IRVING FISHER COMMITTEE
ON CENTRAL-BANK STATISTICS

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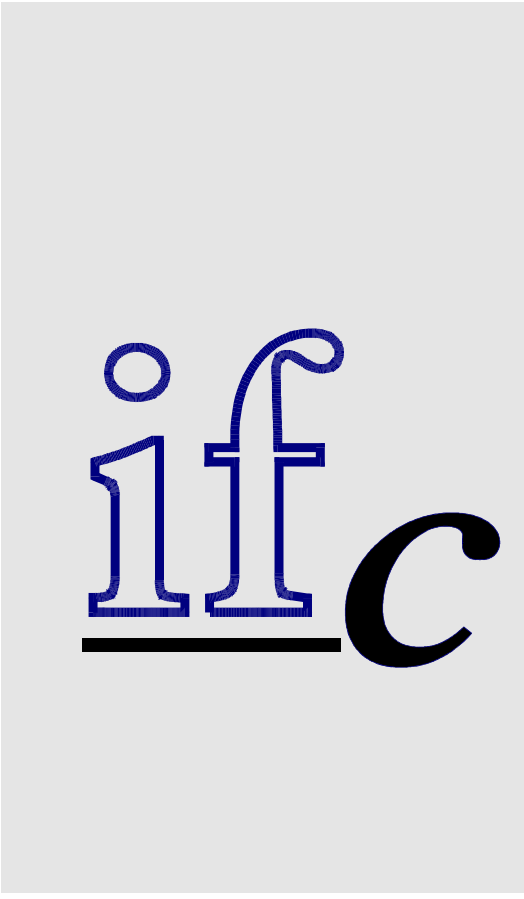

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Contents

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Contents

EDITORIAL

News from the Committee

Programme Committee established

At the Administrative Meeting, held on 12 August 1999 in Helsinki, it was decided that a Programme Committee should be set up to organise IFC future conferences. All candidates for this committee have definitely confirmed their availability for this post (see list below).

Programme of coming events

The Executive Body has investigated the feasibility of the conferences for 2001 and 2002, as envisaged at the Administrative Meeting. As regards the conference in 2001, within the framework of the 53rd ISI Session in Seoul, we have been assured that the IFC will be allotted one invited papers session. The IFC is free to organise any number of contributed paper sessions. The Executive Body regrets that an invited papers session intended to be carried out jointly with the IAOS appeared not to be possible.

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With regard to the independent IFC conference intended for 2002, explorations are underway if this could be organised in Washington, DC, in co-operation with the International Monetary Fund. It is envisaged to have a three-day meeting, probably in April, focussing on five subjects, which will be dealt with, partly in invited and partly in contributed papers sessions.

On the basis of the suggestions received at the Helsinki Administrative Meeting, the Executive Body has submitted a draft programme for both conferences to the members of the Programme Committee, asking their opinion and guidance. In their first reactions, the members of the Programme Committee expressed their satisfaction with this outline. Accordingly, provisional programmes for both conferences can be presented (see page 3).

The next task awaiting the Programme Committee will be to find organisers and chairpersons for all sessions, and to assist organisers in their call for papers. For more information on the IFC Conferences we refer to pages 11-12 of this issue and to the enclosed “Call for Papers”.

The IFC Bulletin

At the latest Administrative Meeting, the IFC Bulletin was commended as an indispensable link between the members of the IFC. The Bulletin is still seeking its optimal formula within the restraints imposed by a non-commercial production process and a distribution free of charge. The choice of articles will primarily reflect the kind of issues that most IFC members seem to consider important. But, evidently, the IFC itself is still in search of an identity. After the Helsinki conference, our impression was that a majority of people were more in favour of policy-oriented issues than scientific studies. This impression is, however, not yet well-grounded. It would seem advisable to canvass opinions of the members some time before the Seoul conference. Meanwhile, we would welcome any suggestions on how to determine the preferred identity of both the Committee and its Bulletin.

Copies of the IFC Bulletin are distributed to a considerable number of central banks and other institutions that have made known their interest. It is, however, not certain that the Bulletin reaches individuals at these institutions who are active in the field of statistics. To ensure that we have the right persons on our mailing-list, we need information from you. Do not hesitate to ask for more than one copy for your institution, but make sure that they are not sent to departments or persons that are not (no longer) interested in receiving them.

This issue

After the 128-page long October 1999 issue, reproducing most of the Helsinki papers, the present issue is more modestly sized. We present a short article on the IMF’s Special Data Dissemination Standard and continue the publication of Fisher’s “Short Stories on Wealth”.

Provisional Programme for the IFC Conference within the framework of 53rd ISI Session, Seoul, 22-29 August 2001

Statistics for Financial Stability *(invited papers session)*

Organiser: Turnbull; Chairperson: Turnbull; 2 discussants; 3 or 4 papers.

The Measurement of External Debt and External Reserves *(contributed papers session)*

Organiser: Carson/IMF; Chairperson: Carson/IMF; maximum 5 papers.

Collection of Financial Data from Companies: Statistics and International Accounting Standards *(contributed papers session)*

Organiser: (?); Chairperson: (?); maximum 5 papers.

The **Relationship between Central Banks and Statistical Institutes** *(contributed papers session)*

Organiser: B. Meganck; Chairperson: (?);
as many papers as possible.

Provisional Programme for the Independent IFC Conference, 2002

Liberalisation of Financial Markets and BOP-compiling *(invited papers session)*

Organiser: Meganck; Chairperson: Meganck; 2 discussants; 4 papers.

Statistical Methods in Safeguarding the Quality of Statistics *(invited papers session)*

Organiser: Lehtonen; Chairperson: Lehtonen; 2 discussants; 4 papers.

Central Bank Statistics in a Multi-national Set-up *(invited papers session)*

Organiser: Carson/IMF; Chairperson: (?);
4 papers, 2 discussants.

Statistics and Transparency *(contributed papers session)*

Organisers: Schubert/Nesvadba; Chairperson: Schubert or Nesvadba;
as many papers as possible.

Statistics and Virtual Information Technology *(contributed papers session)*

Organiser: Oleński; Chairperson: (?);
as many papers as possible.

Quality and timeliness of macro-economic statistics

IMF's publication standard: the Special Data Dissemination Standard (SDDS)

P. Kramer

The timely publication of high-quality statistics is a prerequisite for the proper preparation of monetary, and more generally, macro-economic policy. For this reason the IMF drew up guidelines in 1996 which became binding in the course of the first half of 1999. The quality of statistics will reach a higher plane if and when countries meet the (strictest) standards. The objectives of accessibility, transparency and timeliness are met by daily updates of the statistical information on the Internet. Incidentally, the requirements have been and are still being made even more stringent, notably with regard to data on international reserves and foreign debt.

