

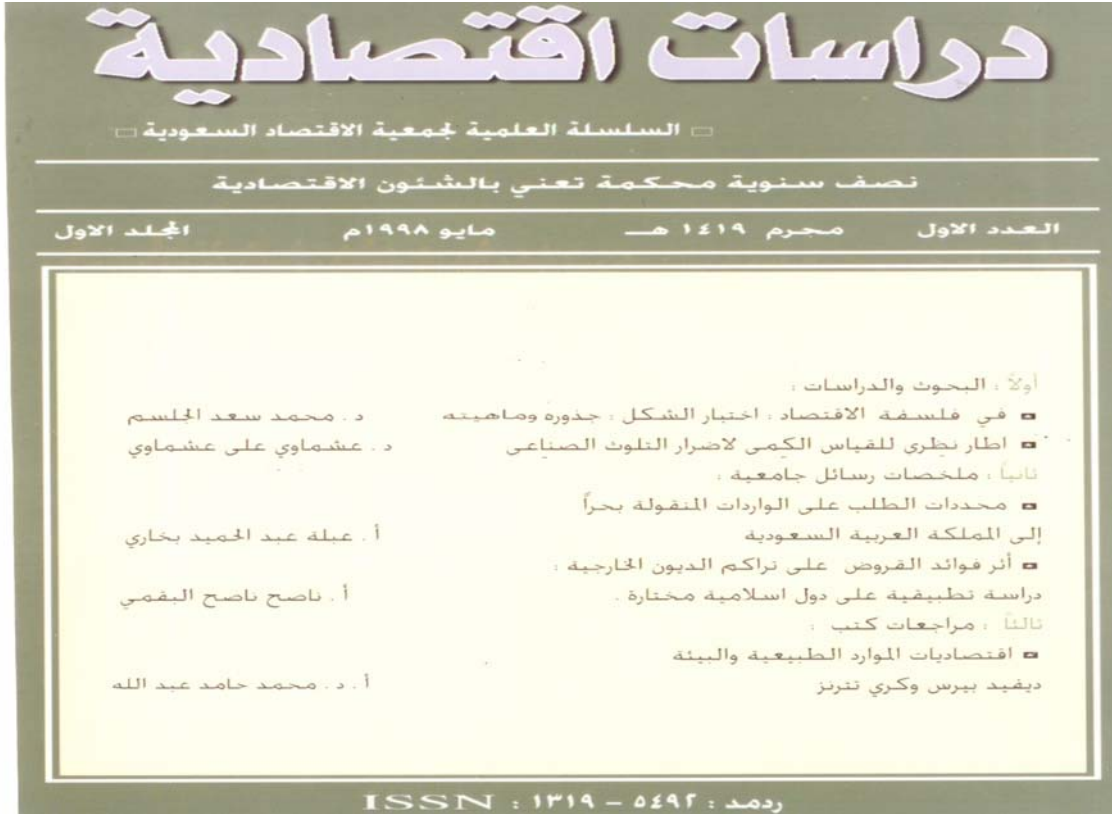
# دراسات اقتصادية

## السلسلة العلمية لجمعية الاقتصاد السعودية

نصف سنوية محكمة تعنى بالشئون الاقتصادية

تصدر عن جمعية الاقتصاد السعودي - جامعة الملك سعود

العدد الأول - السنة الأولى - محرم ١٤١٩ هـ الموافق مايو ١٩٩٨ م



### أولاً : البحوث والدراسات :

- في فلسفة الاقتصاد: اختبار الشكل، جذوره وماهيته
- إطار نظري للقياس الكمي لأضرار التلوث الصناعي
- ثانياً : ملخصات رسائل جامعية :
- محدثات الطلب على الواردات المنقولة بحراً إلى المملكة.
- أثر فوائد القروض على تراكم الديون الخارجية:
- دراسة تطبيقية على دول إسلامية مختارة.

### ثالثاً : مراجعات كتب :

- (اقتصاديات الموارد الطبيعية والبيئة) ديفيد بيرس وكري تيرنر أ.د. محمد حامد عبد الله

ردم : ٥٤٩٢ - ١٣١٩ : ISSN

توجه جميع المراسلات إلى رئيس التحرير على العنوان التالي:

ص.ب ٢٤٥٩ الرياض ١١٤٥١ المملكة العربية السعودية

تلفون: ٤٦٧٤١٤١ فاكس: ٤٦٧٤١٤٢

# دراسات اقتصادية

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نصف سنوية محكمة تعنى بالشؤون الاقتصادية  
تصدر عن جمعية الاقتصاد السعودية - جامعة الملك سعود

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رئيساً  
سكرتيراً  
عضواً  
عضواً  
عضواً

الصف والإخراج الفني: الطيب نجيت إدريس

- تدعوكم إلى نشر أبحاثكم والحصول على أسرع الردود حولها.
- تخضع جميع البحوث المقدمة للتحكيم العلمي حسب الأصول المتعارف عليها.
- تنشر مساهماتكم في باب المناقشات ومراجعات الكتب والتقارير والرسائل الجامعية والندوات.
- تصرف مكافأة رمزية عن البحث الذي يجاز نشره.

