

Guide to Economic Statistics  
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the Bank of Korea

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THE BANK OF KOREA  
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Advance release calendars and the data for the ten statistical series that meet the SDDS requirements of the IMF – the National accounts, Business survey index, Producer prices, Analytical accounts of the central bank, Analytical accounts of the banking sector, Interest rates, Balance of payments, International investment position, External asset and debt, and International reserves – are posted on the Bank of Korea's Economic Statistics System website (ECOS, <http://ecos.bok.or.kr>).

■ For further information on the Guide

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# I . Monetary & Financial Statistics

## I -1. Monetary and Liquidity Aggregates

### 1. Outline

- Monetary and liquidity aggregates measure the stock of money and liquidity supplied to and circulating in the economy.
- Monetary aggregate measures focus on the ‘moneyness’\* of specific scopes of financial assets, whereas liquidity aggregates include broader ranges of financial assets that are viewed as somewhat liquid but lacking sufficient ‘moneyness’ to be included in the monetary aggregates.
  - \* Generally, ‘moneyness’ means the degree to which a financial asset serves as a medium of exchange.
- Monetary aggregates are compiled based on the consolidated balance sheets of depository corporations, together with the Depository Corporations Survey (DCS) made up of the Central Bank Survey (CBS) and the Other Depository Corporations Survey (ODCS).

## 2. Scope of Data

- The coverages of the monetary and liquidity aggregates are defined based on the properties of their components, such as their general acceptability as mediums of exchange, transferability, transaction costs, yields, and maturities.

### Monetary and Liquidity Aggregates in Korea

Aggregates	Definition
M1 (Narrow Money)	Currency in circulation + Demand deposits + Transferable savings deposits
M2 (Broad Money)	M1 + Time & savings deposits + Certificates of deposit + Money in trust + Money Market Fund shares + Beneficiary certificates + Financial debentures + Other monetary liabilities of depository corporations (RPs, CMAs, etc.)  * Maturities of broad money (M2) components limited to less than two years
Lf (Liquidity of Financial Institutions)	M2 + Liquid financial instruments of depository corporations with maturities of two years or more + Deposits of Korea Securities Finance Corporation + Insurance reserves of life insurance companies
L (Liquidity)	Lf + Liquid financial instruments issued by the government, corporations, etc.

- The classification of financial corporations into depository and other financial corporations is as of February 2015, and in accordance with the standards laid out in the International Monetary Fund's *Monetary and Financial Statistics Manual (2000)*.

### Classification of financial corporations in Korea

Depository Corporations	Central Bank	The Bank of Korea, Foreign Exchange Stabilization Fund
	Other Depository Corporations	Commercial banks (nationwide commercial banks (6), local banks (6), branches of foreign banks in Korea (41)), specialized banks (Industrial Bank of Korea, NH Bank, Suhyup Bank, Korea Development Bank), Korea EXIM Bank, Mutual savings banks, Trust companies, Community credit cooperatives, Credit unions, Postal savings
Other Financial Corporations	Insurance Corporations and Pension Funds	Insurance (life, accident, health, fire, etc.) corporations, Pension funds
	Other Financial Intermediaries	Securities companies, Mutual funds, Finance companies, Financial leasing companies, Vehicle companies, Public financial institutions
	Financial Auxiliaries	Korea Exchange, Financial guarantee and rating corporations, Brokers and agents, etc.

### 3. Periodicity

- Monthly

### 4. Source Data

- Individual financial institutions file reports monthly, by the 20th day of the following month.
  - The reports comprise figures from their balance sheets.

- The main balance sheet items – deposits, loans, etc. – are disaggregated into various sectoral categories.
- The classified sectoral data are used for consolidating inter-institutional transactions among depository corporations, for compiling sectoral money holdings, and for identifying the counterparts of financial institutions' monetary liabilities.
- The data on monetary liabilities are collected on both period-end and average bases.

Classification of liability counterparts, by sector  
(excluding Depository corporations)

Residents	Central Government	Central government, Public nonprofit institutions, Funds administered by government
	Local Governments	Local governments, Public nonprofit institutions controlled by local governments
	Social Security Funds	Social insurance institutions covering the whole or the majority of the nation (National Pension Fund, Employment Insurance Fund, etc.)
	Nonfinancial Corporations	Public corporations (government-invested corporations and public enterprises), Private nonfinancial corporations
	Other Financial Corporations	Insurance corporations and pension funds (Life insurance corporations, Property insurance corporations, Government Officer Pension Fund, Military Pension Fund, etc.), Other financial intermediaries (Securities companies, Mutual Funds, etc.), Financial auxiliaries (Financial guarantee corporations, Financial rating corporations, etc.)
	Households	Households, Non-profit institutions serving households (Religious institutions, Hospitals, Universities, Labor unions, etc.)
Nonresidents		All nonresident

## 5. Accounting Conventions

- Accounting practices follow the “International Financial Reporting Standards” of Korea (K-IFRS), except in the cases of some special accounts used in compilation of the monetary and liquidity aggregates.
- Assets and liabilities in foreign currencies are converted to Korean won at the exchange rate (market average rate) of the last working day of the reference month.

## 6. Compilation Practices

- The monetary and liquidity aggregates are compiled based on the Depository Corporations Survey.
  - The depository corporation balance sheets are consolidated.
  - The liabilities on the consolidated balance sheets are classified into monetary items and non-monetary items in line with their degrees of ‘moneyness’, and the aggregates are compiled by summing up the monetary items.
  - The assets on the consolidated balance sheets are classified based on the sectoral counterparts involved (e.g., the Central government, Local governments, Social security funds, Nonfinancial corporations, Other financial corporations, Households and NPISHs, and Nonresidents).

## 7. Dissemination

### — Timing of data release

#### ○ Preliminary data

- The preliminary monetary aggregates (period-end) are disseminated at the end of the following month.
- The preliminary monetary aggregates (average), including sectoral money holdings, and the liquidity aggregates (period-end and average) are disseminated within 14 days on the second month following.

#### ○ Final data

- The final data are disseminated within one month after the preliminary data.

### — Dissemination types

- 「Monthly Statistical Bulletin」 (monthly)
- 「Quarterly Bulletin」
- 「Economic Statistics Yearbook」
- Economic Statistics System of the Bank of Korea (ECOS)  
(<http://ecos.bok.or.kr> - 1. Monetary and Liquidity Aggregates)

## **I -2. Financial Statistics**

### **1. Outline**

- Financial statistics provide information on the deposits, loans and credits, and other financial details in the economy.
- Data are provided on deposits, the deposit turnover ratio, loans & credits, weighted average interest rates on deposits and loans (Interest rate statistics), etc.
  - Deposits are compiled by type, depositor, term, and region.
  - Loans are compiled by industry, type of funding, debtor, and region.
  - Household credit statistics are compiled for not only financial institutions but all other institutions that provide credit to households, including government agencies.

### **2. Periodicity**

- Monthly, quarterly
  - The statistics on deposits, loans and interest rates are released every month.
  - The household credit statistics are compiled quarterly.

### **3. Source Data**

- The general sources of the financial statistics are the balance sheets of banks and non-bank financial corporations.
- The statistics on interest rates, regional deposits and loans, loans by industry, and household credit are usually compiled based on separate surveys rather than financial institutions' balance sheets.

#### 4. Compilation Practices

(Deposits, Deposit turnover ratio, Loans & credits, Regional deposits and loans, Household credits, etc.)

- Compiled based on financial institutions' balance sheets and separate surveys. The aggregates are mostly calculated as the simple sums of the related items.
- The deposit turnover ratio is calculated by dividing the amount withdrawn by the average outstanding amount of deposits made during the reference month.

(Interest rate statistics)

- Interest rates on new deposits and loans are weighted by the amounts received and extended during the reference month, by type, term, and sector.
- Interest rates on outstanding deposits and loans are weighted by the amounts measured at the end of the reference month, by type, term, and sector.

## 5. Dissemination

### — Timing of data release

(Deposits, Deposit turnover ratio, Loans & credits, Regional deposits and loans, etc.)

- Disseminated within 14 days on the second month following.

(Household credit)

- Loans (monthly): Disseminated within 14 days on the second month following
- Credits (Quarterly): Disseminated within 55 days after the end of the reference quarter.

(Interest rate statistics)

- Disseminated at the end of the following month.

### — Dissemination types

- 「Monthly Statistical Bulletin」 (monthly)
- Regional deposits and loans statistics published in 「Regional Financial Statistics」 (monthly)
- 「Quarterly Bulletin」
- 「Economic Statistics Yearbook」
- Economic Statistics System of the Bank of Korea (ECOS)  
(<http://ecos.bok.or.kr> - 3. Deposits, Loans, etc.)  
(<http://ecos.bok.or.kr> - 4. Interest Rates)

## II. Flow of Funds Statistics

### 1. Outline

- The Flow of Funds Accounts present not only a composite picture of the ways in which economic entities' financial surpluses or deficits resulting from non-financial activities are funded and used, but also of the flow of funds in the financial market and financial transactions with the overseas sector.
  - These accounts comprise a Savings, Investment & Financial Transactions Table, which records the increases and decreases in assets and liabilities of each economic entity resulting from financial transactions during the designated period, a Financial Assets and Liabilities Table, which details the balance sheets at a certain time, and a Reconciliation Table, which explains changes in financial assets and liabilities due to asset revaluations without inflows or outflows of money.

### 2. Scope of Data

- The fund raising and fund utilization transactions in the different economic sectors, namely the Financial corporations, General government, Nonfinancial corporations, Households and NPISH (Nonprofit institutions serving households), and Overseas sectors, are surveyed and recorded.
  - The types of fund inflows (e.g., funds accumulated internally through savings, bank borrowings, issuance of securities and overseas borrowings) are recorded in the Fund-raising column.
  - The types of fund usage (e.g., deposits, securities investment, and loans) are recorded in the Fund-utilization column.

- The overseas sector is a consolidated entity including all foreign economic units that are trading counterparties of Korea. All transactions with the overseas sector are recorded from the viewpoint of the rest-of-the-world.
- The major sector groupings are as follow:
  - Financial Corporations sector: the Bank of Korea (central bank), Depository corporations, Investment funds, Insurance companies and Pension funds, Other financial intermediaries, Financial auxiliaries, Captive financial institutions and money lenders
  - General Government sector: the Central government, Local governments, Public non-profit organizations, Social security organizations
  - Nonfinancial Corporations sector: Public nonfinancial corporations, Private nonfinancial corporations
  - Households and NPISH: Households, Private non-profit organizations, Small-scale individual companies
  - Rest of the World

### **3. Periodicity**

- Quarterly

### **4. Source Data**

- Survey data on balance sheets and detailed information on financial assets and liabilities by institution in the Financial corporations sector, General government sector and Public nonfinancial corporations sector, on a quarterly basis.
- Released financial statistics, corporate balance sheets, etc.