Introduction

The Mexican crisis (1994/95) and the Asian crisis (1997) clearly highlighted a greater need for high-grade statistics. Deteriorating financial and economic conditions went unheeded for too long and when the full extent of the difficulties finally came to light, private investors reacted with a massive withdrawal of capital from the countries concerned. In this context the policy-making IMF Interim Committee, with the backing of a G7 summit in Halifax in 1995, decided to guide IMF member countries in the effective dissemination of economic and financial data to the public, including financial market participants. This resulted in the establishment of the IMF's publication standard for macro-economic statistics which focuses on the quality, timeliness and accessibility of the information. The target group consists of countries active in or seeking access to international capital markets. The strictest version of the publication standard, known as the Special Data Dissemination Standard (SDDS), may be seen as a collection of best practices for the lay-out and publication of macro-economic key statistics in the financial, fiscal and real areas.

Over the past decade the quality of macro-economic statistics has gained extra dimensions. Besides timeliness and accessibility, the dimensions now generally looked for are: completeness, periodicity, accuracy, integrity and international comparability. Each of these dimensions bears more or less importance depending on the specific purpose of the statistics. Sometimes prompt publication of just a few indicators is required while at other times the completeness of the information is the most important consideration. The aim of the compulsory SDDS guidelines is to offer guarantees of quality and to promote transparency. This will be supported by the advance dissemination of release calendars. Along with the publication of extensive descriptions (metadata), the final step involves the publication of the actual statistics on the Internet.

Stringent and less stringent requirements: special and general

Preparations for the 'special' publication standard were completed in April 1996 while the so-called 'general' standard followed at a later stage. The special standard applies to 17 macro-economic data categories. All IMF members were asked to subscribe to this standard. Although subscription is voluntary, subscribing members are bound to fulfil certain obligations. A diverse group of more than 30 countries subscribed to the standard in the course of 1996. When the standard was formally launched on 16 September 1996, the metadata of 18 countries, were first published on the Internet. To advance the accessibility and the disciplinary effect of this standard, each country's statistics are updated daily on the Internet. The total number of participating countries has since risen to 47. The group includes industrial, transitional and developing countries from all parts of the world (see Table 1, indications). Most of these countries gradually brought their practices into line with the publication standard during a transition period that ended in 1998. The requirements for all 17 data categories first became binding in the course of the first half of 1999.

The 'general standard' is less strict. The main reason for setting this standard is to encourage transitional and developing countries to gradually improve their provision of macro-economic information. This article does not discuss the general standard any further.

Table 1 Countries subscribing to SDDS
Numbers at end-1999

	Total	Group of countries		Parts of the world				
		Industrial countries	Transitional/ developing countries	EU	Rest of Europe	Asia	America	Africa
Special standard	47	21	26	13	13	11	9	1
General standard	25		25					

Evolution of the special standard since 1995

From the outset, the standard – partly due to the Asian crisis – has evolved, becoming more refined and more stringent (Table 2). This is for example reflected in stricter publication guidelines for the international reserves and foreign debt. The new guidelines in this area must be observed in the course of the next two years.

The special standard

In general, the statistical information must be released to all interested parties simultaneously. It must be compiled by an official agency and be of good quality. Specific guidelines on periodicity and timeliness apply for each of the 17 data categories. The 1:1 rule generally applies: weekly figures must be published within one week, monthly figures within one month, etc. For example monetary data must be published monthly, with lapse of no more than one month after the reference month.

The special standard encompasses guidelines from three angles, namely the publication of:
- 17 macro-economic data categories relating to the real, fiscal, financial and external sectors;
- descriptions of these statistics: metadata (definitions, sources, lay-out etc); and
- time schedules for the publication of the statistics. A release calendar shows the publication dates for statistics one quarter to one year ahead.

Table 2 Evolution SDDS standard in the period from 1995 to date

	Milestones	Refinement	Reinforcement
1995	April-September. Work begins on SDDS in the wake of the 1994/1995 financial crisis (IMF interim committee; G7 summit in Halifax)		
1996	September. IMF Bulletin Board opens on Internet. Metadata for 17 national macro-economic data categories for 18 countries.		
1997		April. Link between metadata and actual country data through national summary data page on Internet. Voluntary.	
1998	December. End of the transition period. Subscribing countries must meet requirements in the course of the first half of 1999.	Refinement and reinforcement prompted by Asian crisis; detailed publication of: - international reserves - foreign debt (IIP [1])	- Certification of metadata every quarter - National summary data page with latest updates of data categories; obligatory at end-1999. - Publication of IIP no longer than 6 months after reference year
1999	December. National summary data page on Internet obligatory		
2000	March. Specification of international reserves		
2001	December. Specification of foreign debt (IIP) and accelerated publication, within six month after reference period		

1) IIP: International investment position of a country in respect of other countries, i.e. an overview of national assets and liabilities.

In view of the stringency of the guidelines and the countries' diverging points of departure, the SDDS contains a limited flexibility option. Countries that have not (yet) met the standard must report explicitly on their current plans for improvement. The option for an exemption arises from the fact that some rapidly available details are good leading indicators for other more comprehensive statistics that are not yet available. An example of this is the industrial production index, which gives a good indication of the trend of GDP. Another example concerns the international reserves. The relevant data are generally promptly available and give an indication of the entire development of the balance of payments.

Dimensions of SDDS

The SDDS identifies the following four dimensions: (a) the data: coverage, periodicity and timeliness; (b) access by the public; (c) integrity and (d) quality of the data in the narrow sense. It is difficult to cover the quality of the statistics in one operational criterion. All these different dimensions eventually determine the quality of statistical information in the wider sense.

a. The data: coverage, periodicity and timeliness
This involves a brief outline of the statistics' coverage. The (international) guidelines used in compiling the data must be stated (for example: System of National Accounts, 1993 version; IMF Balance of Payments Manual, 5th edition). The frequency of the statistics' release and the lapse between publication and the reference period must also be indicated.

b. Access by the public
To assist users, an outline – known as an advance release calendar – is published giving the dates on which certain statistics will be released. Such a release calendar covers the coming three months at least. Another aspect of access relates to the simultaneous release of the statistics to all interested parties. A separate rule applies to interest rates and exchange rates. That kind of transient data appears continuously on Reuters screens for example. In the context of the SDDS, these figures are (subsequently) recorded in the form of a time series and updated daily on the Internet.

c. Integrity
The integrity of the data relates to the degree of independence of the agency that compiles the statistics. Some of the aspects considered are: the legal basis for the statistics, ministerial access to the data before release and any adjustments ensuing from such access. Another aspect of integrity is whether the data are provisional or not, and if so, what the basis for revision is and when the data will be final. Important revisions must be reported and explained;

d. Quality in the narrow sense
To give users an insight into the quality of the data, the statistical methodology is documented and the sources and methods of collecting information are reported. Another important aspect is whether statistics stand entirely alone or are embedded in a cohesive framework of for example the analytical accounts of the banking sector or the financial accounts of a national economy. More checks and balances are possible in the latter instance.