## قواعد النشر في مجلة دراسات اقتصادية السلسلة العلمية لجمعية الاقتصاد السعودية

السلسلة العلمية لجمعية الاقتصاد السعودية هي دورية علمية تصدر عن جمعية الاقتصاد السعودية بجامعة الملك سعود، وهي تهدف إلى إتاحة الفرصة للباحثين لنشر نتائج أبحاثهم. تنظر هيئة التحرير في مواد في علم الاقتصاد وفروعه. تقدم البحوث الأصلية باللغة العربية والإنجليزية التي لم يسبق نشرها أو إرسالها للنشر في مجلات أخرى، وفي حالة القبول يجب ألا تنشر المادة في أي دورية أخرى دون إذن كتابي من رئيس هيئة التحرير .

تنقسم المواد التي تقبلها السلسلة العلمية لجمعية الاقتصاد السعودية للنشر إلى الأنواع التالية:

- (١) **بحث:** ويشتمل على عمل المؤلف في مجال تخصصه، ويجب أن يحتوى على إضافة للمعرفة في مجاله وأن يكون في حدود (٢٥) صفحة.
- (٢) **مقالة استعراضية:** وتشتمل على عرض نقدي لبحوث سبق أجراؤها في مجال معين أو أجريت في خلال فترة زمنية محددة وألا تتجاوز (٥) صفحات.
- (٣) **المنبر (منتدى):** ويشتمل على خطابات إلى المحرر، ملاحظات وردود.
- (٤) **نقد الكتب.**

### تعليمات عامة:

(١) **تقديم المواد:** يقدم الأصل مطبوعاً - ومعه نسختين - على مسافتين وعلى وجه واحد من ورق مقاس A4 (٢١ x ٢٩,٧ سم) ، ويجب أن ترقم الصفحات ترقيماً متسلسلاً بما في ذلك الجداول والأشكال. وتقدم الجداول والصور واللوحات وقائمة المراجع على صفحات مستقلة مع تحديد أماكن ظهورها في المتن .

(٢) **الملخصات:** يرفق ملخصان بالعربية والإنجليزية للبحوث والمقالات الاستعراضية على ألا يزيد عدد كلمات كل منهما على (٢٠٠) كلمة.

(٣) **الجداول والمواد التوضيحية:** يجب أن تكون الجداول والرسومات واللوحات مناسبة لمساحة الصفح في صفحة المجلة (١٢,٥ x ١٨ سم) ، ويتم إعداد الأشكال بالحبر الصيني الأسود على ورق كلك، ولا تقبل صور الأشكال عوضاً عن الأصول. كما يجب أن تكون الخطوط واضحة ومحددة ومنتظمة في كثافة الحبر ويتناسب سمكها مع حجم الرسم، ويراعى أن تكون الصور الظلية الملونة أو غير الملونة - مطبوعة على ورق لماع .

(٤) **الاختصارات:** يجب استخدام اختصارات عناوين الدوريات العلمية كما هو وارد في The World List of Scientific Periodicals. تستخدم الاختصارات المقننة دولياً بدلاً من كتابة الكلمات مثل : سم ، م ، كم ، مل ، كجم ، ق ، % ، ... الخ.

(٥) **المراجع:** بصفة عامة يشار إلى المراجع بداخل المتن بالأرقام حسب أولوية ذكرها. تقدم المراجع جميعها تحت عنوان المراجع في نهاية المادة بالطريقة المتبعة في أسلوب (MLA):

( أ ) يشار إلى الدوريات في المتن بأرقام داخل أقواس مربعة على مستوى السطر. أما في قائمة المراجع فيبدأ المرجع بذكر رقمه داخل قوسين مربعين فاسم عائلة المؤلف ثم الأسماء الأولى أو

اختصاراتها فعنوان البحث (بين علامتي تنصيص) فاسم الدورية (تحت خط) فرقم المجلد، فرقم العدد، فسنة النشر (بين قوسين) ثم أرقام الصفحات.