## 5. Accounting Conventions

- Double entry accounting principle: For an institutional unit, national accounting is based on the double entry principle as in business accounting. Each transaction must be recorded twice, once as a resource (or a change in liabilities) and once as a use (or a change in assets).
- Time of recording: Financial transactions are recorded on an accrual basis. Transactions between institutional units should be recorded when claims and obligations arise, are transformed, or are canceled.
- Valuation principle: Financial assets and liabilities are recorded at market value, i.e. the values at which financial assets are acquired or disposed of, between willing parties, on the basis of commercial considerations only.

## 6. Compilation Practices

- The Flow of Funds statistics are compiled in accordance with the 2008 SNA (System of National Accounts 2008), and are completed through the process of compilations by economic sector and by financial instrument, and their harmonization.
  - In the course of the compilation by economic sector, the financial assets and liabilities of sectors and their sub-sectors are arranged using the balance sheet data and detailed survey information on the financial assets and liabilities of each institution in the Financial corporations sector, the General government sector, and the Public nonfinancial corporations sector.

- The compilation of statistics on financial instruments is a process of distributing the total amounts of financial instruments to the different economic sectors (horizontal balancing), using survey data such as balance sheets and counterpart information and published financial statistics.
- In the course of financial instrument compilation, the transactions and revaluations and other changes in financial instruments can be separated from the flows obtained by subtracting the stocks at the beginning of the period from those at the end.
- During harmonization, the Financial Transactions and Financial Assets and Liabilities Tables are confirmed after final checks (vertical balancing) of their Completeness, Conformity, and Consistency.

## 7. Dissemination and Revision

### — Timing of data release

- Preliminary quarterly and annual Flow of Funds statistics released 85 days after end of corresponding period
- Final annual data released in March or April of second year following

### — Dissemination types

- Press release
- 「Monthly Statistical Bulletin」
- 「Economic Statistics Yearbook」
- Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)

### III. Balance of Payments

#### 1. Outline

- The Balance of Payments is a statistical statement that systematically summarizes, for a specific time period, all economic transactions between residents and nonresidents.
  - The Balance of Payments employs the concept of flow-oriented statistics, whereby transactions are summed up for a specific period of time, rather than at a specific point in time as in a stock-oriented method.
  - The basic convention applied in constructing a balance of payments statement is that every recorded transaction is represented by two entries (credit and debit) having equal values. This also complies with the internationally-accepted standards established by the International Monetary Fund (IMF).
  - The question of whether an entity is a resident or nonresident is decided in line with its center of predominant economic interest in its economic activities and transactions, rather than by its legal nationality or geographic territory.
- The Bank of Korea first compiled Korea's Balance of Payments statements in 1957, for the 1950-1956 period, after the nation joined the International Monetary Fund in 1955. In October 2013 it compiled and released Balance of Payments statistics for the Jan. 1980~Dec. 2012 period in accordance with the revised *Balance of Payments and International Investment Position Manual* (6th edition) published by the IMF in 2010.

Balance of Payments statistics based on BPM6 after Dec. 2012 were released in March 2014, in parallel with the transition of the national accounts statistics to the 2008 SNA, so as to maintain consistency between the international and the national accounts.

## 2. Standard Components

- The standard components of the Balance of Payments comprise the Current Account, Capital Account, Financial Account and Net Errors and Omissions.
- The Current Account refers to goods, services, primary income and secondary income.
  - The Goods Account covers exported and imported goods.
  - The Services Account records service transactions with nonresidents.
  - The Primary Income Account consists of Investment Income and Compensation of Employees. Investment Income comprises receipts and payments of income associated with holdings of external financial assets and with liabilities to nonresidents.
  - The Secondary Income Account refers to all transfers without *quid pro quo*.
- The Financial Account is subdivided into Direct Investment, Portfolio Investment, Financial Derivatives, Other Investments, and Reserve Assets. Direct Investment reflects the lasting interest of a resident entity in one economy (the direct investor) in an entity resident in another economy (the direct investment enterprise). In principle, a direct investment relationship comes into being when the percentage of ownership is 10 percent or more (immediate direct investment), when one entity is able to exercise indirect control or influence through a chain of direct investment relationships (indirect direct investment), or when two enterprises are both under the control or influence of the same investor even though they do not control or influence each other (fellow enterprises). Portfolio Investment represents investment to gain earnings from stocks and bonds issued overseas. The Financial Derivatives account records the net

acquisition of financial assets and net incurrence of liabilities related to financial derivatives between residents and nonresidents. Other Investment covers other transactions such as short- and long-term borrowings and loans, currency and deposits, trade credits and advances. Reserve assets are those external assets that are readily available to and controlled by the monetary authorities for meeting balance of payments financing needs, for intervention in the exchange markets to affect the currency exchange rate, and for other related purposes.

- The Capital Account is subdivided into Capital Transfers and transactions involving non-produced, non-financial assets such as licenses and goodwill.
- In the Balance of Payments statement the standard practice is to show a separate item for Net Errors and Omissions. Labeled by some compilers as a statistical discrepancy, this item is intended as an offset to the over- or understatement of the recorded components.

### **3. Periodicity**

- Monthly
  - The Balance of Payments statement was initially compiled annually. With the growing need for timeliness, however, its periodicity was later reduced to half-yearly and then to quarterly. Since 1979 it has been compiled and released on a monthly basis.

### **4. Source Data**

- The data for compilation of the Balance of Payments statement include official statistics such as the Trade Statistics of the Korea Customs Service and the Foreign Exchange Information System, and the foreign currency balance sheets of foreign exchange banks.

- Other necessary source data are obtained from the relevant government ministries, the Financial Supervisory Service (FSS), corporations, various industry associations, and financial institutions.

## 5. Accounting Conventions

- Economic transactions between residents and nonresidents are recorded on an accrual basis, and their scales are in principle assessed as the values at the actual market prices agreed on by the transactors.
  - Non-commercial transactions, including transfers without *quid pro quo*, are valued at the market prices that would have applied if the resources had been transferred.
- The time of recording of a transaction is based upon the point at which there is a change in ownership. Such a change arises when the two sides of a transaction receive (dispose of) goods and pay (receive) financial assets in return.
  - When the time of a change in ownership is not obvious, it is considered to have occurred at the time when the parties to the transaction recorded it in their accounts.
- The unit of account is the US dollar.

## 6. Compilation Practices

- The Balance of Payments statement is compiled in accordance with the *Balance of Payments and International Investment Position Manual* (6th edition), published by the IMF.
- If the source data used for the Balance of Payments statement do not comply with the compilation standards, adjustments are made.

- When Trade Statistics compiled on a customs-clearance basis are used, the following adjustments must be made to bring them into conformity with the standards for the Balance of Payments (compiled based on the time of change in ownership):
  - Structural adjustment for coverage: Reexports (reimports) and goods sent for outward processing are excluded, because they involve no changes in ownership of assets. Smuggled goods are added, although they are not included in the Trade Statistics.
  - Timing adjustment: This is adjustment of the difference between the time of import/export (customs clearance basis) and the time of change in ownership. It is applied to goods for which long time gaps exist between their customs clearance and the time of their change in ownership. For example, while in customs clearance the exports of ships are recorded at the time of delivery, for the Balance of Payments they are adjusted to progressive changes in ownership, in line with the stage payments on them made.
  - Classification adjustment: This means adjustment of transactions to remove items that should be classified as other than goods. Customs clearance imports are valued on a CIF basis, which includes freight and insurance premiums. To value imports on a FOB basis freight and insurance premiums must therefore be deducted from them, with the amounts deducted then recorded in the Services Account.
- In the case of the Services Account, as the raw data from the Foreign Exchange Information System are not sufficient for some items such as Transport and Construction, surveys of the domestic service providers are conducted.

## 7. Dissemination and Revision

- Timing of data release: The Balance of Payments Statistics are released in preliminary and final forms, with the release schedules announced in advance in accordance with the Special Dissemination Data Standard (SDDS) of the IMF.
  - Preliminary monthly statistics are announced at the beginning of the second month following, and preliminary annual statistics at the beginning of February of the following year.
  - Monthly and annual Balance of Payments statistics are revised and released as final at the beginning of December in the following year.
- Dissemination types: Press release, 「Monthly Statistical Bulletin」, 「Economic Statistics Yearbook」, Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)

## 8. Other Relevant Information

- Extended Balance of Payments Services (EBOPS) statistics have been available on a monthly basis since 2006.
- Balance of Payments by Region statistics have been available on a yearly basis since 1998.
- Trade Settlement Currency statistics have been available on a quarterly basis since 1992.
- Intellectual Property Rights Trade Balance statistics have been available on a quarterly basis since 2010.
- Monthly seasonally adjusted Current Account statistics have also been available since 1980.

## IV. International Investment Position

### 1. Outline

- The International Investment Position (IIP) is a statistical statement that shows, for a single point in time, the value of financial assets of residents of the economy that are claims on nonresidents, and the liabilities of residents of the economy to nonresidents.
  - The Balance of Payments (BOP) and the IIP are the two elements making up the set of international accounts for an economy, with the BOP representing the transaction statistics and the IIP the stock statistics.
- The data are compiled in accordance with the IMF's *Balance of Payments and International Investment Position Manual*, 6th edition (BPM6), and are available from 1994 up to the present time.
- The Bank of Korea has also compiled the annual IIP by currency and by region since 2006, and these data are available from 2002 through the present.

### 2. Periodicity

- Quarterly.

### 3. Categories

- External financial assets and liabilities are divided into five categories, in accordance with their functions: Direct Investment, Portfolio Investment, Financial Derivatives, Other Investment, and Reserve Assets.

