ADVERTISEMENT

SPECIAL VIEWPOINT

Complexity and the Economy

W. BRIAN ARTHUR Authors Info & Affiliations

SCIENCE • 2 Apr 1999 • Vol 284, Issue 5411 • pp. 107-109 • DOI: 10.1126/science.284.5411.107

CHECK ACCESS

Abstract

After two centuries of studying equilibria—static patterns that call for no further behavioral adjustments—economists are beginning to study the general emergence of structures and the unfolding of patterns in the economy. When viewed in out-of-equilibrium formation, economic patterns sometimes simplify into the simple static equilibria of standard economics. More often they are ever changing, showing perpetually novel behavior and emergent phenomena. Complexity portrays the economy not as deterministic, predictable, and mechanistic, but as process dependent, organic, and always evolving.

Access the full article

View all access options to continue reading this article.

CHECK ACCESS

ALREADY A SUBSCRIBER OR AAAS MEMBER? SIGN IN AS AN INDIVIDUAL OR VIA YOUR INSTITUTION

REFERENCES AND NOTES

1

P. Anderson, K. J. Arrow, D. Pines, Eds., *The Economy As an Evolving Complex System* (Addison-Wesley, Reading, MA, 1988).

GOOGLE SCHOLAR

2

We and our 3 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and identify devices based on information actively requested.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences for this website at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. Privacy Policy

Third Parties

Manage Preferences

Accept All

Reject Non-Essential

eLetters is a forum for ongoing peer review. eLetters are not edited, proofread, or indexed, but they are screened. eLetters should provide substantive and scholarly commentary on the article. Neither embedded figures nor equations with special characters can be submitted, and we discourage the use of figures and equations within eLetters in general. If a figure or equation is essential, please include within the text of the eLetter a link to the figure, equation, or full text with special characters at a public repository with versioning, such as Zenodo. Please read our Terms of Service before submitting an eLetter.

LOG IN TO SUBMIT A RESPONSE

No eLetters have been published for this article yet.

CURRENT ISSUE



Pervasive patterns in bird songs resemble those in human speech and song and are independent of vocal learning

BY LOGAN S. JAMES, KENDRA OUDYK, ET AL.

Chiral altermagnon in MnTe

BY DANIEL JOST, RESHAM BABU REGMI, ET AL.

Rapid longitudinal flights cause time shifts and Sun compass error

BY PATRICK LEWIN, JOE WYNN, ET AL.

TABLE OF CONTENTS

LATEST NEWS

CAREERS | 30 OCT 2026

Early-career researchers' right to unionize at NIH is upheld, against agency's petition

SCIENCEINSIDER | 29 OCT 2026

Serbia just elected the world's brainiest parliament

SCIENCEINSIDER | 28 OCT 2026

AI cracks a 27-year-old pillar of computer science, OpenAI and Anthropic claim

NEWS | 30 OCT 2026

Bones may release proteins that slow aging and extend life span

SCIENCEINSIDER | 29 OCT 2026

Who wrote that paper? AI use spurs debate over scientific authorship

NEWS FEATURE | 28 OCT 2026

'Forever chemicals' are everywhere. Can new technologies get rid of them for good?

ADVERTISEMENT

Sign up for ScienceAdviser

Get Science's award-winning newsletter with the latest news, commentary, and research, free to your inbox daily.

SUBSCRIBE

ADVERTISEMENT

We and our 3 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and identify devices based on information actively requested.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences for this website at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. Privacy Policy

Third Parties

Manage Preferences

Accept All

Reject Non-Essential

ARTICLE | JANUARY 1987

Development of a More Market-Oriented Economy in China

NEWS & COMMENT | OCTOBER 1979

Productivity Problems Trouble Economy

SPONSORED WEBINAR | TECHNOLOGY | 18 NOV 2026

We didn’t evolve alone: How microbes shaped human adaptation

View full text | Download PDF

We and our 3 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and identify devices based on information actively requested.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences for this website at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. Privacy Policy

Third Parties

Manage Preferences

Accept All

Reject Non-Essential