مثال : رزق، إبراهيم أحمد، (مصادر الاتصال المعرفي الزراعي لزراع منطقة القصيم بالمملكة العربية السعودية) مجلة كلية الزراعة، جامعة الملك سعود، م ٩، ع ٢ (١٩٨٧م)، ٦٣-٧٧.

(ب) يشار إلى الكتب في المتن داخل قوسين مربعين مع ذكر الصفحات، مثال [ ٨، ص ١٦ ] . أما في قائمة المراجع فيكتب رقم المرجع داخل قوسين مربعين متبوعا باسم المؤلف ثم الأسماء الأولى أو اختصاراتها فعنوان الكتاب (تحت خط) فمكان النشر ثم الناشر فسنة النشر.

مثال: الخالدي، محمود عبد الحميد، قواعد نظام الحكم في الإسلام، الكويت: دار البحوث العلمية، ١٩٨٠م.

عندما ترد في المتن إشارة إلى مرجع سبق ذكره يستخدم رقم المرجع السابق ذكره (نفسه) مع ذكر أرقام الصفحات المعنية بين قوسين مربعين على مستوى السطر. يجب مراعاة عدم استخدام الاختصارات مثل: المرجع نفسه ، المرجع السابق ، ... الخ.

(٦) **الحواشي:** تستخدم لتزويد القارئ بمعلومات توضيحية. ويشار إلى التعليق في المتن بأرقام مرتفعة عن السطر بدون أقواس. وترقم التعليقات متسلسلة داخل المتن ويمكن الإشارة إلى مرجع داخل الحاشية - في حالة الضرورة - عن طريق استخدام رقم المرجع بين قوسين بنفس طريقة استخدامها في المتن . تقدم التعليقات على صفحات مستقلة علما بأنها ستطبع اسفل الصفحات المعنية ويفصلها عن المتن خط.

(٧) **تعبر المواد المقدمة للنشر عن آراء ونتائج مؤلفيها فقط.**

(٨) **المستلات:** يمنح المؤلف عشرة (١٠) مستلة مجانية من بحثه.

(٩) **المراسلات:** توجه جميع المراسلات إلى :

رئيس التحرير - السلسلة العلمية لجمعية الاقتصاد السعودية

ص ب ٢٤٥٩ الرياض ١١٤٥١

المملكة العربية السعودية

هاتف ٤٦٧٤١٤١ فاكس ٤٦٧٤١٤٢

(١٠) **عدد مرات الصدور:** نصف سنوية.

# **Economic Studies**

**A Refereed Bi-annual Series  
Of the Saudi Economic Association**

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# Economic Studies

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### Guidelines for Authors

This periodical is a publication of the Saudi Economic Association. Its purpose is to provide an opportunity for scholars to publish their scholarly works based on research. The Editorial Board, through Division Editorial Boards, will consider manuscripts from all field of Knowledge. Manuscripts submitted in either Arabic or English. And if accepted for publication, may not be published elsewhere without the express permission of the Editor-in- Chief.

The Following is the manuscript type classification used by the editorial board:

**1 – Article:**

An account of authors works in a particular field. It should contribute new Knowledge to the field in which the research was conducted.

**2 – Review Article:**

A critical synthesis of the current literature in particular field, or a synthesis of the literature in a particular field during an explicit period of time

**3 – Brief Article:**

A short article (note) having the same characteristics as an article.

**4 – Forum:**

Letters to the Editor

**5 – Book Reviews:**

### General Instructions

**1 – Submission of Manuscripts:**

A typewritten original manuscript (one side only) using A4 size papers, double-spaced, and along with two copies is required. All pages, including tables and other illustrations, are to be numbered consecutively. Tables, other illustrations, and references should be presented on separate sheets with their proper text position indicated.

**2 – Abstracts:**

Manuscripts for articles review articles, and brief articles require that both Arabic and English abstracts, using not more than 200 words in each version, be submitted with the manuscript.

**3 - Tables and other illustrations:**

Table, figures, charts, graphs and plates should be planned to fit the Journals page size (12.5 cm×18cm). Line drawings are to be presented on high quality tracing paper using black India ink. Copies are not permitted for use as originals. Line quality is required to be uniform, distinct, and in proportion to the illustration. Photographs may be submitted on glossy print paper in either black and white, or color.

**4 – Abbreviations:**

The names of periodicals should be abbreviated in accordance with The World List of Scientific Periodical where appropriate, abbreviations rather than words are to be used, e.g., cm, mm, m, Km, cc, ml, g, mg, Kg, min, %, Fig. Etc.