From an international perspective the SDDS has and will led to a considerable improvement in national statistics. This is evidenced by a total of 416 plans drawn up during the transition period by the 45 countries then subscribing. Each plan dealt with the observance of the standard for a specific data category as regards coverage, timeliness and periodicity. Although much has been realised, there is still plenty to be done.

Publications on the Internet: data and metadata

The Internet has created new opportunities for publication. Central banks and allied international institutions have been exchanging information electronically for around 15 years. But only in the last 5-6 years has it become possible to disseminate statistical information to a wider public in an electronic form that is permanent, quicker and more comprehensive (time series). Electronic publication has reduced delays arising from the former physical printing and distribution process to a minimum.

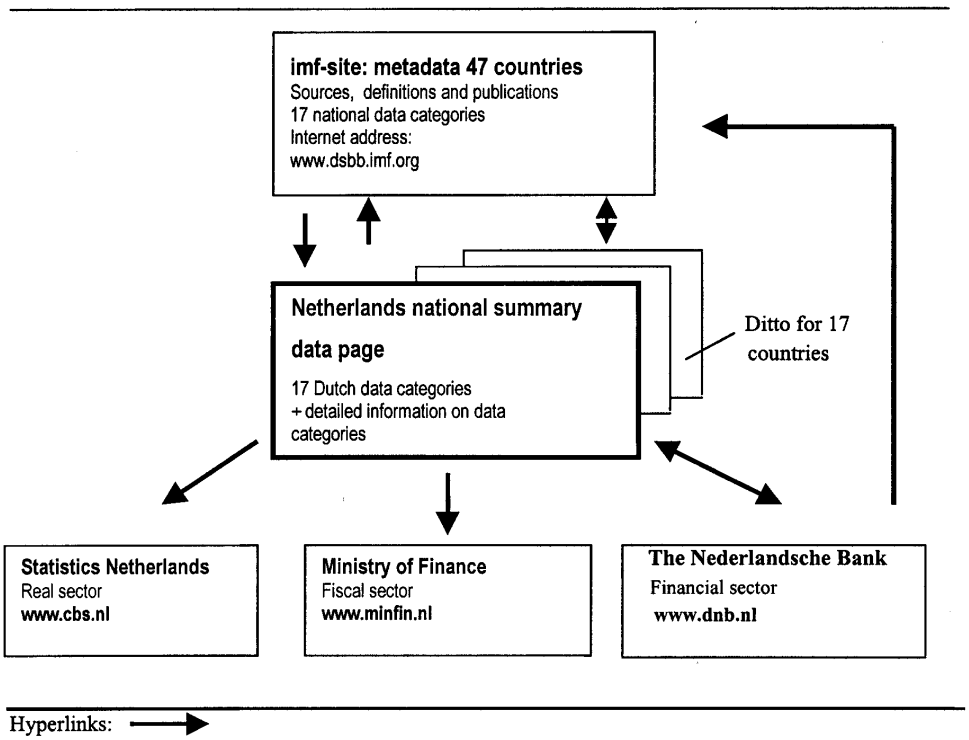
Latest statistics on the national summary page
Countries publish a summary of the macro-economic data on the Internet. These national summary data pages show the latest statistics for the 17 data categories. At present 18 of the approximately 47 SDDS countries operate such a summary data page. Summary pages are updated daily and form a useful and internationally uniform means of access to national key statistics. Pages are connected by hyperlinks to various national websites with macro-economic statistical information. The lay-out of the pages is prescribed by the IMF and is the same for all countries (the Appendix shows a condensed version of the Dutch page as an example).

Link between summary page and other national and international sites
Since September 1996 the metadata for national statistics can be found on the IMF Internet site. Summary pages with statistical data can be accessed via the IMF site with the national metadata. The summary data page in turn provides hyperlinks, per statistic, to various national sites for direct access to the relevant national data. Diagram 1 illustrates the positioning of the Dutch summary data page. In this way, all interested parties, particularly financial market participants, have straightforward access to consistent information – statistics and metadata – on the national macro-economic key variables.

SDDS in the near future

High-quality information on the macro-economic situation in individual countries is indispensable to financial market stability. The SDDS helps meet the need for such information. The publication of statistical information will continue to expand in the coming year. The specifications in respect of details have been considerably tightened, mainly in reaction to the shortcomings in the information on the size and composition of the international reserves during the Asian crisis. Along with the actual extent, the (potential) future claims on these reserves must be shown in detail. Moreover, countries will have to disseminate more information on foreign debt, broken down by sector and maturity, and publish details of their future liabilities.

Diagram 1 Hyperlinks from Dutch national summary data page to other sites



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Pages 9-10: **An Example of a National Summary Data Page**

Date of last update: 29 February 2000
Daily update

Economic and Financial Data for the Netherlands

The data shown in this page correspond to the data described on the International Monetary Fund's Dissemination Standards Bulletin Board (DSBB). For a fuller explanation of the DSBB and the statistical standards to which the Netherlands has committed, please click on DSBB Home Page.

The data are not seasonally adjusted, unless otherwise indicated.
The component data may not add to the totals due to rounding.

[Real Sector | Fiscal Sector | Financial Sector | External Sector | Population]

REAL SECTOR					
SDDS Data Category and Component	Unit Description	Observations			More Information
		Date of Latest	Latest data	Latest-1 data	
National Accounts					
* GDP, 1995 constant prices	NLG millions	Q4 1999	198,868	185,011	
* GDP, current prices	NLG millions	Q4 1999	211,906	197,612	
Production index	1995 = 100, seasonally adjusted	Dec 1999	109.5	108.5	Statistics Netherlands
Employment	thousands of jobs	Q3 1999	6,424	6,408	Statistics Netherlands
Unemployment	thousands of persons, seasonally adjusted	Jan 2000	191	188	
Wages/Earnings	1990 = 100 hourly wage rates	Jan 2000	129.6	129.3	Statistics Netherlands
Consumer prices	1995 = 100	Jan 2000	109.0	109.2	Statistics Netherlands
Producer prices total	1995 = 100	Jan 2000	107.5	107.2	Statistics Netherlands
FISCAL SECTOR					
SDDS Data Category and Component	Unit Description	Observations			More Information
		Date of Latest	Latest data	Latest-1 data	
General Government Operations					
* Revenue	NLG billions	1998	355.2	340.7	
* Expenditure	NLG billions	1998	361.1	349.5	
Central Government Operations					
* Revenue	NLG billions	Dec 1999	26.6	18.6	Ministry of Finance
* Expenditure	NLG billions	Dec 1999	27.5	18.1	Ministry of Finance
* Balance, Deficit(-)/Surplus(+)	NLG billions	Dec 1999	-1.0	0.5	Ministry of Finance
* Financing	NLG billions	Dec 1999	1.0	-0.5	
Central Government Debt (gross)					
* Total	EUR millions	Q4 1999	189,661	192,168	
* Total, breakdown by type of debt instrument					
** Dutch Treasury Certificates	EUR millions	Q4 1999	4,978	8,765	Ministry of Finance
** Total Long-term Loans	EUR millions	Q4 1999	184,683	183,403	Ministry of Finance
*** Dutch State Loans (bonds)	EUR millions	Q4 1999	173,929	171,781	Ministry of Finance
*** Private Placements	EUR millions	Q4 1999	10,754	11,623	Ministry of Finance