- Direct Investment is a category of cross-border investment in which a resident in one economy has control or a significant degree of influence over the management of an enterprise that is resident in another economy. In addition to the equity giving rise to such control or influence, direct investment also includes investment associated with that relationship, such as investment in indirectly influenced or controlled enterprises, investment in fellow enterprises, debt and reverse investment.
- Portfolio Investment is a form of cross-border investment involving debt or equity securities other than those included in Direct Investment or Reserve Assets.
- Financial Derivatives are valued at market prices, and not at their nominal or contractual values.
- Other Investment is a residual category that includes all financial transactions not covered in Direct Investment, Portfolio Investment, Financial Derivatives or Reserve Assets.
  - It is subdivided into Loans, Trade Credit and Advances, Currency and Deposits, Other Equity, Special Drawing Rights. and Other Accounts Receivable/Payable.
- Reserve Assets refer to foreign reserves that are readily available to and controlled by the monetary authorities; they comprise monetary gold, SDRs, the reserve position in the IMF, and other reserve assets.

#### **4. Source Data**

- The data for compilation of the IIP include official statistics, among them the foreign currency balance sheets of foreign exchange banks.
- o The CPIS (Coordinated Portfolio Investment Survey), the CDIS (Coordinated Direct Investment Survey), and the Corporate Survey of External Loans and Issuance of Securities are conducted annually to obtain the stock levels and data on currency and regional compositions.

#### **5. Accounting Conventions**

- Positions of financial assets and liabilities are valued at the market prices prevailing at the end of the reporting period, and recorded on a gross basis.
- The unit of account is the US dollar.

#### **6. Compilation Practices**

- The IIP presents stock statistics as of a certain point in time. In cases where it is difficult to obtain stock levels for the relevant financial items, the IIP is compiled through reconciliation of the accumulated balance of payment flows with valuation adjustments based on changes in prices, exchange rates, etc.
- In cases where market price data are unavailable for calculation of external assets and liabilities, book values may be used.

## 7. Dissemination

- The IIP statistics are disseminated on a quarterly basis, within two months after the end of the reference quarter, in accordance with the Special Dissemination Data Standard (SDDS) of the IMF.
- The IIP statistics are released in three stages: preliminary, revised and final.
  - Before finalizing of the data in February of the second year following, revision of the preliminary statistics may be undertaken.
- Dissemination types: Press release, 「Monthly Statistical Bulletin」, 「Economic Statistics Yearbook」, Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)

## 8. Other Relevant Information

- The IIP and the BOP (Financial Account) have the same concepts and coverage. While the BOP reflects only transactions during a certain period of time, the IIP shows the stocks at a certain point in time reflecting not only transactions but also valuation changes in exchange rates, prices, etc.

## V. External Assets in Debt Instruments and External Debt

### 1. Outline

- The External Assets in Debt Instruments and External Debt are the actual financial assets and liabilities of an economy's residents vis-a-vis nonresidents at any given time.
- The data are compiled in accordance with the IMF's *Balance of Payments and International Investment Position Manual*, 6<sup>th</sup> Edition (BPM6) and *External Debt Statistics: Guide for Compilers and Users* (2013 EDS)
  - o The data are available from 1994 to the present.

### 2. Periodicity

- Quarterly

### 3. Categories

- The External Assets in Debt Instruments and External Debt are divided into four categories in line with the sectors involved: the General Government, the Central Bank, Deposit-taking corporations, and the Other Sector (which includes Other financial corporations and Nonfinancial corporations, households, and NPISHs).
- Each sector is also broken down by type of instrument, into Debt Securities, Loans, Currency and Deposits, Trade Credit and Advances, Intercompany Lending, Special Drawing Rights, Reserve Assets, Other Assets in Debt Instruments, and Other Debt Liabilities.

- o The maturities of financial instruments are classified as either short-term (with original maturities of one year or less) or long-term (with original maturities of more than one year).

#### **4. Source Data**

- The data for compilation of the External Assets in Debt Instruments and External Debt include official statistics such as the foreign currency balance sheets of foreign exchange banks.
- o The CPIS (Coordinated Portfolio Investment Survey) and the Corporate Survey of External Loans and Issuance of Securities are conducted annually to obtain the stock levels

#### **5. Accounting Conventions**

- The External Assets in Debt Instruments and External Debt are valued at the market prices prevailing at the end of the reporting period, and recorded on a gross basis.
- The unit of account is the US dollar.

#### **6. Compilation Practices**

- The External Assets in Debt Instruments and External Debt are a stock-oriented statistical statement. When it is difficult to obtain stock levels for the relevant financial items, compilation is done through reconciliation of the accumulated Balance of Payments flows with valuation adjustments based on changes in prices, exchange rates, interest rates, etc.
- In cases where market price data are unavailable, the book values may be used.

## 7. Dissemination

- The External Assets in Debt Instruments and External Debt are disseminated on a quarterly basis within two months after the end of the reference quarter, in accordance with the Special Dissemination Data Standard (SDDS) of the IMF.
- The External Assets in Debt Instruments and External Debt are released in three stages: preliminary, revised and final.
  - Before the finalized data are released in February of the second year following, revision of the preliminary statistics may be undertaken.
- Dissemination types: Press release, 「Monthly Statistical Bulletin」, 「Economic Statistics Yearbook」, Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)

## 8. Other Relevant Information

- Changes in stock data will reflect not only transactions in the corresponding assets and debts but also changes in valuation and certain other changes. Differences may occur between the directly reported stock data and the values derived from cumulation of transactions, in line mainly with valuation changes for example in exchange rates, interest rates, and stock prices.

## VI. Financial Statement Analysis

### 1. Outline

- The main purpose of the Financial Statement Analysis (FSA) is to provide financial indicators, by industry, of the business performances and financial conditions of domestic corporations.
  - The government employs FSA data in drawing up its industrial policies, the Bank of Korea in making its decisions on monetary policy, financial institutions in assessing their credit risks, and companies in framing their business strategies.
- The Bank of Korea has surveyed and analyzed the financial conditions and performances of corporations since 1962.

### 2. Data Scope

- The annual survey's subject population comprises 530,641 corporations, from most industries\*, which submitted corporate tax returns to the National Tax Service (as of 2014).

\* Excluding non-profit corporations, the financial and insurance, forestry, water supply and research and development businesses, non-financial holding companies, public administration and defense, the human health and social work industries, membership organizations, and activities of households as employers and as producers of goods and services for their own use.

- In the quarterly survey, the subject population consists of listed and large unlisted companies.

### 3. Periodicity

- The Bank of Korea conducts its FSA surveys and analyses quarterly (for the 1st, 2nd and 3rd quarters) and annually.

## 4. Source Data

- The FSA covers the main items on corporations' balance sheets, income statements and statements of appropriation of retained earnings. The annual FSA data come from the standard financial statements submitted as attached documents to the National Tax Service for reporting of corporate tax returns, while the quarterly data are based on companies' disclosures submitted to DART (an electronic disclosure system operated by the Financial Supervisory Service).

## 5. Compilation Practices

- Until 2010 the FSA statistics were estimated based upon sample surveys, but since 2011 they have been compiled based on financial statements submitted to the National Tax Service for the reporting of corporate tax returns.
- These statistics are compiled based on industrial classification (Korean Standard Industrial Classification) and on corporate size (Large Enterprises and SMEs).
  - Statistics on manufacturing are also broken down into various special categories, such as the light and heavy & chemical industries, the information and communication technology industries, etc.

## 6. Dissemination

- Timing of data release
  - The annual FSA statistics for all incorporated companies are released in October of the following year. (the statistics for major companies are released in May of the following year).
  - The quarterly FSA statistics (for the 1st, 2nd and 3rd quarters) are released within approximately 90 days after the ends of the quarters concerned.

- Dissemination types: Press release, 「Financial Statement Analysis」 (annual), 「Monthly Statistical Bulletin」, 「Economic Statistics Yearbook」, Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)

## 7. Other Relevant Information

- We use the averages of the opening and closing balances of assets, liabilities, and stockholders' equity in computing financial indicators such as ratios (turnover ratios, etc.) among various income statement and balance sheet items.
- As the growth-related indicators are computed by comparing the amounts on firms' previous year's balance sheets or income statements with those surveyed in the current year, they may differ from the growth rates calculated through comparison of the current and previously published statistics.

## VII. Business Survey

### 1. Outline

- The main purpose of the Business Survey is to provide indicators of short-term business conditions for economic policymakers and business managers, through surveys of business managers' views on general business conditions and their expectations for the future.

### 2. Scope of Data

- Industrial coverage: 23 manufacturing sub-sectors, and 13 non-manufacturing sectors including fishing, mining, waste management & materials recovery, electricity & gas, construction, wholesale & retail trade, hotels, transport & storage, and other service industries
- The survey's subject population comprises the 160,929 domestic for-profit corporations with the highest sales volumes during fiscal 2013, who together accounted for 95% of all corporate sales that year.

### 3. Periodicity

- Monthly (since Jan. 2003), Quarterly (Q2.1991 ~ Q4.2002)

### 4. Source Data

- Survey items: Judgement level items, Judgement of direction of change items
  - Judgement level items: Business Conditions, Finished Goods Inventory Level, Production Capacity, Equipment Investment, and Number of Employees
  - Judgement of direction of change items: New Orders, Production,

Sales, Profitability, Sales Prices of Finished Goods, etc.

## 5. Compilation Practices

### A. Sample Design

- Population: 160,929 domestic for-profit corporations with the highest sales volumes during fiscal 2013, who together accounted for 95% of all corporate sales that year.
- Sample selection
  - Sub-populations are stratified by industry and by size, and the sample size for each stratum is then determined by Lavallee-Hidirogrou stratified random sampling.
  - As of 2016 the sample covered 3,313 corporations across the nation — 2,029 in manufacturing and 1,284 in non-manufacturing.
- Frequency of sample revision: Every three years (last revision in 2015)

### B. Classification

- The Korean Standard Industrial Classification (KSIC) is used to classify businesses in accordance with the kinds of business activities they engage in.

### C. Formula

- The Business Survey Index is calculated as follows:

- BSI by industry = [(Proportion of positive responses - Proportion of negative responses) × 100] + 100
- Upper category BSI (all industries, manufacturing sector, non-manufacturing sector) =  $\sum w_i \times BSI_i$  (i = industry;  $w_i$  = weight by industry)

- An index value above 100 indicates that the conditions for business are positive, while one below 100 indicates negative conditions.

#### D. Publication of Long-Term Averages

- For the convenience of users we also publish long-term averages of all items surveyed, such as business conditions in the manufacturing and non-manufacturing sectors.

## 6. Dissemination

- Timing of data release: The results for each month are released at the end of that month.
- Dissemination types: Press release, Bank of Korea website ([www.bok.or.kr](http://www.bok.or.kr)), Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)

## VIII. Consumer Survey

### 1. Outline

- The Consumer Survey is carried out for use in the analysis and forecasting of economic conditions by processing information collected through surveys of consumer sentiment regarding economic conditions and prospective spending.
  - The findings are useful for gaining more precise expectations of near-term future movements of household expenditures.
- This survey has been conducted by the Bank of Korea since the third quarter of 1995.