## 5 – References:

In general, reference citations in the text are to be identified sequentially. Under the “References” heading at the end of the manuscript all references are to be presented sequentially in MLA entry form.

- a) Periodical citations in the text are to be enclosed in on-line brackets, e. g., [7]. Periodical references are to be presented in the following form: reference number (in on-line brackets [ ]), authors surname followed by a given name and/or initials, the title of the article (in quotation marks), title of the periodical (underlined), volume, number, year of publication (in parenthesis), and pages.

Example:

[7] Hicks, Granville. “Literary Horizons: Gestations of a Bain Child.” Saturday Review, 45, No. 62(1962), 2-23.

- b) Book citations in the text are to be enclosed in on-line brackets including the page (s), e. g., [8,p.16]. Book references are to include the following: reference number (in on-line brackets [ ]), authors surname followed by a given name and/or initials, title of the book (underlined), place of publication, publisher, and year of publication.

Example:

[8] Daiches, David. Critical Approaches to Literature. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1956.

When a citation in the text is used to refer to a previously cited reference, use the same reference number and include the appropriate page number (s) in on-line brackets.

It is not permissible to use any Latin terms as op.cit. loc.cit., ibid., in the style described above.

## 6 – Content Note:

A content note is a note from the author to the reader providing clarifying information.

A content note is indicated in the text by using a half-space superscript number (e.g., ... books<sup>3</sup> are...). Content notes are to be sequentially numbered throughout the text. A reference may be cited in a content note by use of a reference number (in online brackets [ ]) in the same way they are to be used in the text. If a reference citation in the text follows a content note citation, and if the said content note has a reference citation contained within it, then the text reference citation number used in the text follows the reference number used in the content note.

Content notes are to be presented on separate sheets. They will be printed below a solid line, which separates the content notes from the text. Use the same half-space superscript number assigned the content note(s) in the text to precede the content note itself.

7 - The manuscripts and Forum items submitted to the Journal for publication contain the author’s conclusions and opinions and, if published, do not constitute a conclusion or opinion of the Editorial Board.

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## 10 – Frequency : Biannual

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**Economics of Natural Resources  
and the Environment,**

**David W. Pearce  
and  
R. Kerry Turner**

**Harvester Wheatsheaf, Hertfordshire  
Great Britain, 1990**

**اقتصاديات الموارد الطبيعية والبيئة**

**ديفيد بيرس وكري تيرنر**

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**Economics of Natural Resources  
and the Environment,**

**David W. Pearce  
and  
R. Kerry Turner  
Harvester Wheatsheaf, Hertfordshire  
Great Britain, 1990**

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**محددات الطلب على الواردات المنقولة بحرا  
إلى المملكة العربية السعودية  
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Free On " "

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J.J. Evans & P.B. Marlow : Quantitative Methods in Maritime  
Economics . Second Edition , Fairplay Publications , LTD. 1990. PP.  
61-65.

Mohsin S. Khan : " The Structure and Behavior of Imports of  
Venzuela " . The Review of Economics and Statistics , Vol. 57 ,  
1975 . PP.375-39

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**أثر فوائد القروض على تراكم الديون الخارجية :**

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## في فلسفة الاقتصاد :

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**ON THE PHILOSOPHY OF ECONOMICS SCIENCE**  
**The Test of Form, Its origins and Nature**

**Mohammed Saad Al-Jasim**  
**Economic Department**  
**The College of Administrative Sciences**  
**King Saud University**  
**Riyadh, Saudi Arabia**

**ABSTRACT**

After the introduction, this article begins with a brief representation of the general structure of economic theories, it goes on to discuss the scientific subject matter of these theories, and it then deals with the scientific and non-scientific criteria used in the philosophy of science for assessing and accepting such theories. Finally, the article offers a detail discussion of the first scientific criterion, called “**The Test of Form** “ , of its origins in the economic thought in connection with the philosophy of the so-called “**Rationalism**”, and of its nature with respect to economic theories.