FINANCIAL SECTOR					
SDDS Data Category and Component	Unit Description	Observations			More Information
		Date of Latest	Latest data	Latest-1 data	
Analytical Accounts of the Banking Sector					
* The national contribution to the euro area M3	EUR millions	Jan 2000	331,024	324,362	Statistics Central bank
* Euro area loans to general government (gross)	EUR millions	Jan 2000	31,373	31,813	Statistics Central bank
* Euro area loans to the non-government sector	EUR millions	Jan 2000	460,955	453,189	Statistics Central bank
Analytical Accounts of the Central Bank					
* Base money	EUR millions	25 Feb 2000	27,791	29,857	Statistics Central bank
* Claims on private sector	EUR millions	25 Feb 2000	6,151	3,890	Statistics Central bank
* Gross foreign assets (outside euro area)	EUR millions	25 Feb 2000	42,933	35,651	Statistics Central bank
* Gross foreign liabilities (outside euro area)	EUR millions	25 Feb 2000	3,977	3,104	Statistics Central bank
Interest Rates (daily)					
* Long-term government securities (9 - 10 years)	%, annual rate	28 Feb 2000	5.61	5.55	Statistics Netherlands

EXTERNAL SECTOR					
SDDS Data Category and Component	Unit Description	Observations			More Information
		Date of Latest	Latest data	Latest-1 data	
Balance of Payments					
* Imports of goods and services	EUR millions	Q4 1999	48,673	46,631	Statistics Central bank
* Exports of goods and services	EUR millions	Q4 1999	55,995	51,003	Statistics Central bank
* Net income receipts	EUR millions	Q4 1999	1,121	2,259	Statistics Central bank
* Net receipts from current transfers	EUR millions	Q4 1999	-1,813	-1,423	Statistics Central bank
* Financial transactions (excl.official reserves)	EUR millions	Q4 1999	-4,384	-827	Statistics Central bank
* Reserve assets	EUR millions	Q4 1999	862	204	Statistics Central bank
International reserves (Eurosystem statistical definition), total, gross	USD millions	Jan 2000	18,191	19,385	Statistics Central bank
Merchandise Trade					
* Total exports	NLG millions	Dec 1999	38,364	38,089	
* Total imports	NLG millions	Dec 1999	35,515	35,896	
International Investment Position (net)	EUR millions	1998	3,118	30,007	
Spot Exchange Rates (daily)					
* US dollar	NLG per 1 USD	28 Feb 2000	2.286	2.246	Statistics Central bank
* Yen	NLG per 10,000 Yen	28 Feb 2000	209.438	202.565	Statistics Central bank
3-Month Forward Exchange Rates (deviation from spot rate, daily)					
* US dollar	USD per EUR	28 Feb 2000	0.0061	0.0062	Statistics Central bank
* Yen	Yen per EUR	28 Feb 2000	-0.9159	-0.9451	Statistics Central bank
POPULATION	thousands of persons	1998	15,755	15,654	Statistics Netherlands

Preparing for Seoul

Programme

For the IFC Conference to be held in Seoul in 2001, the IFC Programme Committee has selected the following topics:

#	Topic	Type of papers	Organiser	Chair
1	Statistics of Financial Stability	Invited	Turnbull	Turnbull
2	The Measurement of External Debt and External Reserves	Contributed	Carson	Carson
3	Collection of Financial Data from Companies: Statistics and International Accounting Standards	Contributed	?	?
4	The Relationship between Central Banks and Statistical Institutes	Contributed	Meganck	?

Organisers and Chairpersons

The IFC Programme Committee has started the organisation of this conference, searching for organisers and chairpersons for the sessions. As indicated in the table above, for a number of sessions, organisers and/or chairpersons are already available. Any persons with responsibilities in the field of central-bank statistics, interested to assume a role in organising and/or chairing one of the remaining sessions, are requested to contact a member of the IFC Programme Committee (see list on page 1) or the Secretary of the Executive Body.

Papers

To assist the members of the Programme Committee in their task of finding persons who want to contribute to the conference by presenting a paper, we have enclosed in this issue of the IFC Bulletin a “Call for Papers”. Please ensure that this insert is brought to the attention of potential authors within your institution.

In accordance with the rules of the ISI, papers should not exceed 4 pages (invited papers) or 2 pages (contributed papers). All papers will be published as part of the ISI’s Proceedings.

These papers also qualify for publication in the IFC Bulletin. However, the IFC encourages authors to submit a more comprehensive version of their papers, which will be published in the IFC Bulletin instead of the restricted version.

Likewise, the IFC would be pleased to receive abstracts of the papers – comprising 150-300 words – giving an outline of the papers at an early stage. These abstracts will be published in the IFC Bulletin at the end of 2000 or in the first half of 2001.

Deadlines

Draft versions of the papers must be submitted to the organiser of the session, as well as to the Secretary of the Executive Body before 1 February 2001. The deadline for the final versions of the papers is 1 April 2001. Abstracts must be available not later than 1 September 2000.

Final versions of the papers and abstracts should also be sent, preferably by E-mail, to the Editor of the IFC Bulletin.

Short Stories on Wealth

Irving Fisher

33. Distribution [1]

WE began these short stories with a study of economic accounting. In this way we obtained a bird's-eye view or the whole field of economic science. At first we took, as if ready-made, the items for constructing our capital and income accounts. These items consisted of the values of various items, whether of capital or of income. But each of these values is the product of two factors, the quantity of the good valued and the price of that good.

We have already seen how one of these two factors, price, is determined and there remains for us to study how the other, namely the quantity of any good, is determined.

What determines, for instance, the quantity of wheat which a given wheat field produces; what determines acreage of the wheat fields themselves; what determines the quantities of human beings on a given area; what determines the quantities of the necessities, comforts, luxuries, and amusements of life which a nation, or an individual, enjoys? Once we can explain these quantities, we have completed our task of explaining – at least in general terms – economic quantities, prices and values.

We shall then be able to explain why, for instance, the quantities and values of the capital in capital-accounts or income, in income accounts are so great in some cases and so little in others; why the benefits flowing from one piece of land are so great, and from another so small; and so forth.

