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The screenshot shows the website's header with navigation links: Logout | Contact Us | FAQ & Help | Site Map. The main navigation bar includes a search box, a GO button, and buttons for ADVANCED SEARCH, BROWSE BY A-Z, BROWSE BY TOPIC, and BROWSE BY CONTRIBUTOR. Below this are tabs for DICTIONARY, RESOURCES, and MY DICTIONARY. The main content area features a welcome message, a 'LATEST NEWS' section with a dark blue background containing links for design enhancements, a third online update, and a prize winner announcement, and a 'Top 5 Articles' section with links to 'uncovered interest parity', 'Roy model', and 'difference-in-difference estimators'. A sidebar on the left contains a 'Recommend' box with an 'online' badge, a 'VIEW THE DEMO' box with a wooden signpost image, and a 'RESOURCES' section with links to 'About', 'User Guides', and 'Library Resources'. A right sidebar features a 'SAMPLE ARTICLE' section with a 'liquidity trap' article and a 'Full sample article...' link. A teal play button icon is located in the bottom right corner of the page.

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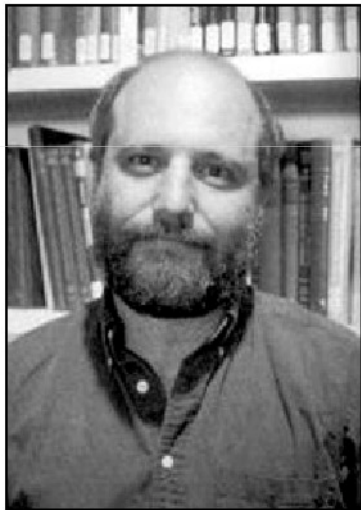
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About the Dictionary

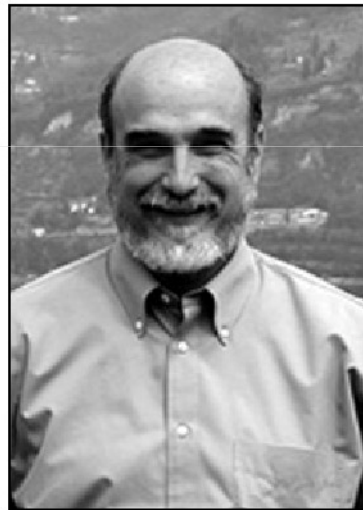


The print edition of the Dictionary is winner of the **2008 Prose award** for the best multi-volume reference work in the humanities and social sciences

Meet the Editors



Steven N. Durlauf
University of
Wisconsin, Madison



Lawrence E. Blume
Cornell University

Dictionary facts and figures

- 5.8 million words
- 1,500+ contributors
- 1,750+ articles
- 7,680 pages
- 8 print volumes
- 1 dynamic online resource



The New Palgrave Dictionary of Economics Online

Getting Started

The screenshot shows the homepage of the The New Palgrave Dictionary of Economics Online. At the top right, there are links for "Logout", "Contact Us", "FAQ & Help", and "Site Map". The main navigation bar includes a search box with a "GO" button and buttons for "ADVANCED SEARCH", "BROWSE BY A-Z", "BROWSE BY TOPIC", and "BROWSE BY CONTRIBUTOR". Below this is a secondary navigation bar with "DICTIONARY", "RESOURCES", and "MY DICTIONARY" tabs.

The main content area features a "Welcome to The New Palgrave Dictionary of Economics Online" message, followed by the tagline "The definitive resource for a new generation of economists". A "LATEST NEWS" section highlights several updates, including "NEW design and functionality enhancements" and "The third online update is now live". A "SAMPLE" button is visible next to a skyscraper image.

Three callout boxes highlight new features:

- Check out the latest updates:** Points to the "LATEST NEWS" section.
- NEW FEATURE: a dynamic feed from the Palgrave Econolog on the homepage:** Points to the "The Palgrave Econolog" section, which lists "TOP STORIES FROM THE PALGRAVE ECONOLOG" such as "A (mild) defence of TARP" and "Bastiat quote or non-quote 2".
- NEW FEATURE: See the top 5/10 most viewed articles:** Points to the "Top 5 Articles" section, which lists articles like "uncovered interest parity" by Peter Isard, "Roy model" by James J. Heckman and Christopher Taber, and "difference-in-difference estimators" by Alberto Abadie.

At the bottom right, there are two large teal arrows pointing left and right, likely for navigation.

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Searching The New Palgrave Dictionary of Economics Online

Use the quick or advanced options to find the information you require, then refine or save your searches

Use the quick search box for fast results, which you can then refine by filtering...