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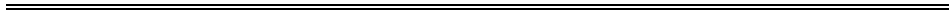
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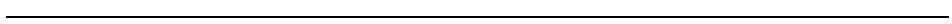
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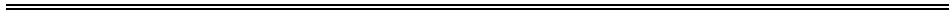
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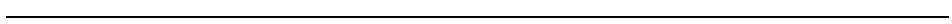
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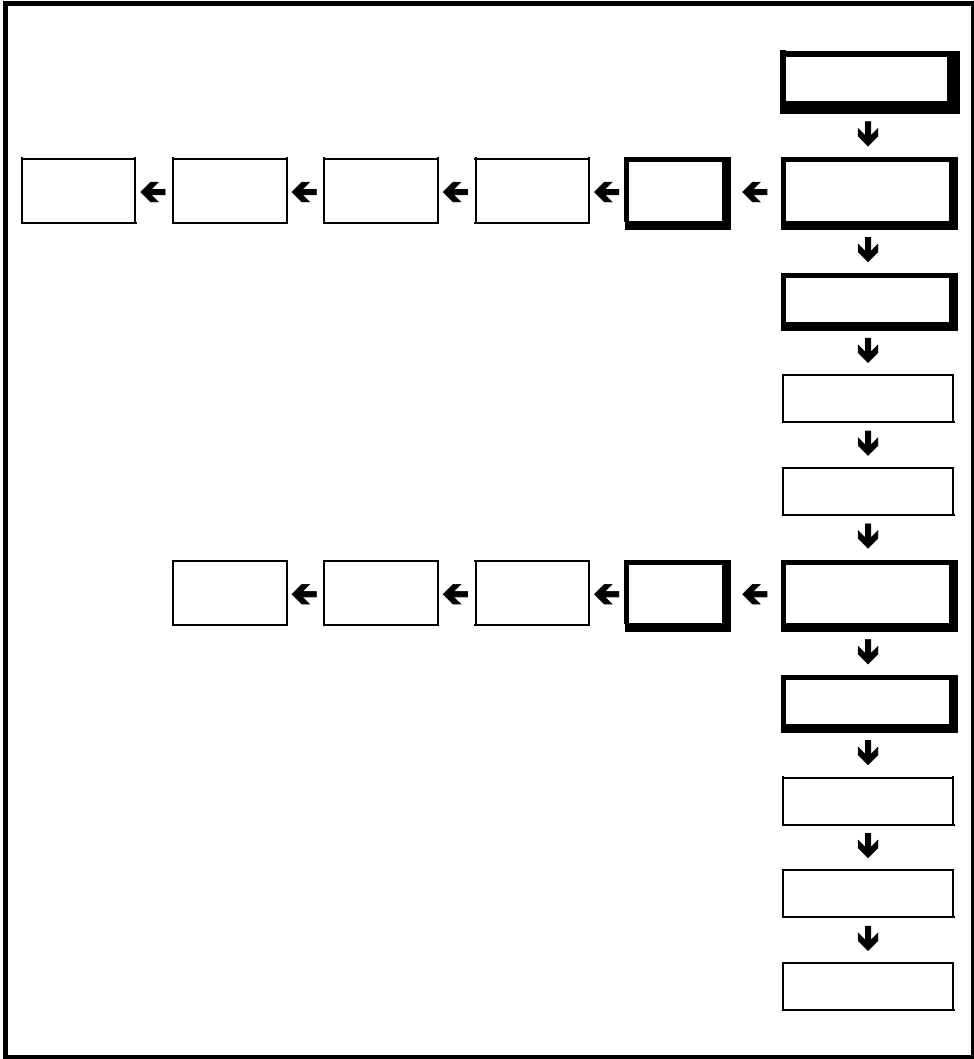
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**A  $\supset$  B**

Axioms

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Theorems

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Consistency

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$A_1$

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$A_3$

$A_2$

$A_1$

: x

$y = f(x)$

Max { f(x) }  
{ x }

(4)



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$x^*$

$x$

$x = x^*$

$x^*$

:

$$y^* \equiv f(x^*) > f(x), \forall x \in N(x^*) \Leftrightarrow \begin{cases} f'(x^*) \equiv 0, \\ f''(x^*) < 0 \end{cases} \quad (5)$$

$f'(x)$

$y^*$

" $\Leftrightarrow$ "

$f''(x)$

" $\forall x \in N(x^*)$ "

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· " $x^*$

$x$

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$x^* \quad y^*$

$x^*$

·  $y^*$

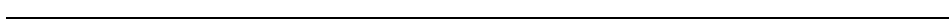
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$\beta$

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Clapham

$y \equiv f(x, \beta)$

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$$f(x, \beta) \equiv g(x) - \beta x$$

$x^*$

$$\frac{dx^*(\beta)}{d\beta} < 0$$

$\beta$

$$\frac{dy^*(\beta)}{d\beta} \equiv -x^*(\beta) < 0$$

$\beta$

$y^*$

$B_3$

(3)