### 2. Scope of Data

- The population of the Survey is ordinary households of every city nationwide, with the sample size 2,200 households.
- The Survey targets the heads of the households.

### 3. Periodicity

- Monthly (since July 2008), Quarterly (Q3.1995~Q2.2008)

### 4. Source Data

- Survey method: Mail and e-mail (self-response questionnaires); some households that do not return the questionnaires are subsequently interviewed by telephone.

— Survey items:

Survey items		Survey contents
Perception of current economic situation	current living standards	current situation compared to that six months earlier
	current domestic economic conditions	"
Prospective economic situation	prospective living standards	six months ahead in comparison with the current time
	prospective domestic economic conditions	"
	prospective employment opportunities	"
	prospective interest rates	"
Prospective household spending	household income	six months ahead in comparison with the current time
	household spending	"
Savings and debt of households	current household savings	current situation compared to that six months earlier
	prospective household savings	six months ahead in comparison with the current time
	current household debt	current situation compared to that six months earlier
	prospective household debt	six months ahead in comparison with the current time
Prospective prices	prospective prices	one year ahead in comparison with the current time.
	prospective housing prices	"
	prospective wages	"
	inflation perceptions	perception of inflation over the past year
	expected inflation	expected inflation for the following year

## 5. Compilation Practices

- A Consumer Survey Index is produced for each question, by average weighting of all responses to that question.
  - For each question, there are five optional responses with the following weights:
    - Considerably Better (Increased) : 1.0
    - Slightly Better (Increased) : 0.5
    - Similar : 0.0
    - Slightly Worse (Decreased) : -0.5
    - Considerably Worse (Decreased) : -1.0
  - The base CSI level is 100.

<Example> Current Living Standards CSI formula and interpretation

- Current Living Standards CSI =  
$$100 + [C.B. \times 1.0 + S.B. \times 0.5 - S.W. \times 0.5 - C.W. \times 1.0]$$
  - \* C.B. means the percentage of respondents who have answered "Considerably Better" in response to the question.
- Values above 100 indicate that those believing that their living standards has improved outnumber those believing theirs to have grown worse.

— Composite Consumer Sentiment Index (CCSI)

- The Composite Consumer Sentiment Index (CCSI) is composed of six major CSIs including those for current living standards, prospective household income and prospective spending — all of which are standardized. The CCSI is used to gauge overall consumer sentiment.

## 6. Dissemination

- Timing of data release: The CSI is announced near the end of each month.
- Dissemination types: Press release, Bank of Korea website ([www.bok.or.kr](http://www.bok.or.kr)), Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)

## IX. Economic Sentiment Index

### 1. Concepts

- The Economic Sentiment Index (ESI), a composite of the BSI (business survey index) and the CSI (consumer survey index), is compiled to provide a comprehensive grasp of the private sector perception of economic conditions, including the sentiments of both businesses and consumers.

### 2. Meaning

- The ESI is constructed so as to be symmetrically distributed around a long-run mean of 100 with a standard deviation of 10. An ESI reading above 100 is thus interpreted to mean that economic sentiment in the private sector, including that of both businesses and consumers, is at a level better than the past average (with the reverse being true for a reading below 100).\*

\* As defined by their formulas, BSI and CSI readings of 100 imply that the shares of positive and negative responses are equal.

- The long-run ESI mean of 100 is the mean set for the standardization interval from January 2003 to December 2015 — the period for which BSI and CSI time series data are obtainable.
- The cyclical component of the ESI is compiled in order to track the cyclical patterns of economic sentiment, and calculated by removing seasonal and irregular variations from its original series.

### 3. Periodicity

- Monthly

## 4. Compilation Practices

- The ESI is calculated by first choosing, from among the 40 BSI and nine CSI component indices, seven component indices that are highly responsive to the economy, standardizing and then weight averaging each of them, and finally scaling the overall index so that it will have a long-run mean of 100 and a standard deviation of 10.
  - The component indices and their weights are selected so that the ESI will be highly correlated with and responsive to GDP, a standard indicator of real economic activity.
- The Bank of Korea developed this method of compilation in April 2011, and after conducting test runs of the ESI released it initially in June 2012.

### ESI Component Indices and Weights

		Component Indices <sup>1)</sup>	Weights	
BSI	Manufacturing	Exports	0.150	0.45
		Capacity utilization	0.150	
		Financial situation	0.150	
	Non-manufacturing	Business conditions	0.150	0.30
Financial situation		0.150		
CSI		Household income	0.125	0.25
		Spending decision	0.125	

Note: 1) Each index is based on the outlooks for all of its components — those of the BSI being for the following month and those of the CSI for six months ahead.

## < ESI Formula >

- Standardized index of component  $i$  at time  $t$

$$Y_{i,t} = \left( \frac{X_{i,t} - \bar{X}_i}{S_i} \right), \text{ where } 1 \leq i \leq 7$$

- $X_{i,t}$ : original index of component  $i$  at time  $t$
- $\bar{X}_i = \frac{1}{T} \sum_{t=1}^T X_{i,t}$ : mean of component  $i$  during the standardization interval, where  $T$  is the last point in time of the interval
- $S_i = \sqrt{\frac{1}{T-1} \sum_{t=1}^T (X_{i,t} - \bar{X}_i)^2}$ : standard deviation of component  $i$  during the standardization interval

- Weighted average of the seven standardized component indices at time  $t$

$$Z_t = \sum_{i=1}^7 w_i Y_{i,t}$$

- $w_i$ : weight of component  $i$ , where  $\sum_{i=1}^7 w_i = 1$

- ESI at time  $t$ :  $ESI_t = \left( \frac{Z_t - \bar{Z}}{S_Z} \right) \times 10 + 100$

- $\bar{Z} = \frac{1}{T} \sum_{t=1}^T Z_t$ : mean of  $Z_t$  during the standardization interval
- $S_Z = \sqrt{\frac{1}{T-1} \sum_{t=1}^T (Z_t - \bar{Z})^2}$ : standard deviation of  $Z_t$  during the standardization interval

## 5. Dissemination

- Timing of data release: The results for each month are released at the end of that month.
- Dissemination types: Press release, Bank of Korea website ([www.bok.or.kr](http://www.bok.or.kr)), Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)

## X. Price Indexes

### X-1. Producer Price Index

#### 1. Concepts

- The Producer Price Index (PPI) measures developments in the prices of domestic goods and services sold by producers. Its major purpose is to identify supply and demand conditions of individual goods and services, as well as to provide materials for determining monetary policy. The PPI sub-indexes not only have roles as deflators for converting nominal turnover or output to volume, but are also used as bases for contract escalation.

#### 2. Scope of Data

- The index in principle covers all goods and services traded within the domestic market.
  - Some sectors including wholesale and retail services and broadcasting are not included in the PPI, because the price concepts for these sectors are not yet well defined.
  - Items for which it is difficult to obtain the appropriate price quotations, or to continuously survey, such as works of art, ships, aircraft, weapons and jewelry, are also excluded from the universe.

#### 3. Periodicity

- Monthly: Most price data are collected once per month, in the early part of the month following the reference month.

## 4. Source Data

- Pricing basis: Most prices are surveyed at the stage of shipment, but those of agricultural, forestry and marine products are surveyed during the wholesale market phases.
- As of 2016 the index covers 878 items, comprising 777 goods and 101 services. The criteria for selection is transaction values of no less than 1/10000 of the universe total for goods and no less than 1/2000 of the universe total for services.

## 5. Compilation Practices

- The weight of each commodity is calculated as a permillage of the total value of the universe.
- With the rebasing to 2010, the chaining method, whereby the weights and items used are updated every year, was implemented in the PPI to enable reflection of economic changes as soon as possible.
  - The aggregate indexes are calculated by the Lowe formula (where the reference period for a weight differs from that for a price, with the former being in practice year t-3 and the latter the last month of the previous year):

$$\text{Price index formula} = \frac{\sum_{i=1}^n P_t^i Q_b^i}{\sum_{i=1}^n P_0^i Q_b^i} \quad \text{Modified formula} = \sum_{i=1}^n \left( \frac{P_t^i}{P_0^i} \times w_b^i \right)$$

$$P^i : \text{price of item } i; \quad Q^i : \text{quantity of item } i; \quad w^i : \text{revenue weight of item } i; \quad \left( w^i = \frac{P_0^i Q_b^i}{\sum_{i=1}^n P_0^i Q_b^i} \right)$$

subscript 0: price reference period; subscript t: current period;

subscript b: weight reference period

- When a product is changed to a more advanced or a different type one, in reflection of technological or market trends, a quality adjustment procedure is applied (e.g. using the production cost method, the hedonic regression method, the overlap method, or the linking method).

## 6. Dissemination

- The index is released to the public on around the 20th of the following month.
  - Dissemination types: Press release, 「Monthly Prices」, 「Monthly Statistical Bulletin」, 「Economic Statistics Yearbook」, 「Price Statistics Overview」, Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)
  - In addition to the PPI, the domestic supply price index and total output price index are also reported for reference. The former measures the transmission effects of price changes by stage of processing – for raw, intermediate and finished materials – while the latter calculates the developments in prices of all domestically produced goods and services (in contrast to the PPI which measures only those in the prices of domestically produced goods and services supplied to the domestic market in Korea).
- Since January 2013 a revision policy has been implemented whereby the current month's index is confirmed upon dissemination of the following month's index.

## X-2. Export and Import Price Indexes

### 1. Outline

- The Export and Import Price Indexes measure developments in the prices of exported and imported goods, to enable analysis of their influences on domestic price levels and to provide data for used in trade policy formulation. They are also used for converting or deflating nominal export and import values into volume measures.

### 2. Scope of Data

- The indexes in principle cover all exported and imported commodities.
  - Commodities for which it is difficult to obtain the appropriate price quotations or to conduct continuous surveys of, such as works of art, ships, aircraft, weapons, jewelry, etc., are excluded from the universes.

### 3. Periodicity

- Monthly: Most price data are collected once per month, in the early part of the month following the reference month.

### 4. Source Data

- Pricing basis: The type of prices preferred for calculation of the export price index are those paid on an FOB basis, while for compilation of the import price index it is CIF basis prices that are mainly used. However, the customary terms-of-delivery basis can be used for some items.