The screenshot shows the homepage of the New Palgrave Dictionary of Economics Online. At the top, there is a navigation bar with a search box and buttons for 'ADVANCED SEARCH', 'REFINE BY A-Z', 'BROWSE BY TOPIC', and 'BROWSE BY CONTRIBUTOR'. Below this is a secondary navigation bar with 'DICTIONARY', 'RESOURCES', and 'MY DICTIONARY'. The main content area features a welcome message, a 'LATEST NEWS' section with three articles, and a 'Top 5 Articles' section. On the right, there is a 'SAMPLE ARTICLE' section for 'liquidity trap'. On the left, there are promotional banners for the online dictionary and a demo. Two red arrows point to the search box and the 'ADVANCED SEARCH' button.

Home

Welcome to The New Palgrave Dictionary of Economics Online

The definitive resource for a new generation of economists

LATEST NEWS

[NEW design and functionality enhancements](#)

Click [here](#) to read what changes we've made, or [click here](#) to tell us what you think of the changes.

[The third online update is now live](#)

For further details including the list of new articles please [click here](#).

[New Palgrave Economics Writing Prize Winner 2008-9](#)

The winner of our "Why Economics Matters" competition, and the £1000 prize, launched in association with the Financial Times and the London School of Economics is Satnam Lehal, a graduate of Oxford and Cambridge Universities who works in financial services. To read Satnam's winning essay [click here](#).

[Sign up to this feed to receive the latest news](#)

Top 5 Articles [View Top 10](#)

- >> [uncovered interest parity](#) By Peter Isard
- >> [Roy model](#) By James J. Heckman and Christopher Taber
- >> [difference-in-difference estimators](#) By Alberto Abadie

RESOURCES

- [About](#)
- [User Guides](#)
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SAMPLE ARTICLE

liquidity trap

A liquidity trap is defined as a situation in which the short-term nominal interest rate is zero.

[Full sample article...](#)

...or go straight to advanced search to specify text elements and/or classifications...



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Refine by Topic

Update

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- A: General Economics and Teaching
- B: Schools of Economic Thought and Methodology
- C: Mathematical and Quantitative Methods
- D: Microeconomics
- E: Macroeconomics and Monetary Economics
- F: International Economics
- G: Financial Economics
- H: Public Economics
- I: Health, Education, and Welfare
- J: Labor and Demographic Economics
- K: Law and Economics
- L: Industrial Organization
- M: Business Administration and Business Economics; Marketing; Accounting

Articles by topic

Browse articles by JEL classification

Select a macro classification code below, and optionally microcodes within the broad classification, to see a list of all articles in that classification.

Articles on topic:

- All Articles

- Abramovitz, Moses (1912-2000)**
Born in Brooklyn, New York, Abramovitz was educated at Harvard (AB, 1932) and Columbia (Ph.D., 1939). He held faculty appointments at Columbia (1940-2, ...
By Richard A. Easterlin. From *The New Palgrave Dictionary of Economics*, Second Edition, 2008
- absolute and exchangeable value**
The notion of absolute (as distinct from exchangeable or relative) value arises in classical economics from the image of a given magnitude of output being ...
By John Eatwell. From *The New Palgrave Dictionary of Economics*, Second Edition
- absorption approach to the balance of payments**
The absorption approach to the balance of payments states that a country's balance of trade will only improve if the country's output of goods and services ...

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by topical
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The screenshot shows the website's navigation bar with options: SEARCH the dictionary..., GO, ADVANCED SEARCH, BROWSE BY A-Z, BROWSE BY TOPIC, and BROWSE BY CONTRIBUTOR. Below this are tabs for DICTIONARY, RESOURCES, and MY DICTIONARY. A red arrow points to the 'MY DICTIONARY' tab. The main content area shows the article 'bubbles' by Markus K. Brunnermeier, with options for Hit-Highlighting, Bookmark, and Print. A 'Back to results' link is visible. The article text is highlighted in yellow.

Home > Article - bubbles

Hit-Highlighting off | Bookmark | Print

< Previous | **Next >** | [Back to results](#)

bubbles

[Markus K. Brunnermeier](#)
From *The New Palgrave Dictionary of Economics*, Second Edition, 2008
Edited by [Steven N. Durlauf](#) and [Lawrence E. Blume](#)

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Abstract

Bubbles refer to asset prices that exceed an asset's fundamental value because current owners believe they can resell the asset at an even higher price. There are four main strands of models: (i) all investors have rational expectations and identical information, (ii) investors are asymmetrically informed and **bubbles** can emerge because their existence need not be commonly known, (iii) rational traders interact with behavioural traders and **bubbles** persist since limits to arbitrage prevent rational investors from eradicating the price impact of behavioural traders, (iv) investors hold heterogeneous beliefs, potentially due to psychological biases, and agree to disagree about the fundamental value.