$B_2$

Cairnes

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$$f(x, \beta) \equiv -\frac{1}{2} a x^2 + b x - \beta x$$

**b a**

$$\alpha_0 = \frac{b}{a} > 0 \quad x^* = \alpha_0 + \alpha_1 \beta$$

$$\alpha_1 = -\frac{1}{a} < 0$$

$$y^* = \gamma_0 + \gamma_1 \beta + \gamma_2 \beta^2$$

$$\gamma_2 = \frac{1}{2a} > 0 \quad \gamma_1 = -\frac{b}{a} < 0 \quad \gamma_0 = \frac{b^2}{2a} > 0$$

$$\alpha_1 < 0 \quad \frac{dx^*}{d\beta} = \alpha_1$$

$\alpha_0$

$$x^* = \alpha_0 + \alpha_1 \beta$$

$$\beta = 0$$

$$\frac{dy^*}{d\beta} \equiv -x^*$$

$$\frac{dy^*}{d\beta} \equiv -\alpha_0 - \alpha_1 \beta$$

$\gamma_0$

$$y^* = \gamma_0 + \gamma_1 \beta + \gamma_2 \beta^2$$
$$\gamma_2 = -\frac{\alpha_1}{2} \quad \gamma_1 = -\alpha_0$$

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Deterministic

[ ] Probabilistic

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$\varepsilon_1$

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$$. x^* = \alpha_0 + \alpha_1 \beta + \varepsilon_1$$

$\varepsilon_2$

$$. y^* = \gamma_0 + \gamma_1 \beta + \gamma_2 \beta^2 + \varepsilon_2$$

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**The Nature of Damage Functions and the Basis  
of Classification of Damage**

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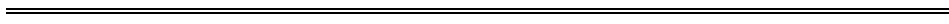
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**The Nature of Pollution Damage Functions**

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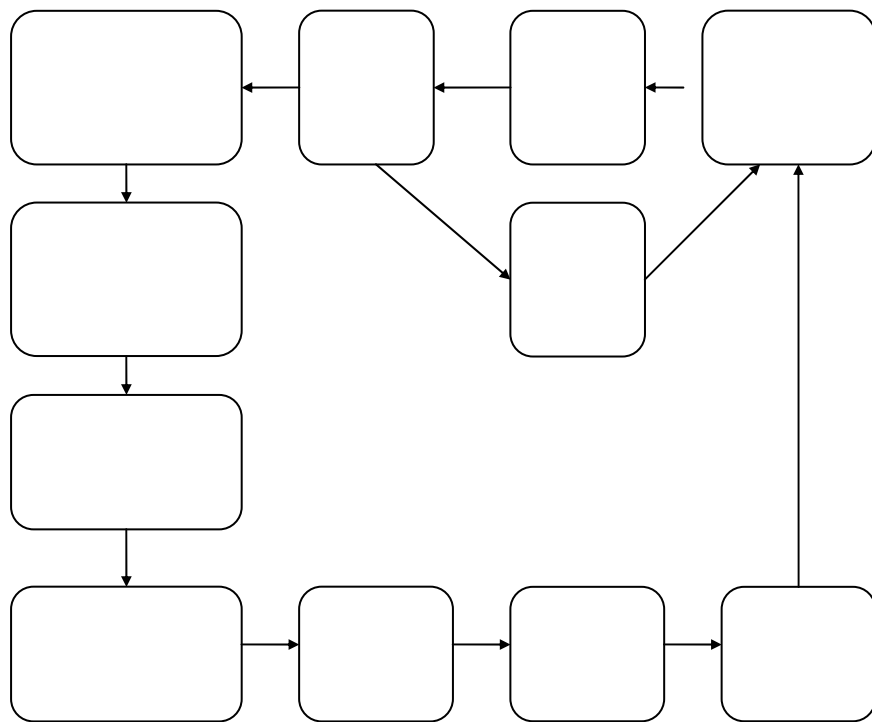
Acute Damage

Chronic damage



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**: Classification of Pollution Damages :**

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Physical damage : -

Premature replacement

Recognisable damages : -

Non-market damages: -

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Damages not measured in monetary terms -

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Observational damages : -

Retrospective : -  
damages

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Present-time damages : -

Prospective damages : -

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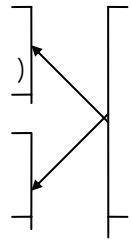
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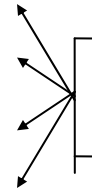
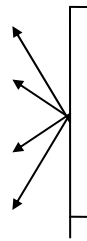
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### Procedures for Quantifying Industrial Pollution Damages

