeterian Perspective on Growth and Competition (In: Kreps, D. M., Wallis,

K. F.: *Advances in Economics and Econometrics: Theory and Applications*, vol. 2. Cambridge University Press, 1997 – co-author P. W. Howitt); Competition, Imitation and Growth with Step-by-Step Innovation (*Review of Economic Studies*, 2001, 68(3) – co-authors C. Harris, P. W. Howitt, J. S. Vickers); Competition and Innovation: an Inverted-U Relationship (*Quarterly Journal of Economics*, 2005d, 120(2) – co-authors P. M. Aghion, N. Bloom, R. Blundell, R. Griffith); „Joseph Schumpeter Lecture“. Appropriate Growth Policy: A Unifying Framework (*Journal of the European Economic Association*, 2006b, 4(2–3) – co-author P. W. Howitt); Innovation and Institutional Ownership (*American Economic Review*, 2013, 103(1) – co-authors J. Van Reenen, L. Zingales); Creative Destruction and Subjective Well Being (*American Economic Review*, 2016b, 106(12) – co-authors U. Akcigit, A. S. Deaton, A. Roulet); Schumpeterian Growth Theory, Schumpeter, and Growth Policy Design (*Journal of Evolutionary Economics*, 2017a, 27(1) – co-author A. Festré); Missing Growth from Creative Destruction (*American Economic Review*, 2019, 109(8) – co-authors A. Bergeaud, T. Boppart, P. J. Klenow, H. Li); Environmental Preferences and Technological Choices: Is Market Competition Clean or Dirty? (*American Economic Review: Insights*, 2023, 5(1) – co-authors R. Bénabou, R. Martin, A. Roulet).

Additional information:

On the Speed of Transition in Central Europe (Aghion, P. M., Blanchard, O. J., NBER Macro Annuals, 1994, 9); The Principles of Neo-Schumpeterian Economics (Hanusch, H., Pyka, A. *Cambridge Journal of Economics*, 2007, 31(2)); *Artificial Intelligence and Economic Growth* (Aghion, P. M., Jones, B. F., Jones, Ch. I., NBER Working Papers No. 23928, 2017b); *Dialektika teorie a praxe Františka Valenty a Miroslava Tomse* (Sirůček, P., Institut české levice, 2025); Transition to Green Technology along the Supply Chain (Aghion, P. M., Barrage, L., Donald, E., Hémous, D., Liu, E., NBER Working Papers No. 33934, 2025); <https://www.philippeaghion.com/>.

Macroeconomist and monetary economist P. W. Howitt

Peter Wilkinson Howitt was born on 31 May 1946 in Guelph, Canada. He completed his B.A. in economics at McGill University in 1968 and obtained an M.A. in economics from the University of Western Ontario in 1969. In 1973, he earned his Ph.D. in economics from Northwestern University, where he authored his dissertation *Studies in the Theory of Monetary Dynamics* under the supervision of R. W. Clower. From 1972 to 1996, he taught at the University of Western Ontario, first as an assistant professor (1972–1977), then as an associate professor (1977–1981) and subsequently as a professor (1981–1996). He later joined Ohio State University, where he served as a professor from 1996 to 2000. Since 2000, he has been

a professor of economics at Brown University, and in 2001 he was appointed Lyn Cross Professor of Social Sciences. Over the course of his career, he has also held visiting professorships at the Hebrew University (1980), Université Laval (1985), the Massachusetts Institute of Technology (1988), Université de Paris I (1989) and the University of Toulouse (1995–1996). In addition, he has collaborated with institutions such as the Bank of Montreal.

In 1993–1994, he was president of the Canadian Economics Association, is a member of the Econometric Society, the Royal Society of Canada and others, and served as editor of the *Journal of Money, Credit and Banking* and other prestigious publications. In 2019, together with P. M. Aghion, they received the BBVA Foundation Frontiers of Knowledge Awards for economics. The topic of his Nobel lecture on 8 December 2025 was *Creative Destruction and Economic Growth*.

Most of Howitt's research has focused on macroeconomics and monetary economics. He is one of the creators of the modern "Schumpeterian" approach to economic growth theory. He is dedicated to finding new foundations for macroeconomics and monetary theory, writes about Canadian monetary policy, *etc.*

He is renowned for his work with P. M. Aghion in the field of endogenous growth, including the Aghion-Howitt model, first formulated in Aghion and Howitt (1990b). This is a model of endogenous growth under conditions of monopolistic competition, demonstrating sustainable growth driven by behavioural factors. Technological change, or growth itself, is the result of the purposeful activity of entities investing in technology for profit. The model better explains the differences in technological levels between countries than, for example, the traditional Solow model (which considers technological progress to be exogenous, something that "falls from the sky" independently of economic decisions). The Aghion-Howitt model does not predict either absolute or conditional convergence, because the rate of growth does not decline with increasing production. Poor countries therefore cannot catch up with rich countries.

The model examines companies' willingness to invest in research and development with the expectation that patents will bring them increased profits thanks to a temporary monopoly. The higher the expenditures on research and development, the faster the turnover of companies at the top and thus the faster the growth in productivity and prosperity. Companies borrow funds for research and development from household savings, which depend on interest rates. The model can be used to examine when it is appropriate for the state to subsidize research and development activities. The model shows that the market alone does not set the optimal pace of innovation. From a societal perspective, some innovations are too weak (where private profit is less than the social benefit), while others are too fre-

quent (and companies go bankrupt due to minor improvements). This leads to the conclusion that the state has a legitimate role to play in growth policy, including providing support where the market fails.

The model illustrates that economic growth can generate conflicts of interest, and that efforts to protect incumbent producers may impede technological progress and overall growth. The introduction of new products erodes the monopoly rents enjoyed by firms already established on the market, giving these incumbents strong incentives to oppose technological innovation. When the owners of existing firms hold substantial political influence and can shape economic policy, measures taken to safeguard their interests tend to slow down growth. Consequently, new firms have stronger incentives to develop products that replace those of incumbent producers than firms that already command part of the market. The model further incorporates the idea that the costs of innovation depend on the rate of economic growth, which in turn is linked to how quickly older goods are displaced by newer ones. The ideas mentioned are elaborated on by the winners of the 2024 Nobel Prize in Economics, K. D. Acemoglu and J. A. Robinson.

Howitt has developed endogenous growth models in the “*Schumpeterian*” spirit. For instance, Howitt (1999b) presented a model with a steady state characterized by a constant growth rate, even though both population and research-and-development inputs continue to expand. The impact of population growth is offset by the proliferation of products, which disperses the rising demand for intermediate goods and thereby prevents the returns to any single innovation from increasing as the population grows. Under these conditions, the standard comparative statics results of Schumpeterian growth theory remain valid, including the positive effect of R&D subsidies on the rate of economic growth.

Main book publications:

Monetary Policy In Transition: A Study of Bank of Canada Policy 1982–85 (C. D. Howe Institute, 1986); *The Keynesian Recovery and Other Essays* (University of Michigan, 1990a); *The Implications of Knowledge-Based Growth for Micro-Economic Policies* (University of Calgary Press, 1996a); *Endogenous Growth Theory* (MIT Press, 1998a – co-author P. M. Aghion); *Money, Markets and Method: Essays in Honour of Robert W. Clower* (Edward Elgar, 1999a, Co-editors – E. de Antoni, A. B. S. Leijonhufvud); *The Economics of Growth* (MIT Press, 2009, co-author P. M. Aghion).

Key articles and journal contributions:

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