

Brookings Program on
Output and Productivity Measurement in the Service Sector

Workshop on
Measuring the Price and Output of Insurance

Treatment of Insurance in U.S. National Accounts

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NIPA Treatment of Life Insurance

Life insurance carriers provide services that combine elements of both insurance and saving. These institutions earn property income on insurance and pension reserves, which have been contributed directly by -- or for the benefit of -- policy holders or pension beneficiaries and which are to be paid out to the beneficiaries as annuity or lump-sum distributions of income in the future.

In the NIPA's, life insurance premiums and benefits are disregarded; instead, as shown in the attached table, the institutions are regarded as charging policyholders a fee equal to the institutions' operating expenses for the package of services provided. These imputed fees, which include profits in the case of stock companies, appear as "expense of handling life insurance" in PCE. When the production account is consolidated with the rest of the NIP account, the imputed fee for the costs of handling life insurance, which equals the operating expenses of life insurance companies, is added to PCE; the factor and nonfactor charges of which it is composed are added to the income side of the account.

The net effect of these transactions is to consolidate the saving of life insurance carriers and pension plans with that of households and institutions. Underwriting income (premiums less benefits) is treated as a transfer payment within the personal sector, and the property income and operating expenses of the institutions are treated as personal income and outlays. The gross product consists of the expense of handling life insurance less purchases of materials and business services.

Although personal saving is unaffected by the imputed interest paid by depository institutions, it is affected by the imputed interest paid by life insurance carriers. That paid by life insurance carriers, which is added to personal income, exceeds the imputed fee, which is added to PCE, by an amount equal to the excess of the net additions to policy reserves over underwriting income (premiums less benefits). In effect, the imputation records the property income that has been withheld to the account of policy holders and beneficiaries as if it were actually disbursed to them in the current period.

In the absence of the insurance imputation, PCE for life insurance would be measured by underwriting income. Investment returns and increases in life insurance reserves would be included in business income and saving rather than in personal income and saving.

Life Insurance and Pension Business of Life Insurance Carriers

Income Statement

Uses	Sources
Death and annuity benefits paid Net additions to reserves Compensation of employees Consumption of purchased materials and services Monetary interest paid Capital consumption allowances Net income	Premiums and annuity considerations Property income received Monetary interest received Dividends received
Outlays and net income	Receipts

Production Account

Uses	Sources
Compensation of employees Net interest paid Monetary interest paid Less: Monetary interest received Imputed interest paid Property income received Monetary Interest Received Dividends Received Less: Monetary interest paid to policyholders Capital consumption allowances Profits (net of dividends received)	Expense of handing life insurance (PCE) Premiums and annuity considerations Property income received Less: Net additions to reserves Less: Death and annuity benefits paid Less: Monetary interest paid to policyholders Less: Consumption of purchased materials and services
Gross domestic income	Gross domestic product

Personal Income and Outlay Account

Outlay	Income
Personal outlays (PCE) Saving Net additions to reserves Death and annuity benefits paid Less: Premiums and annuity considerations	Personal interest income Imputed interest received (Imputed interest paid by insurance carriers) Monetary interest received (Monetary interest paid to policyholders)
Personal taxes, outlays and saving	Personal income

Note: This example covers only the life insurance and pension business of stock life insurance carriers. The real estate and accident and health insurance business of these carriers is excluded.

NIPA Treatment of Property and Casualty Insurance

As shown in the table below, the gross output of a property and casualty insurance carrier is defined as net premiums received, or gross premiums received less claims paid. No property income associated with technical reserves is attributed to be paid to the policyholders, and no premium supplements are imputed to be paid by the policyholders. One result of this treatment is that purchases by households or government can be negative in periods of substantial claims, like a natural disaster, thus reducing GDP.

Property and Casualty Insurance Carriers

Income Statement

Uses	Sources
Claims paid	Premiums paid
Compensation of employees	Property income received
Consumption of purchased materials and services	Monetary interest received
Monetary interest paid	Dividends received
Capital consumption allowances	
Net income	
Outlays and net income	Receipts

Production Account

Uses	Sources
Compensation of employees	Property and casualty insurance (PCE)
Net interest paid	Premiums paid
Monetary interest paid	Less: Claims paid
Less: Monetary interest received	
Capital consumption allowances	Less: Consumption of purchased materials and services
Profits (net of dividends received)	
Gross domestic income	Gross domestic product

Personal Income and Outlay Account

Outlay	Income
Personal outlays (PCE)	No entries
Personal taxes, outlays and saving	Personal income

Note: This example covers personal property and motor vehicle insurance.