We are seeking not simply absolute, but relative, results. We care less, for instance, about the absolute population of the globe than about population relatively to land. We care less about the world's total yield of wood than about the yield per capita or per acre; less about the total yield of cloth than about the yield per capita or per loom. In general, we care less about the total amount of

Fisher's Short Stories on Wealth, 1926-1933

*Dr. **Arthur Vogt** has drawn our attention to a series of simple explanations of elementary principles of economics which Fisher wrote in an agreement with the Worker's Education Bureau. Fisher called them "Short Stories of Wealth". The bureau issued them monthly for publication in any union newspaper that desired to print them. They appeared in the "Brotherhood of Locomotive Firemen and Enginemen's Magazine", "Trade Union News", "Labor Herald" etc.*

The stories had never been reprinted and had not been included in "The Works of Irving Fisher" (General Editor W.J. Bates, Consulting Editor J. Tobin), which was published in 1997. However, the Stories are worth to be read up to the present day. Besides the scientific and historical interest they are of didactical use as they are models of explaining economic phenomena to the public. The IFC Bulletin decided to publish all these "Short Stories of Wealth"

1) *The Lather, Cleveland, Vol. XXIX, No. 3, November 1928, pp. 32-33.*

the yield from the aggregate of any kind of capital than about the yield per person and per unit of that particular kind of capital.

In short our present search is for relative quantities and values. There are two sets of such quantities, or values, which are of special importance in our study. One is the quantity and value of income per unit of capital source which yields that income, and the other is the quantity and value of income and of capital per human being who owns the capital and the income from it. The first represents the distribution or income relatively to the agents which produce it. The second represents the distribution of income and of capital among their owners.

The first will first occupy us. It is often called "yield". The yield may be the yield of capital of some kind, of labor of some kind, or jointly of specified amounts of capital and labor combined. The joint yield is practically the only possibility; but for simplicity we ascribe definite parts of any joint yield to capital and labor separately.

There are four sorts or yield, because both capital and income may be measured in two ways. The income yield by capital may be measured either in value – so many dollars' worth – or in quantity – so many yards of ploughing, so many gallons of pumping, so many ton-miles of hauling or other units of service of any kind. So also the capital yielding the income may likewise be measured either in value – so many dollars' worth – or in quantity – so many ploughs, pumps, locomotives, and so on. So we have either the value or the quantity of the income, as yielded per unit either of the value or the quantity of the capital.

For instance, we may say that certain lands have a net yield of five bushels per acre of $5 worth per acre or five bushels per $100 worth of land or $5 per $100 worth of land.

In the next story we shall take up the value of the income per unit of the quantity of capital which yields it, or rent.

34. Rent [2]

IN the last short story we saw that there are four ways in which income is related to capital. One is the value of the income per unit of the capital goods which yield it – in other words, rent. Thus, land may yield a "rent" of $10 a year per acre; or houses, of $1,000 a month per house; or pianos or typewriters, $25 a month per instrument.

The idea of rent here used is somewhat broader than the ordinary one. It includes, not only the rent explicitly named in a lease, between landlord and tenant, or owner and user, but also the rent which is implicit when owner and user are one and the same person. Implicit rent is the profit earned by any piece of capital over and above all expenses. When a landlord rents his land to a tenant for $1,000 a year, the rent is explicitly $1,000 a year; when, instead, he works the land himself and makes from it an income which consists in the production of crops, the rent is only implicit. It is profit. Before he can state its amount he must appraise the crops, including both those portions which he sells and those consumed by himself and his family. If he appraises the crops and other benefits which he receives from the land at $3,000 and the costs at $2,000, his net income is $1,000, and therefore his implicit rent is $1,000. A "rented" house bears explicit rent, but a house lived in by the owner has an implicit rent, i.e., whatever benefits it yields to the owner reckoned over and above its costs.

Explicit rent, being stipulated, is usually fixed and certain – at least for all practical purposes; implicit rent, on the other hand, is variable and uncertain. In either case – whether rent is explicitly paid by user to owner or implicitly received by the owner himself – the rent is simply the value of the income or services of the article.

The most common kind of instrument explicitly rented is real estate, although many other more or less durable commodities, such as furniture, horses and carriages, telephones, pianos, tabulating machines, typewriters, movie films, and even clothing, may sometimes be explicitly rented.

Although a piece of real estate is usually rented as a whole, including both land and improvements thereon, sometimes the land and the improvements are rented separately. Thus a man may lease a vacant building lot and then make a supplementary contract to lease a building to be erected thereon by the landlord. The rent of land separately is called ground rent. Even when ground rent is not separated in contract, it may, for purposes of discussion, be separated in thought; so that all land bears ground rent, either explicit or implicit. Ground rent has been the subject of a vast amount of

2) *The Lather, Cleveland, Vol. XXIX, No. 4, December 1928, pp. 32-33.*

discussion. It underlies, for instance, "the single tax" propaganda, which advocates that taxes shall be laid on ground rent alone.

There are two important peculiarities of land which are shared by very few other instruments. One of these peculiarities is that, practically speaking, the land in the world is fixed in area. Except by filling in tidal lands, as in Holland, and in a few other instances, we can not add to the world's acreage; nor can we subtract from it. It is true that we may materially increase its productivity by irrigation, fertilizing, sub-soil plowing, erecting taller buildings, etc., or decrease it by erosion and exhaustion of the soil and other abuses. These alterations in land are more important than has generally been recognized, and their importance is growing. However, we shall here assume a community in which the land remains unchanged, both in quality and quantity, possessing, as Ricardo expressed it, "natural and indestructible powers of the soil." For our purpose it is enough to assume that the land is indestructible. Whether it be natural or not is a matter of indifference; precisely the same principles of valuation apply to made land wrested from the wilderness as apply to land a free gift of nature.

The second peculiarity of land is that its different qualities can not, in most cases, be as fully separated and classified as the different qualities of most other kinds of wealth. We can sort wool, for instance, into different kinds and label and sell each kind separately. The same is true of wheat or coffee or automobiles. Each separate kind is then regarded as a separate commodity. But it is not practicable to sort different kinds of land, except roughly into forest land, mining land, oil land, grazing land, farm land, building land, etc. The different kinds are inextricably intermingled and can not be moved apart, and one element in the character of land – its situation – differs materially with every individual piece of land. Any classification which would really "standardize" lands – that is, make the lands in any one class sufficiently homogeneous as to bear substantially the same price per acre – would have to be too minute a classification to be of any practical value. In the case of ordinary commodities like wheat, which are "standardized," there exists but one price for each kind. But the price of land differs with each individual piece.