- Exchange rate application: Prices of exported and imported goods are surveyed in the contract currencies, with the contract currency prices then translated into domestic currency units using the monthly average rates published by Seoul Money Brokerage Services, Limited (SMBS).
- As of 2016 the index covers 441 commodities, comprising 207 exported and 234 imported goods. Exported and imported goods with transaction values no less than 1/2000 of those of their universes are selected.

## 5. Compilation Practices

- The weight of each commodity is calculated as a permillage of the total value of the universe.
- Since the 2010 = 100 rebasing, the chaining method, in which the weights and the commodities are updated every year, has been applied in compiling the export and import price indexes, to enable reflection of changes in economic structure as soon as possible.
  - The aggregate indexes are calculated by the Lowe formula. (where the reference period for a weight differs from that for a price, with the former being in practice year t-3 and the latter the last month of the previous year):

$$\text{Price index formula} = \frac{\sum_{i=1}^n P_t^i Q_b^i}{\sum_{i=1}^n P_0^i Q_b^i} \quad \text{Modified formula} = \sum_{i=1}^n \left( \frac{P_t^i}{P_0^i} \times w_b^i \right)$$

$$P^i : \text{price of item } i; \quad Q^i : \text{quantity of item } i; \quad w^i : \text{revenue weight of item } i; \quad \left( w^i = \frac{P_0^i Q_b^i}{\sum_{i=1}^n P_0^i Q_b^i} \right)$$

subscript 0: price reference period; subscript t: current period;

subscript b: weight reference period

- When a product is changed to a more advanced or a different type one, in reflection of technological or market trends, a quality adjustment procedure is applied (e.g. using the production cost method, the hedonic regression method, the overlap method, or the linking method).

## 6. Dissemination

- The index is released to the public by no later than the 15th of the following month.
  - Dissemination types: Press release, 「Monthly Prices」, 「Monthly Statistical Bulletin」, 「Economic Statistics Yearbook」, 「Price Statistics Overview」, Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)
  - For user convenience there are three indexes compiled on different currency bases: a won-based index (the primary index), a U.S. dollar-based index, and a contract currency-based index.
- Since January 2013 a revision policy has been implemented whereby the current month's indexes are confirmed upon dissemination of the following month's indexes.

## X-3. Foreign Trade Indexes and Terms of Trade

### 1. Outline

- The Foreign Trade Indexes are compiled to analyze changes in the values, prices and volumes of imports and exports. They include the Import (Export) Value Indexes, the Import (Export) Price Indexes\*, and the Import (Export) Volume Indexes.

\* The Import (Export) Price Indexes are disseminated separately; for details refer to VII-2. Export and Import Price Indexes.

- The Terms of Trade are calculated based on the Foreign Trade Indexes, and subdivided into the Net Barter Terms of Trade and the Income Terms of Trade.
- The Foreign Trade Indexes and the Terms of Trade represent the degree of international competitiveness of Korean export goods in comparison with imported foreign goods. They are used in the formulation of export strategies by corporations, and of industrial and trade policies by the government.

### 2. Scope of Data

- The indexes in principle cover all export and import commodities.
  - Items for which it is difficult to obtain appropriate price quotations and to conduct continuous surveys of, such as works of art, ships, aircraft, weapons, jewelry, etc., are excluded from the universes.

### 3. Periodicity

- The Foreign Trade Indexes and the Terms of Trade are compiled on monthly bases.

## 4. Compilation Practices

- Import (export) values are obtained from the Import-Export Statistics of the Korea Customs Service, and import (export) prices from the Import (Export) Price Indexes.
- Since their data are collected at the time of contracting, the Import (Export) Price Indexes should be time-adjusted to reflect the prices at the times of customs clearance.
  - For instance, in order to calculate the March Import Volume Index for crude oil, for which one month normally passes between the contract date and customs clearing, the February (one month earlier) Import Price Index for crude oil should be used.
- The Import (Export) Value and Volume Indexes are calculated in the following ways:

### a. Import (Export) Value Indexes

- The Import (Export) Value Indexes represent the changes in import (export) values in dollar terms.

· Import(Export) Value Indexes(Monthly)

$$= \frac{\text{Import(Export) value in the current month}}{\text{Import(Export) value in the reference year/12}} \times 100$$

### b. Import (Export) Volume Indexes

- The Import (Export) Volume Indexes represent the changes in the import (export) volumes.

· Import(Export) Volume Indexes

$$= \frac{\text{Import(Export) Value Indexes}}{\text{Time-adjusted Import(Export) Price Indexes}} \times 100$$

c. Terms of Trade

— The Net Barter Terms of Trade represent the volume of imports that can be bought by one unit of exports:

· Net Barter Terms of Trade

$$= \frac{\text{Time-adjusted Export Price Indexes}}{\text{Time-adjusted Import Price Indexes}} \times 100$$

○ If the Net Barter Terms of Trade rise, this means that the volume of imports that can be purchased in exchange for one unit of exports increases\*.

\* For instance, if the Net Barter Terms of Trade in 2015 is 99.0, this indicates that the volume of imports that can be purchased in exchange for one unit of exports is lower by 1.0% ( $= \frac{99-100}{100} \times 100$ ) than it was in the reference year, 2010 (=100).

— The Income Terms of Trade complement the Net Barter Terms of Trade, which reflect only changes in the prices of imports and exports but not in their volumes.

— The Income Terms of Trade indicate the volume that can be imported based on the total value of exports:

· Income Terms of Trade

$$= \frac{\text{Export Value Indexes}}{\text{Time-adjusted Import Price Indexes}} \times 100$$

## 5. Dissemination

- The Indexes are released to the public by no later than the 30th of the following month.
  - Dissemination types: Press release, 「Monthly Statistical Bulletin」, 「Economic Statistics Yearbook」, Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)
- The current month's Foreign Trade Indexes and Terms of Trade are revised and released in the following month's dissemination, and all 12 indexes for the year are revised again and released in the dissemination in January of the following year.

# XI. National Income Statistics

## 1. Outline

- The National Income Statistics represent the market values of goods and services newly produced during a certain period of time by the household, corporate and government sectors in a country.
  - The Korean National Income Statistics are compiled based on the compilation standards suggested in the 2008 SNA (System of National Accounts) prepared by the UN and other international organizations.
- Their main purpose is to provide useful information that allows a comprehensive understanding of the national economy.
  - The data are used as basic materials for the establishment and assessment of economic policies and for economic analysis.

## § History

- 1937 ~ 1945: Rough estimates of total production volumes by item were compiled annually by the financial bureau of the Government-General of Chosun.
- 1945 ~ 1957: Various organizations, including the Planning Bureau, developed their own independent national income estimates — resulting in confusing and dramatically disparate estimates.
- 1957: The Bank of Korea was designated as the official compiler of the national income and related statistics.

- 1958: “Gross Domestic Product by Industry” and “Expenditure on GDP” estimates were compiled for every year from 1953 to 1957, in accordance with the 1953 SNA as recommended by the UN
- 1968: The compilation of quarterly national income statistics was begun.
- 1986: The National Accounts were integrated with the National Income Statistics, the Flow of Funds Accounts and the Balance of Payments, in accordance with the 1968 SNA.
- 1988: The Input-Output Tables and the National Income Statistics were connected to compile the production accounts. The National Accounts were completed through consolidation of four of the five national economic statistics (excepting the National Balance Sheet).
- 1995: The key index for the economic growth rate was changed from GNP to GDP.
- 1999: The 1993 SNA was partially reflected by adoption of GNI. Quarterly nominal GDP and seasonally-adjusted statistics were also released for the first time. The release calendar was meanwhile set in advance, in accordance with the IMF’s SDDS.
- 2004: The primary 1993 SNA standards were reflected, leading to complete adoption of the 1993 SNA system.
- 2005: Advance estimates of quarterly GDP were released for the first time.
- 2006: The primary quarterly GDP index was shifted, from the year-on-year percentage changes in the original series to period-on-period percentage changes based on seasonally-adjusted series.

- 2009: In accordance with the 1993 SNA recommendations, the method for compilation of real GDP statistics was changed from a fixed-weighted to an annual chain-linking method (reference year: 2010). The method for estimation of expenditure components was also shifted, from the commodity-flow method based on national income measured by the production approach, to direct (expenditure component) estimation.
- 2014: The Bank of Korea completed its comprehensive revisions of the Korean National Accounts, beginning with the statistics from 1953. The revisions included implementation\* of the 2008 SNA and updating of the reference year from 2005 to 2010. The Bank of Korea, jointly with Statistics Korea, compiled and released the first Korean National Balance Sheet for 2012.

\* The asset boundary was extended to recognize expenditure on research and development (R&D) as an investment in R&D assets. The 2008 SNA also gives guidance for distinguishing between legal and economic ownership, and emphasizes the principle of ownership change in recording transactions in goods, services and financial assets.

## 2. Concepts of Principal Aggregates

(Production Indicators)

— Nominal GDP (Gross Domestic Product valued at current prices): An indicator for grasping the size and structure of a country's economy, GDP at current prices is compiled by multiplying the final domestic\* production quantities by their prices during the period concerned. The figure for GDP at current prices may accordingly fluctuate, in line with variations in quantities and prices.

\* The 'domestic' territory is also called the economic territory,

and is not limited to the geographical territory of a country.

- Real GDP (Gross Domestic Product, valued at chained xxxx year prices): An indicator used in the calculation of economic growth, representing the trends in domestic production activities, real GDP is a volume measure compiled by multiplying GDP in the reference year (xxxx year; 2010 at present) by a chain volume index, estimated by reflecting the yearly changes in weight and volume of each good and service over the period from the reference year to the current year. Real GDP is in consequence liable to show net variations in terms of quantities, but not of prices.

(Income Indicators)

- Real GDI (Gross Domestic Income): An indicator of the real purchasing power of domestic final product, real GDI is obtained by subtracting real trading gains and losses due to variations in the relative prices of exchanged products from real GDP.

- Real trading gains and losses from changes in the relative prices of exchanged products only occur in trading between Korean residents and the rest of the world, since trading gains and losses are offset when they involve only trade within Korea. They are identical with real trading gains and losses from changes in the terms of trade.

※ Real GDI = Real GDP + Real trading gains and losses from changes in terms of trade

- Real GNI (Gross National Income): An indicator of the real purchasing power of income earned in production by Korean residents, real GNI is calculated by subtracting the real income earned by residents of the rest of the world from Korea from real GDI, while adding the real income earned by Korean residents from the rest of the world to real GDI.