(Ambient standard) )  
)  
(Emission standard)

### Estimating Pollution Exposure :

(ug/m3 )



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Micrograms/cubic meterý

Partsperrmillion ( ppm)

ug/m3

(ppmý)

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Box modelý ( )

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$$\frac{\tilde{a}}{\hat{y}_1 \times \hat{I} \times \hat{U}^{\dagger \circ}} \ddot{E} = {}_p \ddot{E}$$

$$= {}_o \ddot{E} = {}_p \ddot{E}$$

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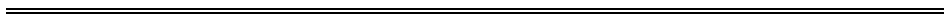
Geussian plume model ( )

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Benarie ý

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Emission rate

$${}_i \ddot{E} + ({}_i \ddot{E} - {}_Y \ddot{E}) \frac{P \tilde{a}}{Y \tilde{a}} = {}_p \ddot{E}$$

=

$$= {}_Y \ddot{E}$$

$$= {}_p \ddot{E}$$

$$= {}_i \ddot{E}$$

$$= {}_Y \tilde{a}$$

/  
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$$150 + (150 - 200) \frac{P \tilde{a}}{100} = 180$$

$$/ \quad 60 = \frac{(150 - 180)100}{150 - 200} = P \tilde{a}$$

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**Determining Adverse Effects of Pollution**

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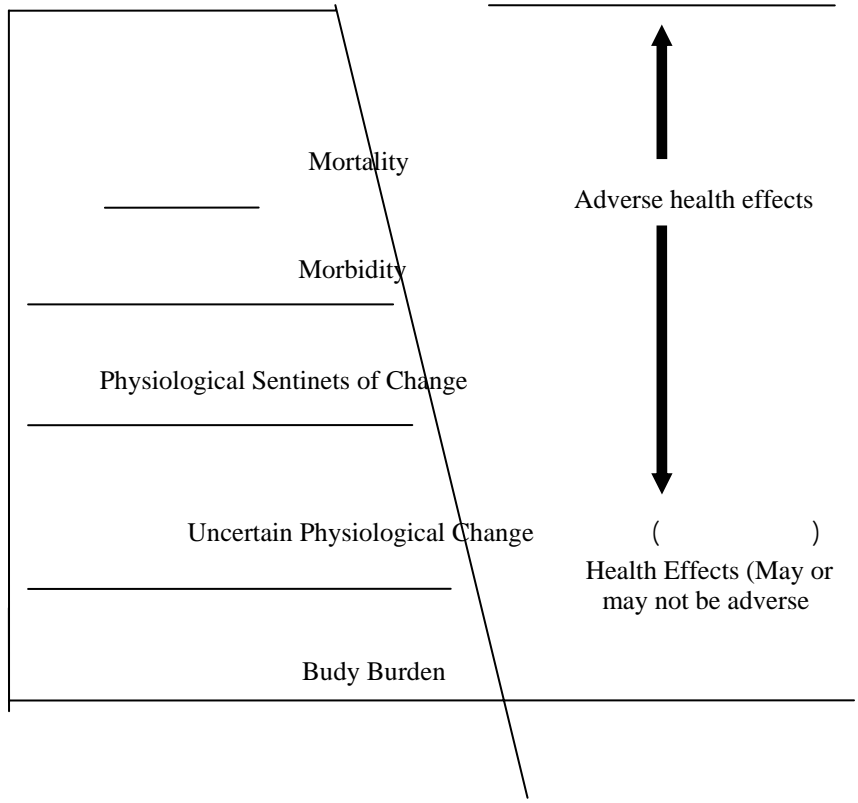
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:	Suspended Partion Matter (SPM)
:	Sulphur Dioxide (SD)
:	Carbon Monoxide (CO)
:	Nitrogen Oxides (NO <sub>x</sub> )
:	Biochemical Oxidents
:	Hydrocarbons (HC)

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### Defining Pollution Dose-Response Functions

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Response

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Dose response function

. Damage function

$$\begin{aligned} & : \quad ( ) \\ & - \\ & .( \dots ) \\ & ( \quad ) \\ & ) \\ & .( \\ & ( - ) \text{ Linear function} \\ & ( \quad ) \\ & ( ) \\ & .[ \quad ] \quad ( ) \end{aligned}$$