35. Land Rent [3]

IN the last short story we considered rent in general. In this short story we are to consider land rent in particular. To make the picture as simple and clear as possible, let us suppose an island separated from the rest of the world so that there is only one market. Let us suppose the most fertile land to be situated in the center capable of producing twenty-five bushels of wheat per acre, and the other lands arranged around it in the order of descending productivity. If there is a superabundance of the twenty-five-bushel-per-acre land so that it can be had merely for the trouble of occupying it, and there is no prospect that any inferior grades will ever need to be used, the land will be as free as air. Like air it will be without value, and will yield no rent. The reason is that the supply of land of the first quality, which may be had free, exceeds the amount demanded at any price however low. No one will pay for the use of land when, without traveling farther than across a field, there is plenty of equally good land to be had for nothing. The wheat, however, will have a price equal to its marginal desirability measured in money and also to its marginal cost measured in money. The price of wheat is in this case simply equal to the marginal cost of producing the wheat. For, if sellers should try to sell above this cost, buyers would prefer to grow the wheat at that cost themselves.

But as soon as the population increases so as to create a demand for wheat which can not be supplied from the most fertile land, some of the next grade of land will be used, yielding not twenty-five bushels per acre but, say, twenty-four bushels per acre. What was before true of the first-grade of twenty-five bushel land will now be true of this second-grade or twenty-four-bushel land. It will be valueless, and will yield no rent. But no longer will this be true of the first-grade or twenty-five-bushel land. It will now, for the first time, have a value and yield a rent. For there will be a rise in the price of wheat. The price will still be equal to the marginal cost, but now the marginal cost is the cost of producing a bushel of wheat on the second-grade land.

But, since there can not be two prices for the same article in the same market the price of the wheat produced on the first-grade land must be the same as that produced on the second grade. Consequently, the owners of the first-grade land now have a crop worth more than the cost of producing it, and can now, if they choose, obtain a rent for it equal to the excess of the twenty-five

3) *The Lather, Cleveland, Vol. XXIX, No. 5, January 1929, pp. 34-35.*

bushels per acre over the twenty-four bushels per acre, i.e., one bushel per acre; for a tenant of the twenty-five-bushel land, paying the equivalent of one bushel per acre, would have twenty-four bushels for himself, which is exactly the same as he would have if he should take up a claim for himself on the second-grade land; and if the landlord should attempt to charge more, he would lose his tenant, as the latter would then be better off on the second-grade land. If, on the other hand, he charged less, he would be besieged by applications, and would put up his price. So one bushel per acre would be the rent which should clear the market.

If the population changes again so as to require a resort to the third-grade land, yielding only twenty-three bushels, the rent of the first-grade land will be the difference between twenty-five and twenty-three or two bushels per acre. The second-grade land will now rent for one bushel per acre. In each case the rent of any grade of land is the difference between its productivity and the productivity of the worst, or marginal, land occupied.

The last, worst, or no-rent land, is sometimes also called the "Ricardian acre" in honor of Ricardo, who first stated this doctrine of land rent. Its scientific designation is "marginal acre"; that is, it is the last acre the cultivation of which can be made to pay. This marginal land, in a sense, forms a standard by which the rent of all other land may be measured, and the cost of producing wheat on this marginal land sets the price of wheat for all lands.

We have reached, then, two important results true under the conditions supposed:

(1) The price of wheat is equal to its cost of production on the margin of cultivation.

(2) Ground rent of any land is the difference between the productivity of that land and the productivity of land on the margin of cultivation (i.e., the poorest land cultivated).

With an increase of population, the price of wheat and the rent of wheat land will rise, and the owner of good land will become gradually wealthier merely thru the increase in population. He receives an increase in rent; and therefore the value of land – i.e., the capitalized or discounted rent – will increase also. This increase in the value of the land is sometimes called the "unearned increment" because it is due to no labor on the part of the landowner.

36. Wages [4]

IN the last short story land rent was discussed. In previous short stories various kinds or sorts of rent were mentioned, such as the rent of houses, pianos, type-writers. But not only may we rent, or hire, things; we may also hire persons. The rent or hire of a person is called wages, or salary.

The principles governing the rate of wages are, in a general way, similar to those governing the rate of rent. The rate of a man's wages per unit of time is the product of the price per piece of the work he turns out multiplied by his output in that time. His production depends on conditions, including especially his size, strength, skill, and cleverness, while the price per piece of his services depends upon the general principles of supply and demand.

The productivity of men differs greatly. Men differ in quality, that is, in productive power, as truly as lands, or other instruments, differ. Some men can work twice as fast as others. Some men can do higher grades of work than others. The result is that we find men classified as common manual laborers, skilled manual laborers, common clerical workers, superintending workers, and enterprisers. In somewhat the same way as the rent of any land varies with the productivity of the land, wages will differ with the productivity of the wage-earner.

Owing to the fundamental fact that a laborer, unlike any other instrument, is owned by himself and not, except in slavery, by another, there are certain peculiarities or differences between wages as compared with land rent. We shall note four of these peculiarities.

In the first place, beyond a certain point the more a man is paid, the less he will work. We may state the same fact in the reverse direction, and say that under certain circumstances the less a man is paid, the harder he will work.

A wealthy man will not work for a day laborer's wages. He may be willing to work a few days in the year for $100 a day, and work more days for $500 a day, but if he got $l,000 a day he would probably work fewer days, and devote more time to vacations and to enjoying his large income.

The poor man will be guided by similar considerations. Owning little or nothing besides his person, he cannot afford to be idle. Unemployment for him is seldom voluntary. So long as he can get a price for his work sufficient to keep him out of the poorhouse, he will work for that price.

4) *The Lather, Cleveland, Vol. XXIX, No. 6, February 1929, pp. 36-37.*

It is probable that the five-day week movement today is partly due to the fact that wages are high enough to enable the laborer to afford some leisure instead of being so low as to "keep his nose close to the grindstone." A reduction in wages works in the opposite way, making workmen willing to work longer hours. But if wages keep high and the workmen have a sufficiently low degree of impatience for income to enable them to accumulate savings, they become more "independent."

Savings, therefore, making workmen more independent and less necessitous will tend – by lessening their desire for more money – both to increase their wages and shorten their hours.

A second peculiarity of wages is that, except under slavery, the earnings of a laborer are seldom discounted for the purpose of ascertaining his capital-value. The reason for making any appraisement usually has reference to some proposed sale; and, as working men and women are no longer for sale, their capital-value is seldom computed. For this reason, wages, unlike rent, are not often regarded in the light of interest on the capital-value of the agents earning them.

A third peculiarity of wages is that they are always reckoned as gross and never as net. Under slavery the case was different, and the net income earned by a slave was computed in the same way as the net income earned by a horse – by deducting from the value of the work done the cost of supporting a slave. But under the system of free labor which now prevails, the employer has no such cost. The laborer assumes his own support, and furnishes only his work to the employer. The wages of the laborer are therefore reckoned gross. His net wages, if they are to be computed at all, are to be found by allowing for the irksomeness of his work, i.e., the real costs, which he bears, of labor and trouble. For the last unit of work done this cost is equal to the wages received for it; but on all earlier units of work there is a gain of desirability which might conceivably be appraised in money. The net wages thus reckoned will be only a part of the wages as ordinarily quoted.

