

SPECIAL VIEWPOINT



Complexity and the Economy

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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.

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1

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

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2

W. B. Arthur, S. N. Durlauf, D. A. Lane, Eds., *The Economy As an Evolving Complex System II* (Addison-Wesley, Reading, MA, 1997).

[GOOGLE SCHOLAR](#)

3

Arthur W. B., *Sci. Am.* **262**, 92 (1990).

[GOOGLE SCHOLAR](#)

4

___, *Increasing Returns and Path Dependence in the Economy* (Univ. of Michigan Press, Ann Arbor, MI, 1994).

[GOOGLE SCHOLAR](#)

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