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( - ) Hockey-strický

( - ) Sigmoid curve

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Linearity

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Acute toxicity effects

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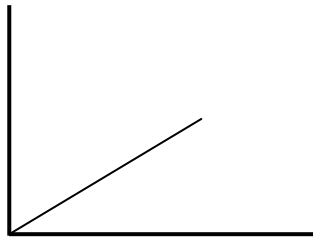
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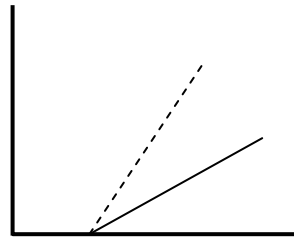
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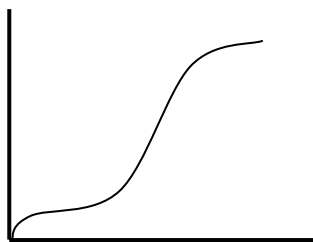
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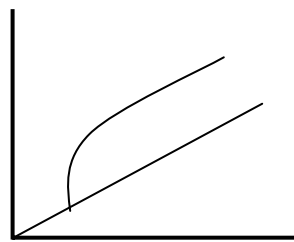
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Absolute threshold

Primary standards

Secondary standards

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Margin of safety

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**Analysis of Exposure - Effects Relationship**

Field studies  
Epidemiology

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$$(\dot{U}_i \tilde{O}_i \dot{O}_i \dot{E}_{i_2} \dot{E}_{i_1}) =$$

$$(\quad)$$

$$= \dot{E}_{i_2} \dot{E}_{i_1}$$

Linear functional form

$$(\quad)$$

$$+ \quad + \quad + \quad +_2 \dot{E} \quad +_1 \dot{E} \quad + =$$

$$(\quad) \quad (\quad)$$



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Cross section data

. Time series data

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## **Estimating Industrial Pollution Damage Functions**

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## **Damage Functions of Pollution Effects of Human Health**

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## Laboratory Studies of Pollution Effects to Health

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**Epidemiology Studies of Pollution Effects to Health**

**Macro Epidemiology Studies**

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Mortality  
Morbidity

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		SO <sub>4</sub>	SO <sub>2</sub>	TSP		
	x	,04	x	,04	117 SM As (1960)	Lave and Seskin(1977)
	x	,02	x	,04	117 SMS As (1960)	
	-	,04	x	,06	117 SMS As (1969)	
	NO <sub>2</sub>	,02	,05	,06	117 SMS As (1969)	
	NO <sub>3</sub>					
	NO <sub>3</sub>		P	x	SMSAs(1960)	Schwing and McDonald(1976)
	HC					
	x	x	*		40SMSAs 1968-1970	Liu and Yu (1976)
	x	x		*	( - )	Gregor (1977)
	CO*	*			-	Mendelson and Orcutt (1979)
	O <sub>3</sub>					
	NO <sub>2</sub>	x	-		( )	Crocker, et al.(1979)
	Mn*	P	x		( - )	Lipfort (1980)
	NO <sub>2</sub>	x			( - )	Gerking and Schulze (1981)
	x		x			Chapie and Lave (1982)
	O <sub>3</sub>		x		64 SMSAs (1970)	Lipfort (1984)
	x	x		x	( - )	Lave and Seskin (1977)
	x	x			( - )	Schinunel and Murawski (1986)
	x	x	x			Wyzga (1978)
					( - )	

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SMAAs = Standard Metropolitan Statistical Area.

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**Micro Epidemiology Studies**

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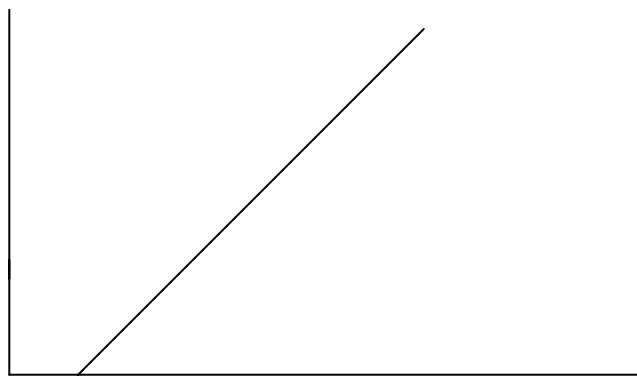
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		Carbon Monoxide
×	/	Mortality
	/	Angina attack
		Ozone
		Aggravation of heatt and lung symptoms
×	/	Aggravation of asthma
×	/	
×	/	Caugh
×	/	Chest discomfort
×	/	Headache
		Nitrogen Dioxide
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		Juvenile lower Respiratory disease
		Sulfates
×	/	
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	/	Chronic bronchitis

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