A fourth peculiarity of wages is that the supply of wage earners differs from the supply of any other productive instruments. Except in slavery, workmen are not bred, like cattle, on commercial principles. A rise in the price of the services of a draft horse will increase the demand for draft horses, and the result will be that both the market price and the amount supplied at that price will be increased. Those who supply draft horses will breed them to take advantage of the higher prices of them and of their services. A rise in the price of human services will not act so simply. It is true that a rise in wages usually increases the number of marriages and often increases the birth rate, but such is not always or necessarily the result; and even when births do increase in number, they do not increase on the same commercial principles as the draft horses.

37. The Demand for Labor [5] [6]

WE turn now from the supply side to the demand side of the labor market. We find that the demand of employers for the services of workmen is in general like their demand for the service of land or anything else out of which they get benefits. Sentiment and humanity have a little influence but not enough to require special attention to this study of what fixes wages. Wages are paid by the ordinary employer as the equivalent of the discounted future benefits which the laborer's work will bring to him – the employer – and the rate he is willing to pay is equal to the desirability of one unit more or less of the laborer's services measured in present money.

It is well to emphasize two facts: (1) the employer's valuation is "marginal," that is, measures the desirability not of all the labor he uses but of one unit more or less, and (2) his valuation is discounted.

As to the first point, the employer pays for all his workmen's services on the basis of the services least wanted. Just as the purchaser of coal buys all his coal on the basis of the ton least wanted; he watches the "marginal" benefits he gets exactly as does the purchaser of coal. At a given rate of wages he "buys labor" up to the point where the last or marginal man's work is barely worth paying those wages for. This "marginal" unit of work – one unit more than the most desirable amount, or one unit less – is a sort of barometer of wages. The employer's problem in buying labor is the same as the householder's problem in buying coal, discussed in a previous story. He is constantly bal-

5) *The Lather, Cleveland, Vol. XXIX, No. 7, March 1929, pp. 34-35.*

6) *Editor's Note. – We are very happy to announce that the popular series of articles by Professor Irving Fisher of Yale University entitled "Short Stories on Wealth" will be continued during 1929. As a series these new articles promise to he even more interesting than the ones which have gone before. It is expected that the whole series will eventually be brought together in book form.*

ancing in his mind how much he wants the work of his employees against how much he wants to save the wages he has to pay for that work. If, say, he decides on 100 men as the number he will employ he reaches this decision because he thinks the hundredth or "marginal" man will produce only the equivalent of his wages or slightly more while one man, the man just beyond this margin, that is, the one hundred and first man will produce no more than the equivalent of his wages or even slightly less.

As to the second point, the wages which the employer pays are the discounted value of the future benefits he receives. No employer will pay in advance the full value of what the work is ultimately to be worth. Suppose a landowner is contemplating the planting of 10,000 trees which he believes will be worth on the stump in twenty years about $100,000 or $10 per tree planted. His problem is: How much is it worth his while to pay per tree for the planting? The answer depends on the rate of interest. If this is three and a half per cent, it is worth his while to pay $5 per tree planted, for the present value ($5 discounted for twenty years at three and a half per cent) is $5. So the employer is willing to pay no more than $5 in order to get benefits worth $10, twenty years later. In fact, he will not even pay this much because, for one thing, of risk.

Every employer, in deciding whether his workmen are worth their hire, takes account of the probable future product and the time he must wait to get it. If he undertakes to put up a skyscraper, he discounts the rent he expects to get for it when finished. The same is true of the manufacturer making cloth or the organizers of a railway construction company. An employer of labor has justly been called a "labor-broker," paying present cash for work which leads to future benefits.

A rise in the rate of interest will tend to produce a fall in the rate of wages by lowering the discounted value of the final benefits from the work of laborers, and therefore lowering the prices which employers are willing to pay. Contrariwise, a fall in interest produces a rise in wages. Of course an increase in the productivity of labor raises wages and so acts counter to a rise in the rate of interest. The result is that wages may and often do actually rise when interest rates go up if productivity goes up too.

The dependence of wages on the rate of interest is the more pronounced, the more remote are the ultimate benefits to which the work of the laborer leads. In a community where the workmen are largely employed in enterprises requiring a long time, such as digging tunnels and constructing other great engineering works, the rate of wages will tend to fall appreciably with a rise in the rate of interest, and to rise appreciably with a fall in the rate of interest; where in a country where the laborers are largely engaged in personal and domestic service or in other work which is not far distant from the final goal of enjoyable benefits, a change in the rate of interest will affect the rate of wages but slightly.

38. Wages and Total Earnings of Labor [7]

WE have now considered the supply and demand of labor or, to be exact, of the services of laborers. The rates of wages in each occupation will he such as will make the supply and demand equal, i.e., will "clear the market."

One corollary of this principle of clearing the market, as applied to labor, is that unemployment tends to correct itself. In the particular trades in which unemployment may, for a time, exist, the rate of wages will tend to fall. This fall in wages will tend to call forth an increased demand for labor which will tend to absorb the unemployed until the demand for labor again equals the supply.

It must, of course, be remembered, however, that, in practice, this equalization of supply and demand works itself out slowly and imperfectly. No market is a perfect market, least of all the labor market. For instance, the reluctance of a laborer to change his residence in order to get a new job, or his ignorance of the existence of jobs which he might have, impedes the free working of the machinery of supply and demand.

What has been said applies only to wages under conditions of competition. Under competition they are determined – like any other competitive price – by the familiar principles of supply and demand.

But if, instead or competition, we have conditions of more or less perfect monopoly, wages will be determined according to the principle of monopoly price previously explained. If employers form combinations called trusts, or if laborers form combinations called trade unions, there will be

7) *The Lather, Cleveland, Vol. XXIX, No. 8, April 1929, pp. 34-35.*

a monopoly effect on the rate of wages. These combinations tend to render bargaining collective instead of competitive, and the effects on the two sides of the market are sometimes worked out through struggles called strikes and lockouts.

We have seen how the price of laborers' services are determined. But the total income of a workingman will depend not only on the price he receives for each unit of work, but also on the number of units of work he turns out. His capacity to turn out work is called his efficiency. In general the greater the efficiency of workingmen, the greater will be the amount of real income they receive. This is perfectly obvious in the case of "implicit" wages, that is, the earnings of a man who works for himself, and every independent worker is so fully aware of it, that he is constantly aiming to improve his own efficiency. The farmer, for instance, knows that the more work he can accomplish in a day the greater the income which he will enjoy. The more wheat he can gather this year with a given expenditure of time and effort, the greater will be this year's income. He will, therefore, endeavor to gather as much wheat as possible with a given amount of effort, or, in other words, put forth as little effort as possible to gather a given amount of wheat. The more he can reap with a given amount of effort, the greater will be next year's income in relation to the cost or outgo; and the more he can sow with a given amount of effort, the greater will be next year's income in relation to this year's outgo. His problem is always to minimize labor and to maximize the product of labor, and his prosperity depends upon his so doing.