- Nominal GNI: An indicator for grasping per capita GNI and the size of the economy, nominal GNI means total income at current prices earned by Korean residents by participating in production activities both within and outside the country. Nominal GNI, previously called nominal GNP, is calculated by adding net factor income at current prices from the rest of the world to GDP at current prices.
  - ※ Per capita GNI, an indicator of the people's standard of living, is calculated by dividing nominal GNI by the population (as of every July 1st). It is expressed in US dollars, so as to allow international comparison.
- GNDI (Gross National Disposable Income): An indicator used for calculating the consumption, investment and savings ratios, GNDI is the gross income that may be consumed or saved without restriction. It is equal to nominal GNI plus net current transfers from the rest of the world, and is compiled only in current price terms.
- PGDI (Personal Gross Disposable Income): An indicator of the approximate purchasing power of households, it is the income available to households for spending and saving.

### 3. Scope of Data

- Data are compiled for all economic activities, on the basis of the production and expenditures by the household, corporate and government sectors.
- Range of production: Goods that are produced for own consumption and not for sale are included in goods production, but services of households and individuals for self-consumption are excluded from services production.

- To fully grasp overall production and expenditure, illegal economic activities such as smuggling, unlicensed gambling and prostitution, as well as transactions for purposes of evading taxes, should be regarded as production. However, they are not at present included.

#### **4. Periodicity**

- Statistics are compiled quarterly for Gross Domestic Product by kind of economic activity, for Gross National Income, and for expenditure on Gross Domestic Product.
- Only annual compilation is undertaken for the National Accounts, however, which incorporate statistics on national economic activities such as the National Income Statistics, the Input-Output Tables, the Flow of Funds and the Balance of Payments.

#### **5. Source Data**

- Since the National Accounts and the National Income Statistics are compiled so as to include all economic transactions of the national economy, they draw on most of the statistical series compiled by the Bank of Korea, Statistics Korea, the government and various trade organizations — including financial statistics, price statistics, and production statistics.

#### **6. Tables Compiled**

<Consolidated Accounts for the Nation>

- 1) Gross Domestic Product and Expenditure
- 2) National Disposable Income and Its Appropriation
- 3) Capital Transactions
- 4) External Transactions

### <Sectoral Accounts>

- 1) Product Accounts by Institutional Sector
- 2) Income Accounts by Institutional Sector
- 3) Capital Accounts by Institutional Sector

### <Supporting Tables>

- 1) GDP by Kind of Economic Activity and Gross National Income
- 2) Expenditure on Gross Domestic Product
- 3) Gross Value Added and Factor Income by Kind of Economic Activity
- 4) National Income and National Disposable Income
- 5) Gross Capital Formation by Sector and Type of Capital Goods
- 6-1) Gross Capital Formation by Kind of Economic Activity
- 6-2) Gross Fixed Capital Formation by Kind of Economic Activity and Type of Capital Goods
- 7) Facility Investment by Kind of Economic Activity
- 8) Final Consumption Expenditure of Households by Purpose
- 9) Final Consumption Expenditure of Households by Type
- 10) Final Consumption Expenditure of Non-profit Institutions Serving Households by Purpose
- 11) Final Consumption Expenditure of Non-profit Institutions Serving Households by Cost-composition and Purpose
- 12) General Government Final Consumption Expenditure by Function
- 13) General Government Total Expenditure by Function
- 14) General Government Total Revenue and Total Expenditure
- 15) Public Sector Total Revenue and Total Expenditure
- 16) External Transactions
- 17) Gross Savings and Gross Investment

## 7. Accounting Conventions

- Time of recording: GDP components are recorded on an accrual basis.

- Output of goods is recorded when the goods are produced, and output of services when the services are provided. Intermediate consumption of goods and services is recorded at the time when the goods or services enter their processes of production.
- Final consumption expenditure of households is recorded when payables are created. Gross capital formation is recorded when legal ownership is obtained or transferred.
- Valuation: The National Income Statistics are recorded at market prices. GDP components are valued at current prices and at reference year (2010) chained prices.
  - For the income and financial accounts, only data at current prices are published.
- Output and domestic demand are valued at the basic and the purchaser prices, respectively. Exports and imports are valued at FOB prices.

## 8. Compilation Practices

- Regarding the basic method of compilation, three approaches are considered: the production approach, the expenditure approach and the income approach:

(National Income Statistics by Production Approach)

- Value added by type of economic activity:
 

<ul style="list-style-type: none"> <li>○ Agriculture, Forestry and Fishing</li> <li>○ Mining and Quarrying</li> <li>○ Manufacturing</li> <li>○ Electricity, Gas and Water Supply</li> <li>○ Construction</li> <li>○ Wholesale and Retail Trade, Restaurants and Hotels</li> <li>○ Transport and Storage</li> </ul>	<ul style="list-style-type: none"> <li>○ Finance and Insurance</li> <li>○ Real Estate and Leasing</li> <li>○ Information and Communication</li> <li>○ Business Activities</li> <li>○ Public Administration and Defense</li> <li>○ Education</li> <li>○ Health and Social Work</li> <li>○ Cultural and Other Services</li> </ul>
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## (National Income Statistics by Expenditure Approach)

### - Total national expenditure:

- |   |   |
|---|---|
| 1) Final Consumption Expenditure                                      | 3) Exports of Goods and Services        |
| ○ Private   | 4) (less) Imports of Goods and Services |
| - Households  | 5) Statistical Discrepancy              |
| - Non-profit Institutions Serving Households                          |   |
| ○ Government  |   |
| 2) Gross Capital Formation  |   |
| ○ Gross Fixed Capital Formation                                       |   |
| - Construction  |   |
| - Facilities Investment   |   |
| - Intellectual Property Products                                      |   |
| ○ Changes in Inventories and Acquisitions less Disposals of Valuables |   |

## (National Income Statistics by Income Approach)

### - Distribution of value added:

- |                                    |  |
|------------------------------------|--|
| 1) Compensation of Employees       | 6) Net Factor Income from the Rest of the World                      |
| 2) Operating Surplus               | ○ Net Compensation of Employees from the Rest of the World           |
| 3) Consumption of Fixed Capital    | ○ Net Property and Entrepreneurial Income from the Rest of the World |
| 4) Taxes on Production and Imports |  |
| 5) (less) Subsidies                |  |

— Estimation under the production approach (production-side national income) is carried out as follows:

- Nominal value added is derived by first estimating the values of output and intermediate input and then subtracting the latter from the former. If the value of intermediate input cannot be determined separately, it is calculated using the value added ratio obtained from the Bank of Korea's quarterly and annual financial statement analysis reports.
- Real value added is estimated directly using a chained-weighted method, and is thus not always identical to the difference between the real values of output and intermediate input.

- Statistics under the expenditure approach (expenditure-side national income) are estimated directly using a variety of raw data on the amounts spent on final products.
- The two sets of national income statistics, one estimated via the output approach and the other via expenditures, should thus be identical. Owing to differences in the data used and in the methods of estimation, however, statistical discrepancies do occur, which are identified on the expenditure side.
- Compilation of the "advance" quarterly estimates is similar to that of the "preliminary" quarterly estimates, using basic data for the first two months of the reference quarter and estimates for the third month.
  - Data for the last month of the reference quarter are estimated based on data collected through monitoring of companies, and through use of moving averages, trend analysis, the BOK-X-12-ARIMA model, and regression analysis.
- The seasonally-adjusted and original series are announced as the central index and the auxiliary index, respectively.
  - Seasonal adjustment (S.A.) refers to the statistical process of breaking down an original time series into its trend-cycle, seasonal and irregular components, and then removing the seasonal component including calendar effects from the original series so as to reveal certain non-seasonal features more clearly. Seasonal effects come primarily from the influences of the seasons themselves, due for example to weather or to social customs. Calendar effects stem from moving holidays (such as Korean New Year's Day and Chuseok – the Korean Thanksgiving). or from the composition of trading days.
  - At the Bank of Korea, the seasonal adjustment process is carried out using a package known as BOK-X-12-ARIMA, an X-12-ARIMA variant that matches Korea's

circumstances (X-12-ARIMA is the seasonal adjustment software developed by the U.S. Department of Commerce (Census Bureau)).

## 9. Dissemination and Revision

### — Timing of data release

- The "advance" quarterly estimates and the "preliminary" quarterly estimates are released to all interested parties simultaneously, as "Real Gross Domestic Product (Advance): x Quarter of 20xx" and "Gross National Income (Preliminary): x Quarter of 20xx", within 28 and 70 days respectively after the end of the quarter concerned.
- Preliminary data for the Annual National Income Statistics are released within three months after the end of the relevant year, in the form of a press release under the title "National Accounts in the Year 20xx (Preliminary)". The annual final data are released within 15 months after the end of the relevant year, through a press release under the title "National Accounts in the Year 20xx (Final)".
- The advance release calendar gives notice one year in advance of the approximate release dates, in line with the SDDS of the IMF.

— Dissemination types: Press release, 「Monthly Statistical Bulletin」, 「Economic Statistics Yearbook」, Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)

— Revision: Advance and preliminary data are revised when additional data become available.

- The "advance" quarterly estimates are revised first during compilation of the "preliminary" quarterly estimates of the reference quarter. The original data of the previous five

years and seasonally-adjusted data of the previous six years are corrected and released again when the "final" annual estimates for the previous year and the "preliminary" annual estimates for the reference year are published every March

- The final data are also revised every five years in accordance with the change of the reference year. The present time series use 2010 as the reference year.
- In the final data release, the factors contributing to differences between the preliminary and the final data are analyzed and explained.

## 10. Other Relevant Information

- In line with the non-additive characteristics of real GDP statistics estimated through the chain-weighted method, an aggregate (including an intermediate aggregate) is not identical with the sum of its components except in the reference year and the year following.

## XII. National Balance Sheet

### 1. Outline

- The National Balance Sheet is a statement recording the accumulated values (stocks) of assets and liabilities for institutional units (sectors) and the economy as a whole at a particular point in time, valued using the prices at that point in time.
  - For the economy as whole the National Balance Sheet shows the “national wealth,” an economic concept referring to the sum of non-financial assets plus net financial claims on the rest of the world.
- The National Balance Sheet allows analysts to conduct various analyses of economic conditions and productivity using the levels of national wealth, consumption of fixed capital, and capital input (capital service) in the production function derived from the capital stock.
  - In particular, the consumption of fixed capital plays the role linking the flow statistics to the stock statistics, and hence maintains the consistency of the flow-stock relationship in the system of national accounts.
    - \* Stock at the end of this year =  
Stock at the end of last year + Investment this year - Consumption of fixed capital this year + Other changes in volume this year + Holding gains/losses this year

### 2. Scope of Data

- The tables of the National Balance Sheet consist of three parts
  - the opening balance sheet, changes in assets, and the closing balance sheet — all broken down by institutional unit.