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Keywords

[arbitrage](#); [asset-pricing models](#); [asymmetric information](#); [autocorrelation](#); [backward induction](#); **bubbles**; [centipede game](#); [central limit theorems](#); [co-integration](#); [efficient markets hypothesis](#); [fiat money](#); [gains from trade](#); [hedge funds](#); [limited liability](#); [noise traders](#); [overlapping generations model](#); [rational expectations](#); [risk aversion](#);

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Articles A-Z

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A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Go to

A Result page: [1](#) [2](#) [3](#) [4](#) [5](#) ... [184](#) [185](#) [Next](#) >

1. Abramovitz, Moses (1912-2000)

Born in Brooklyn, New York, Abramovitz was educated at Harvard (AB, 1932) and Columbia (Ph.D., 1939). He held faculty appointments at Columbia (1940-2, ...

By Richard A. Easterlin. From *The New Palgrave Dictionary of Economics*, Second Edition, 2008

Or if you would rather browse the Dictionary, you can do so by article title...



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Browsing The New Palgrave Dictionary of Economics Online

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- D: Microeconomics
- E: Macroeconomics and Monetary Economics
- F: International Economics
- G: Financial Economics
- H: Public Economics
- I: Health, Education, and Welfare
- J: Labor and Demographic Economics
- K: Law and Economics
- L: Industrial Organization
- M: Business Administration and Business Economics; Marketing; Accounting
- N: Economic History

Articles by topic

Browse articles by JEL classification

Select a macro classification code below, and optionally microcodes within the broad classification, to see a list of all articles in that classification.

Articles on topic:

- All Articles

Result page: [1](#) [2](#) [3](#) [4](#) [5](#) ... [189](#) [190](#) [Next >](#)

1. [Abbott, Edith \(1876-1957\)](#)

Social reformer, economic historian and a pioneer in America of the study of the economic position of women, Edith Abbott was born on 26 September 1876 ...

By P. Kerr. From *The New Palgrave Dictionary of Economics*, First Edition, 1987

2. [Abramovitz, Moses \(1912-2000\)](#)

Born in Brooklyn, New York, Abramovitz was educated at Harvard (AB, 1932) and Columbia (Ph.D., 1939). He held faculty appointments at Columbia (1940-2, ...

By Richard A. Easterlin. From *The New Palgrave Dictionary of Economics*, Second Edition, 2008

... by topical
(Journal of
Economic
Literature)
classification
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A Result page: [1](#) [2](#) [3](#) [4](#) [5](#) ... [77](#) [78](#) [Next](#) >

1. [Abadie, Alberto](#)
2. [Abel, Andrew B.](#)
3. [Acemoglu, Daron](#)
4. [Adelman, Irma](#)
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6. [Afrat, S.N.](#)
7. [Aghion, Philippe](#)
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Euler equations

[Jonathan A. Parker](#)

From *The New Palgrave Dictionary of Economics*, Second Edition, 2008

Edited by Stephen N. Durlauf and Lawrence E. Blume

Abstract

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An Euler equation is a difference or differential equation that is an intertemporal first-order condition for a dynamic choice problem. It describes the evolution of economic variables along an optimal path. It is a necessary, but not sufficient condition for a candidate optimal path, and so is useful for partially characterizing the theoretical implications of a range of models for dynamic behaviour. In models with uncertainty, expectational Euler equations are conditions on moments, and thus directly provide a basis for testing models and estimating model parameters using observed dynamic behaviour.

Keywords

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[calculus of variations](#); [continuous-time models](#); [differential equations](#); [discrete-time models](#); [dynamic programming](#); [Euler equations](#); [expectations](#); [generalized method of moments](#); [Lagrange multipliers](#); [liquidity constraints](#); [optimal control](#); [precautionary saving](#); [Ramsey model](#); [shadow pricing](#); [uncertainty](#)

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Euler equations

[Jonathan A. Parker](#)
From *The New Palgrave Dictionary of Economics*, Second Edition, 2008
Edited by [Stephen N. Durlauf](#) and [Lawrence E. Blume](#)

Abstract

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An Euler equation is a difference or differential equation that is an intertemporal first-order condition for a dynamic choice problem. It describes the evolution of economic variables along an optimal path. It is a necessary but not sufficient condition for a candidate optimal path, and so is useful for partially characterizing the theoretical implications of a range of models for dynamic behaviour. In models with uncertainty, expectational Euler equations are conditions on moments, and thus directly provide a basis for testing models and estimating model parameters using observed dynamic behaviour.