The same principle applies, in general, to wage earners, even when their wages are explicit, that is, are paid by one man to another. While the interests of workmen lie chiefly in increased wages, these wages can only be obtained by rendering adequate services. Wages are not the gift of the employers, but the product of the workmen's own exertions. And not only does each workman's money wages depend on his efficiency, but also the real wages of others, since the product of his labor will, to a great extent, be consumed by other laborers. To attempt to get great wages without rendering great services in return is, therefore, to fight the best interests of those workmen who use the product. The more efficient the hired men on the farms in the West, the greater will be the wheat crop and the more abundant and therefore cheaper will be the bread bought by the employees in the shoe factories in the East. To these shoe workers the cheaper bread means more real income. So also the more efficient the employees in the shoe factories in the East, the more abundant and cheaper will be shoes for the farmer in the West. To these farm laborers the cheaper shoes mean more real wages.

It is, accordingly and in general, to the best interests of each workman that all other workmen should produce as much, and as economically, as possible. Moreover, while a workman may temporarily injure his employer by a policy of wastefulness, in the long run the employer will largely recoup himself for such wastefulness by charging higher prices for his products and thereby raising the general cost of living. Thus in the end the wasteful workman injures himself and his fellow workmen.

This important fact is now being realized as never before under the present leadership of labor, especially in the United States.

39. Labor Efficiency [8]

FOR the ultimate prosperity of all classes, including laborers, it is of the utmost importance that workers should produce the largest possible amount with the least possible exertion. The efficiency of laborers can be increased in three chief ways: First, by improvement in physical and mental vitality; second, by better education, especially trade education; and third, by organization and division of labor.

Anything which increases the efficiency and productivity of workmen tends usually to increase their wages. There are exceptions. But the notion, which until recently has been very common, that restriction of output will raise wages is, for the most part, far wrong.

The blindness of some workers to the fact that the greater their efficiency, the greater their own ultimate prosperity, is responsible for the "make-work" fallacy. According to this erroneous belief, the welfare of workers depends, not on their productivity, but merely on their having jobs. If this were true, a snowstorm blockading a city would be an advantage as it "makes work" for the snow shovelers. If we carry such logic a little farther, an earthquake or a conflagration which de-

8) *The Lather, Cleveland, Vol. XXIX, No. 9, May 1929, pp. 17-18.*

stroys hundreds or thousands of buildings would be a blessing to workers, since all engaged in the building trades and in the production of building supplies would be in greater demand at higher wages. This philosophy would make it good economics to break windows in order to make work for glaziers; to burn up the stock of the clothier and the shoe dealer to make work for those employed in tailoring and shoe manufacturing; and in general to destroy all the products of industry in order to make more work for those who produce. We could go even farther and advocate that, without waiting for a snowstorm to blockade the streets, a city would benefit its workers by engaging them deliberately to obstruct the streets with dirt and then to shovel it away again – thus "making work" not only in the removal, but also in the placing of the obstruction in the street.

The make-work fallacy grows out of neglecting the goal of all work. Work is not pursued for its own sake, and has no justification except as it helps satisfy actual human wants. Mere aimless exertion, or useless work, cannot in the end benefit the community as a whole or even workers as a class. To produce things merely to be destroyed, or to shovel dirt back and forth with no useful object, will, in the end, reduce and not add to the real wages of workingman; for it reduces the volume of the products of labor which constitute real wages. If shoes and clothes are destroyed, the main effect will not be to increase wages of shoemakers and clothiers, but to make workers in general go ill-shod and ill-clothed. To break windows or to destroy houses will, as its main effect, not increase the wages of glaziers and carpenters, but decrease the quantity and the quality of shelter which workers enjoy. No matter how complicated the organization of society, we cannot get rid of the simple fact that our welfare depends on our producing the largest possible output at the smallest possible cost, thus maximizing the final satisfactions of life and minimizing the effort by which they are obtained.

True economic production may be pictured by Robinson Crusoe picking berries. He will not try to "make work" for himself by destroying the berries he has picked; he will not try to limit the amount of berries he picks; he will entertain none of the other fallacies which in modern complicated conditions workmen so often do entertain. He will simply try to pick as many berries as he can with the least amount of effort and waste.

Modern conditions of exchange and industry do not modify this essential relation between satisfactions and efforts to secure them. They do, however, obscure that relation and, as a result, lead to the make-work fallacy. This fallacy vitiates a great deal of the reasoning formerly employed by trade unions and by the uninstructed public.

It is almost as crude an error to suppose that workers can be enriched by "making work" for them as that they can be enriched by issuing paper money. Work and money are merely means to an end. In order to rid ourselves of the money fallacy and the make-work fallacy, we must fix our attention on the end, and not on the means.

One of many manifestations of the make-work fallacy is the prejudice of workmen against labor-saving machinery. They see themselves thrown out of work by the introduction of a labor-saving device. For instance, the linotype threw out of employment many professional typesetters and rendered almost worthless their skill laboriously acquired through years of practice. But it decreased the price of printed matter, and increased the quantity of newspapers and books sold so that in a few years more typesetters were employed as linotype operators than were formerly employed setting type by hand, to say nothing of more employees in plants manufacturing the machines. Cheaper books and papers of course benefitted the whole country, including the workers.

Another offspring of the make-work fallacy is the policy of "protecting" a home industry against foreign competition. Thus the make-work fallacy has been employed in aid of the "protection" fallacy. Whatever else may be said of tariff "protection, the argument that it does good by making work for those employed in the protected industries is fallacious. Protection by increasing prices of protected goods draws capital and labor from more productive into less productive lines. Total production is decreased, not increased; consequently employment and wages are decreased, just as in the uneconomical employment of labor to obstruct the streets and then to clear them. The argument is quite analogous to the argument against labor-saving machinery. The objections to free trade, which many instinctively feel, are quite analogous to the objections which many workers instinctively feel against labor-saving machinery. According to this argument we ought not to try to secure goods as cheaply as possible if by a greater expenditure of time and effort we can manufacture them at home. It is argued that home manufacturing will give more employment at higher wages. As pointed out above, the reverse is true. According to this argument, instead of importing woolen cloth from abroad, it is better to protect woolen manufacturers at home in order to "make work" for spinners, weavers, etc., in American woolen mills. But it is not within the scope et this story to discuss at length the pros and cons of protective tariff further than as it illustrates the make-work fallacy.