- Net worth will change in line with entries in the capital (acquisition/disposal of assets), financial instruments, other changes in volume of assets (discoveries of subsoil assets, losses from natural disasters, etc.) and revaluation accounts, grouped by asset type.

\* Savings and capital transfers, which are the amounts available to the units or sectors for acquisition of non-financial and financial assets, are the main drivers of changes in net worth.

### National Balance Sheet

		Institutional Sector	Institutional Sector
Opening B/S	Non-financial assets		
	Produced assets		
	Non-produced assets		
	Financial assets		Financial liabilities
			Net worth (A)
Changes in assets	Non-financial assets		
	Produced assets		
	Non-produced assets		
	Financial assets		Financial liabilities
			Change in net worth (B) Savings and capital transfers Other changes in volume Nominal holding gains/losses
Closing B/S	Non-financial assets		
	Produced assets		
	Non-produced assets		
	Financial assets		Financial liabilities
			Net worth (A+B)

— As shown, there are three types of assets (or liabilities) recorded, by institutional sector, in the National Balance Sheet:

- ① Produced non-financial assets (residential buildings, non-residential buildings, other structures, transport equipment, machinery & equipment, cultivated biological resources, intellectual property products, inventories, etc.)
- ② Non-produced non-financial assets (land, mineral and energy reserves, and standing timber assets)
- ③ Financial assets and liabilities

\* For certain assets such as precious metals, water resources, contracts, leases and licences, etc. estimates are yet to be developed.

### Classification of Assets on National Balance Sheet

Non-financial assets	Produced assets	Fixed assets	Construction assets	Residential buildings
				Non-residential buildings
				Other construction
			Facilities assets	Transport equipment
				Machinery and equipment
				Cultivated biological resources
		Intellectual property products	Research and development	
			Other intellectual property products	
			Inventories	
	Non-produced assets	Land	Land underlying dwellings	
			Land underlying other buildings	
			Land underlying structures	
			Agricultural land	
			Forest land	
			Recreational land	
			Other land	
		Mineral and energy reserves	Metallic minerals and natural gas	
			Non-metallic minerals	
		Standing timber assets	Coniferous forest	
Broad-leaved forest				
Mixed forest				
Financial assets	Gold and SDRs			
	Currency and deposits			
	Insurance and pension reserves			
	Securities other than shares			
	Loans			
	Equity and investment fund shares			
	Financial derivatives			
	Other accounts receivable/payable			

— Capital stock is compiled by industry as well as by institutional sector. Capital services by industry, which are considered the most appropriate capital inputs in production and productivity analysis, are also measured.

### 3. Periodicity

- The National Balance Sheet is compiled annually.

### 4. Source Data

- The time-series data on investment in assets compiled by the Bank of Korea are used for estimating the value of fixed assets on the National Balance Sheet, which is done via the perpetual inventory method.
  - \* The perpetual inventory method, which accumulates the past investment data corrected for retirement, loss of efficiency, or loss in the value of an asset, is the most widely used method for estimating the value of assets.
  - \* The service lives of assets are estimated from various sources, as shown in the following table:

Source Data on Average Service Lives, by Asset

Asset type	Source
Buildings	Housing Census and other relevant materials
Structures	Estimates from Korea Appraisal Board Expert opinions from related organizations Weighted averages of lives of sub-assets
Transport equipment	Registration and cancellation records
Machinery, R&D	Surveys conducted by Bank of Korea

- For estimation of non-financial assets other than fixed assets, surveys by Statistics Korea, data from various administrative sources, and financial statements of enterprises are used.
- The Financial Assets and Liabilities Table from The Flow of Funds Statistics are used for compiling the Financial Accounts on the National Balance Sheet.

## 5. Accounting Conventions

- Tangible/intangible fixed assets, as well as non-produced assets such as land, mineral and energy reserves and standing timber assets, are in principle valued at market prices (or market price equivalents).

## 6. Compilation Practices

- The Bank of Korea adopts the perpetual inventory method as the basic tool for measuring most of the capital stock for fixed assets, while applying other measures for cultivated biological resources, inventories, non-produced assets, etc. in line with the natures of these assets:
  - Cultivated biological resources: physical inventory method, in which existing assets are multiplied by the corresponding prices
  - Land: market price equivalent valuation, in which a physical land area is multiplied by its corresponding market price equivalent estimate
  - Mineral and energy reserves: net present values of future resource rents expected from their extractions
  - Standing timber assets: modified net present value method

## Methods for Stock Estimation, by Asset Type

Asset classification		Estimation method
Construction assets	Dwellings, Other buildings and structures	Perpetual inventory method
Facilities assets	Transport equipment, Machinery and equipment	
		Cultivated biological resources
Intellectual property products	R&D, S/W, Mineral exploration and evaluation, Entertainment, literary or artistic originals	Perpetual inventory method
Inventories	Materials and supplies, Works in progress, Finished goods, Goods for resale	Direct measurement by industry
Land	Total area of land	Price times quantity approach
Mineral and energy reserves	Metallic minerals and natural gas, Non-metallic minerals	NPV of resource rent
Standing timber assets	Coniferous forest, Broad-leaved forest, Mixed forest	Modified NPV

## 7. Dissemination and Revision

— Timing of data release

- Preliminary data for the National Balance Sheet are released within six months after the end of the relevant year, in the form of a press release under the title of “National Balance Sheet in the Year 20xx (Preliminary)”.

— Dissemination types: Press release, 「Economic Statistics Yearbook」, Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)

## XIII. Input-Output Statistics

### 1. Outline

- The Input-Output (I-O) Statistics break down the economy so as to display transactions in all goods and services between industries and with the final consumers.
  - All transactions are arranged in matrix form, with each cell simultaneously representing a sale and a purchase.
  - They are recorded within a specific region during a given period of time, which is normally one year.
- The I-O Statistics of Korea provide information that is indispensable for monitoring, analysis and evaluation of the Korean economy.
  - They are essential for the analysis of economic interactions taking place between industries in the Korean economy.

### 2. Major Changes of 2010 Benchmark I-O Statistics

- The Bank of Korea began compiling the Supply and Use Tables along with the I-O Tables from 2010, with the former used for economic structure analysis and the latter for the analysis of inter-industry effects.

#### Comparison between Supply & Use and I-O Tables

Supply and Use Tables	I-O Tables
<ul style="list-style-type: none"><li>– Commodity × Industry (symmetric or rectangular)</li><li>– Reflect product mix of industry</li><li>– Based on economic reality</li><li>– Appropriate for economic structure analysis</li></ul>	<ul style="list-style-type: none"><li>– Commodity × Commodity (symmetric)</li><li>– Assume one product per industry</li><li>– Based on production technology</li><li>– Appropriate for inter-industry analysis</li></ul>

- The 2010 benchmark I-O Statistics implement the major revisions in the 2008 SNA, the standard set of recommendations for compilation of the national accounts.

### 3. Periodicity

- The Benchmark I-O Tables (Statistics) are compiled every five years (in the years ending in 0 and 5).
- Updated I-O Tables (Statistics) have been compiled every year since 2006.

#### Korean Input-Output Tables (Statistics) from 1960 to 2013

Benchmark Year	Commodity Classification	Valuation	Update Year	
1960	- / 43 / 109 / 266	Producers's price	-	
1963	- / 43 / 109 / 270		-	
1966	- / 43 / 117 / 298		1968	
1970	- / 56 / 153 / 340	Producer's price Purchaser's price	1973	
1975	- / 60 / 164 / 392		1978	
1980	19 / 64 / 162 / 396		1983	
1985	20 / 65 / 161 / 402		1986, 1987, 1988	
1990	26 / 75 / 163 / 405		1993	
1995	28 / 77 / 168 / 402		1998	
2000	28 / 77 / 168 / 404		-	
2003	28 / 77 / 168 / 404		-	
2005	28 / 78 / 168 / 403		Producer's price Purchaser's price Basic price	2006, 2007, 2008, 2009, 2010, 2011
2010	30 / 82 / 161 / 384 (com) 30 / 82 / 161 / 328 (industry)		Producer's price Purchaser's price Basic price	2011, 2012, 2013

### 4. Sector Classifications & Prices (Valuation)

- The sector classifications in the 2010 Korean Input-Output Statistics are based on the Korean Standard Industrial Classification (KSIC), 9th revision (published February 1, 2008).

- There were some changes made in the 9th KSIC, to reflect developments in the domestic industrial structure resulting from advances in technology, changes in relative prices, etc.
- The 2010 Benchmark I-O Tables (Statistics) are compiled at three prices (purchasers' prices, producers' prices and basic prices):
  - Producer's price: Purchaser's price - Transport and trade margins
  - Basic price: Producer's price - Taxes on production + Subsidies
- The updated I-O Tables (Statistics) are compiled at two prices (purchasers' prices and basic prices).

## 5. Source Data

- The Economic Census report from Statistics Korea is used, along with various administrative data from government and public institutions and information from industry associations and enterprises, with field surveys also conducted as necessary.

## 6. Compilation Practices

### A. Conduct of Survey

- Field Survey Contents: Survey of Input Structure, Survey of Production Composition, Survey of Goods for Processing, Survey of Margin Ratios, Survey of Import Distribution Structure, Survey of Reuseable Resources, Survey of Own Intermediate Consumption

- Population: Economic Census, Census on Establishments, Mining and Manufacturing Industry Survey, and Service Industry Survey from Statistics Korea, data on import clearance from Korea Customs Service, etc.
  - Mining and Manufacturing: Incorporated companies (with more than 10 workers), as reported in the Mining and Manufacturing Industry Survey published by Statistics Korea, classified based on the KSIC 8-digit list of domestically produced commodities.
  - Non-manufacturing: Establishments (with more than five workers) belonging to the non-manufacturing industry as listed in the Census on Establishments published by Statistics Korea.
- Sampling method: After first stratification based on I-O classification, and secondary stratification based on representative variances (values of shipments, imports, etc), the L-H (Lavalley-Hidiroglou) method is used to determine the optimal stratification and number of samples.
- Sample size
  - Benchmark I-O Tables: more than 15,000 companies

## B. Estimations of Total Output and Other Values

- Total Output
  - Total output is commodity or industry output valued at basic prices in one year. Commodity and industry outputs are estimated using various production statistics, including the 2010 Economic Census conducted by Statistics Korea and data from related institutions and government agencies.