Keywords

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Article

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of a first-order condition characterizing an optimal choice as
nal benefits.
many economic problems are dynamic optimization problems in which choices are linked over time, as for
ample a firm choosing investment over time subject to a convex cost of adjusting its capital stock, or a
government deciding tax rates over time subject to an intertemporal budget constraint. Whatever solution
approach one employs – the calculus of variations, optimal control theory or dynamic programming – part of the
solution is typically an Euler equation stating that the optimal plan has the property that any marginal,

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-  Dynan, K. 1993. How prudent are consumers? *Journal of Political Economy* 101, 1104-13.
-  Gourinchas, P.O. and Parker, J.A. 2002. Consumption over the life cycle. *Econometrica* 70, 47-89.
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-  Weitzman, M.L. 2003. *Income, Wealth and the Maximum Principle*. Cambridge, MA: Harvard University Press.

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Parker, Jonathan A. "Euler equations." *The New Palgrave Dictionary of Economics*. Second Edition. Eds. Stephen N. Durlauf and Lawrence E. Blume. Palgrave Macmillan, 2008. *The New Palgrave Dictionary of Economics Online*. Palgrave Macmillan. 27 April 2009 <http://pde-aux1.pde.pm.test.semantics.org/article?id=pde2008_E000287> doi:10.1057/9780230226203.0504

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2. **Search for "money supply" over the entire article content**

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1. **Becker, Gary S. (born 1931)**

Useful for January essay

[Edit](#) [Delete](#)

created on 2008-02-26

2. **bubbles in history**

Useful for lecture 5/5/2009

[Edit](#) [Delete](#)

created on 2009-04-24

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Announcing the New Functionality and Design Enhancements – 1st May 2009

We are incredibly grateful to all our users for the positive feedback we've received since we launched the Dictionary a little over a year ago. It has also been great to receive suggestions on ways we can make the Dictionary even better, so we've taken many of these onboard and are pleased to launch our new design and new features. Those of our users that use LaTeX will be pleased to hear that we've now added a new citation tool that is compatible with it. For those that are fed up of having to go to multiple websites, rather than just one, we've now added a dynamic feed from the Palgrave economics blogs to the homepage, so you can keep up to date with the Dictionary. And for those that use social bookmark links, we've added them on every article. Just fancy a browse: why not check out the home page's 5 and 10 most accessed article. In addition to these enhancement changes that we hope further enhance the user experience. And don't forget to add to the website each quarter. We'd love to hear what you think and any suggestions for future enhancements: [click here](#) to contact us:

New Palgrave Economics Writing Prize Winner 2008

We are very proud and happy to announce the winner of our competition: Satnam Singh, a graduate of Oxford and Cambridge Universities who works in financial services. To read Satnam's winning essay, just [click here](#).

The New Palgrave Dictionary of Economics wins a

We are very proud and happy to announce that the New Palgrave Dictionary of Economics was also a finalist and received an honourable mention in the 2008 Prose award for the Best Multi-Volume Reference Work in the Dictionary. Prose Awards are judged annually by the Professional and Scholarly Association of American Publishers (AAP).

Chosen by CHOICE

Recommend the Dictionary



Recommend

And don't forget to take a look at the What's New page to find out about the latest new content and functionality enhancements, as well as Dictionary news.

Now Live

Third Update – March 2009

We are pleased to announce that the third update to the online Dictionary is now live. This is comprised of eight brand new, articles specially commissioned for the online edition. Remember, that if you have any suggestions for articles we should feature in future updates please [contact us](#) as we would be delighted to hear from you.

New articles:

[The Barings Crisis](#) by Marc Weidenmier, Claremont McKenna College, USA
[Heavy Tailed Densities](#) by Rustam Ibragimov, Harvard University, USA
[Islamic Finance](#) by Mahmoud El-Gamal, Rice University, USA
[Minimax](#) by Jörg Stoye, New York University, USA
[Minimax Regret](#) by Jörg Stoye, New York University, USA
[Money Supply in the American Colonies](#) by Farley Grubb, University of Delaware, USA
[Patent Races](#) by Richard Jensen, University of Notre Dame, USA
[Tournaments](#) by Tor Eriksson, Aarhus School of Business and Center for Corporate Performance, Denmark

New articles added quarterly