Summary Comparison of the Treatment of Property and Casualty Insurance
in the NIPA's and the 1993 SNA

Feature	NIPA's	1993 SNA
Definition of gross output of insurance services	Net premiums, defined as gross premiums received/ earned less claims paid/due	Gross premiums earned plus income earned from the investment of technical reserves less claims due
Amount of insurance services consumed by policyholder	Net premiums paid by individual policyholder, or gross premiums paid by policyholder less claims received by policyholder	Share of gross output of insurance enterprise equal to share of gross premiums paid by individual policyholder
Treatment of income from technical reserves	Income of insurance enterprise	Income of insurance enterprise, which is deemed to be paid to policyholders as a property income and paid by policyholders to insurance enterprise as a premium supplement
Allocation of property income attributed to be paid to policyholders	Not relevant	Proportional to gross premiums paid by policyholders
Transfer payments from policyholder to insurance enterprise	None	Net premiums, defined as gross premiums plus premium supplements less consumption of insurance services.
Transfer payments from insurance enterprise to policyholder	None	Claims due
Treatment of difference between actual and normal losses	Increases or decreases gross output of insurance enterprise	Increases or decreases gross output of insurance enterprise
Treatment of capital gains	Excluded from gross output of insurance enterprise	Excluded from gross output of insurance enterprise. Recorded in Revaluation Account of policyholder and insurance enterprise

Insurance in U.S. International Transactions in Goods and Services

Exports -- This item measures net receipts of U.S. insurance carriers from reinsurance assumed from insurance carriers resident abroad and from primary insurance sold to foreign persons. Net receipts consist of net premiums received, less losses paid to the ceding carriers or individuals abroad; net premiums are derived after deducting cancellations and commissions charged by the ceding carriers abroad.

Imports -- This item measures net payments of U.S. insurance carriers for reinsurance ceded to insurance carriers resident abroad and net payments for primary insurance. Net payments consist of net premiums paid, less losses recovered. Net premiums are derived after deducting cancellations and commissions charged to the ceding carriers abroad.

Source Data -- Data on the international operations of U.S. insurance carriers are obtained from the BE-48 survey, "Annual Survey of Reinsurance and Other Insurance Transactions by U.S. Insurance Companies With Foreign Persons." This survey covers reinsurance receipts and payments and primary insurance receipts of U.S. insurance carriers, both affiliated and unaffiliated, on a country-by-country basis. Estimates of payments by U.S. residents for primary insurance placed directly with foreign carriers -- that is, not through an American carrier (reinsurance) and not with a U.S. branch or subsidiary of a foreign company (a domestic transaction) are derived from data reported in the annual survey of transactions with unaffiliated foreign persons.

Summary Annual Methodologies -
Quantity, "or Real," Estimates of Insurance Prepared by BEA

1. GDP as sum of final expenditures -- Significant insurance activities included in GDP are shown in the first column of Table 1. The methodology used for each of these is shown in the second column.

Table 1

<u>Component</u>	<u>Methodology</u>
Personal consumption expenditures:	Premiums, deflated by household insurance CPI; benefits, deflated by weighted average of CPI's
Personal property insurance	
Motor vehicle insurance	Base year value extrapolated by premiums deflated by CPI for motor vehicle insurance
Life insurance	Deflated by BEA input cost index
Health insurance:	
Private health insurance	Base year value extrapolated by benefits deflated by weighted average of CPI for hospitals and other medical services and physicians' services
Workers' compensation	Base year value extrapolated by benefits deflated by weighted average of CPI's
Income loss	Base year value extrapolated by benefits deflated by weighted average of CPI's
Exports:	
Private services	Deflated by gross product price for domestic insurance carriers industry
Imports:	
Private services	Deflated by gross product price for domestic insurance carriers industry

2. Gross domestic product by industry -- Separate estimates of gross product are provided for two SIC industries -- SIC 63, "Insurance Carriers," and SIC 64, "Insurance Agents and Brokers." Real gross product of these industries is calculated using the "double deflation" method; which requires the separate estimation of gross output and intermediate purchases. Table 2 shows the methodology for gross output. (These methodologies should be the same as those used for the corresponding expenditure components of GDP, to the extent that the output is classified as a final expenditure.)

Table 2

<u>Industry group output</u>	<u>Methodology</u>
Insurance carriers:	
Life	Deflated by BEA input cost index used for PCE life insurance
Private health	Base-year value extrapolated by benefits deflated by a weighted average of CPI's
Motor vehicle	Base-year value extrapolated by premiums deflated by CPI for motor vehicle insurance
Workers' compensation	Base-year value extrapolated by premiums deflated by trade source index
Property and casualty, except health	Base-year value extrapolated by premiums deflated by CPI for household insurance
Insurance agents and brokers	Deflated by weighted average of gross output prices for types of insurance listed above