- Estimation of total output is the first step in compilation of the Supply and Use and I-O Tables. To estimate output by commodity and industry, the BOK uses the 2010 Economic Census published by Statistics Korea, data from industry associations and public organizations, and other related production statistics. For some industries for which complete enumeration is possible, corporate data are used directly. In cases of gaps in coverage, surveys are conducted, on product composition for example, and corporate data on taxes, sales, overhead costs, etc. are used as well.
- In addition, for sectors having their own intermediate consumptions, such as chemical products, steel and motor vehicles, surveys of intermediate consumption are carried out to help in estimating output.

#### — Input Structure

- The input structure for each commodity in each industry is estimated using the results of the Bank of Korea's material and overhead cost surveys. The BOK then arranges the results by commodity and industry.

#### — Exports and Imports

- Exports are estimated on an FOB (Free On Board) price basis, and imports on a CIF (Cost, Insurance and Freight) price basis. For exports and imports of goods, data from the Korea Customs Service are mainly used. Non-commodity exports and imports are estimated using the statistics on foreign exchange receipts and payments and balance of payments data, compiled by the BOK. To estimate trade for the outsourcing of production, Korea Customs Service data and the results of the Survey of Goods for Processing are used.

— Final Demand Other than Exports

- For final demand components other than exports that cannot be estimated directly, various methods of indirect estimation are used. For private consumption expenditure, household survey methods are applied initially and the commodity flow method applied after that. For estimating government consumption expenditure, the government's budget and accounting data are rearranged. Estimation of investment depends chiefly on indirect data, although for a few items the BOK estimates the final demand directly using the commodity flow method.

— Value Added

- The estimation of value added is carried out using the Survey of Input Structure data, the Economic Census, the Financial Statement Analysis published by the Bank of Korea, etc. Since R&D is recorded as fixed assets in accordance with the 2008 SNA, the accounting methods related to operating surplus and depreciation of fixed capital have changed. In the cases of taxes on products and subsidies, government statistics are mainly used.

— Trade Margins and Transportation Fees

- Total trade margins and transportation fees are estimated using the Economic Census as well as corporate data. The total amounts of trade margins and transportation fees nationwide are subdivided into individual amounts by item, using survey results and corporate data.

#### D. Coordination of Data

- To compile the I-O Statistics, the market approach and the cost approach are both used. The market approach involves estimating the distribution structures of products, while in the cost approach the input structures of products and industries are estimated. For any element estimated using these two approaches the two estimations should be equal, but in reality they are not always identical owing to limits on data availability and to statistical discrepancies.
- In compiling the 2010 benchmark I-O Statistics, the cost approach is mainly used, with the market approach as a supplement. In this process the degree of credibility of the raw data as well as the economic situation in 2010 are taken into account.

#### E. Integration of Tables, and Calculation of Various Coefficients

- A coordination process is carried out for the basic sectors (S&UT:  $384 \times 328$ ; I-OT:  $384 \times 384$ ) – 384 commodity sectors and 328 industry sectors. The basic sector tables are aggregated into small (161 commodities – 161 industries), medium-sized (82 commodities – 82 industries) and large (30 commodities – 30 industries) sector tables. Various coefficients and supporting tables are calculated for each table.

## 7. Dissemination

- Timing of data release: The benchmark I-O Statistics are released within two years and eight months after the year concerned, and the updated I-O Statistics within one year and six months after the year concerned.
- Dissemination types: Press release, Booklet with CD-ROMs, 「Monthly Statistical Bulletin」, 「Economic Statistics Yearbook」, Economic Statistics System of the Bank of Korea (ECOS, <http://ecos.bok.or.kr>)
- Contents: Supply Table, Use Tables (Total Transaction Table, Transaction Table of Domestic Goods and Services, Transaction Table of Imported Goods and Services)

Input-Output Tables (Total Transaction Table, Transaction Table of Domestic Goods and Services, Transaction Table of Imported Goods and Services)

Input Coefficients (Total Input Coefficients, Input Coefficients of Domestic Goods and Services, Input Coefficients of Imported Goods and Services)

Inducement Coefficients (Production Inducement Coefficients ( $(I-A^d)^{-1}$ ), Import Inducement Coefficients, Value Added Inducement Coefficients, Labor Inducement Coefficients)

Effects Induced by Final Demand Items (Domestic Products Induced by Final Demand Items, Imports Induced by Final Demand Items, Value Added Induced by Final Demand Items, Labor Induced by Final Demand Items)

## Supplement

1. Release Methods
2. List of Statistical Publications

## 1. Release Methods

Name of Statistics	Periodicity	Release		Release Method	Publication <sup>1)</sup>
		Preliminary	Final		
Monetary and Liquidity Aggregates					
o Reserve Money	Monthly	within 14 days after the end of the month concerned	within 14 days of the second following month	o BOK website, 「Money & Banking Statistics」	• 「Money & Banking Statistics」 (monthly)
o M1, M2	Monthly	within 14 days of the second following month	within 14 days of the third following month	"	"
o Lf	Monthly	within 14 days of the second following month	within 14 days of the third following month	"	"
o L	Monthly	within 14 days of the second following month	within 14 days of the third following month	"	"
Interest Rates (averages weighted by amount)	Monthly	—	at the end of the following month	o Press release	"
Credit to Households	Quarterly	—	within 10 days of the last month of the following quarter	"	"
Regional Financial Statistics	Monthly	within 10 days after the end of the following month	within 10 days of the third following month	o Related publications	• 「Regional Financial Statistics」 (monthly)
Flow of Funds	Quarterly	about 75 days after the end of the quarter	final quarterly & annual statistics released one year after preliminary annual statistics	o Press release	• 「Flow of Funds」 (quarterly)

Note: 1) All statistics are also included in the *Monthly Statistical Bulletin* and the *Economic Statistics Yearbook*, and posted on the BOK website.

Name of Statistics	Periodicity	Release		Release Method	Publication <sup>1)</sup>
		Preliminary	Final		
Balance of Payments	Monthly	at the beginning of the second following month (early March for January statistics)	monthly and annual balances finalized at the beginning of December in the following year	o Press release	
International Investment Position	Quarterly	within two months after the end of the reference quarter	in February of the second year following	o Press release	
External Assets in Debt Instruments and External Debt	Quarterly	within two months after the end of the reference quarter	in February of the second year following	o Press release	
Financial Statement Analysis	Quarterly and Yearly	—	Quarterly: within 90 days after the end of the quarter;  Annual: in April of the following year for major companies, and October of the following year for all incorporated companies	o Press release  o Press release o BOK website, 「Financial Statement Analysis」 (annual)	• 「Financial Statement Analysis」 (annual)
Business Survey Index	Monthly	—	at the end of the month concerned	o Press release	
Consumer Survey Index	Monthly	—	at the end of the month concerned	o Press release	
Economic Sentiment Index	Monthly	—	at the end of the month concerned	o Press release	

Note: 1) All statistics are also included in the *Monthly Statistical Bulletin* and the *Economic Statistics Yearbook*, and posted on the BOK website.

Name of Statistics	Periodicity	Release		Release Method	Publication <sup>1)</sup>
		Preliminary	Final		
Prices					
o Producer Price Indexes	Monthly	in the middle of the following month	in the middle of the second following month	o Press release o Monthly prices	• 「Price Statistics Overview」 (every 5 years)
o Domestic Supply Price Index	Monthly	"	"	"	"
o Total Output Price Index	Monthly	"	"	"	"
o Export/Import Price Indexes	Monthly	early in the following month	early in the second following month	"	"
o Indexes of Foreign Trade and Terms of Trade	Monthly	at the end of the following month	Revised: at the end of the second following month  Final: in February of the following year	o Press release	
National Accounts					
o Real GDP (advance)	Quarterly	within 28 days after the quarter concerned	—	o Press release	
o Gross National Income (Preliminary)	Quarterly	within 70 days after the quarter concerned	—	"	
o National Accounts	Yearly	within 3 months after the end of the year concerned	within 15 months after the end of the year concerned	"	• 「National Accounts」
National Balance Sheet	Yearly	within 6 months after the end of the year concerned	within 30 months after the end of the year concerned	o Press release	• 「Economic Statistics Yearbook」
Input-Output Statistics	Every 5 years (benchmark)  Yearly (updated)	—	within two years and eight months after the year concerned (benchmark)  within one years and six months after the end of year concerned (updated)	Press release, booklet with CD-ROMs (benchmark, updated), 「Monthly Statistical Bulletin」, 「Economic Statistics Yearbook」, BOK website	Booklet with CD-ROMs (benchmark, updated)

Note: 1) All statistics are also included in the *Monthly Statistical Bulletin* and the *Economic Statistics Yearbook*, and posted on the BOK website.

## 2. List of Statistical Publications

### ■ Comprehensive Statistics

Publication	Statistics	Periodicity	Contact
Monthly Statistical Bulletin	Money & Banking, Prices, Balance of Payments · External Debt Position · Exchange Rates, Business and Consumer Surveys, National Accounts, Flow of Funds, Business Management, Input-Output Tables	Monthly	Economic Survey Team ☎+82-2-759-5608
Economic Statistics Yearbook	"	Yearly	Economic Survey Team ☎+82-2-759-5608

### ■ Specific Statistics

Publication	Statistics	Periodicity	Contact
Money & Banking Statistics	Money & Banking Statistics	Monthly	Monetary & Financial Statistics Team ☎+82-2-759-4411
Regional Financial Statistics	Regional Financial Statistics	Monthly	Monetary & Financial Statistics Team ☎+82-2-759-4351
Flow of Funds	Flow of Funds Statistics	Quarterly	Flow of Funds Team ☎+82-2-759-4518
Financial Statement Analysis	Financial Statement Analysis	Yearly	Corporate Statistics Team ☎+82-2-759-4270
Monthly Prices	Price Statistics	Monthly	Price Statistics Team ☎+82-2-759-4429
Korean National Accounts	GDP, GDE, GNI, Production · Income · Capital Accounts by Institutional Sectors	Every 5 years	National Income Statistics Team ☎+82-2-759-4394
Input-Output Statistics	Supply Table, Use Tables, Input-Output Tables, Input Coefficients, Inducement Coefficients, Effects Induced by Final Demand Items	Every 5 years (benchmark)  Yearly (updated)	Input-Output Statistics Team ☎+82-2-759-4405