



# Measurement of financial services in the national accounts of Israel

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It's All in the Numbers!

# Content

- Organization of the statistical production process for financial services statistics
- Data sources and compilation methods
- Overview of the practice for measuring the output and use of services of :
  - commercial banks
  - central bank
  - insurance companies
- Conclusion and future plans

# *Organization of the production process of financial services statistics*

- Financial services statistics is compiled by the Macroeconomic Statistics Directorate of CBS of Israel
- It is facilitated by the cooperation between the CBS and the Central Bank on the basis of a Memorandum, which determines:
  - the exchange of statistical information
  - discussion and resolving of methodological issues
- Macroeconomic statistics Directorate of CBS is responsible for the production of:
  - National Accounts
  - Balance of Payments and International Trade Statistics
  - Government Finance Statistics
- This allows quick solution to existing problems and coordinated decision-making

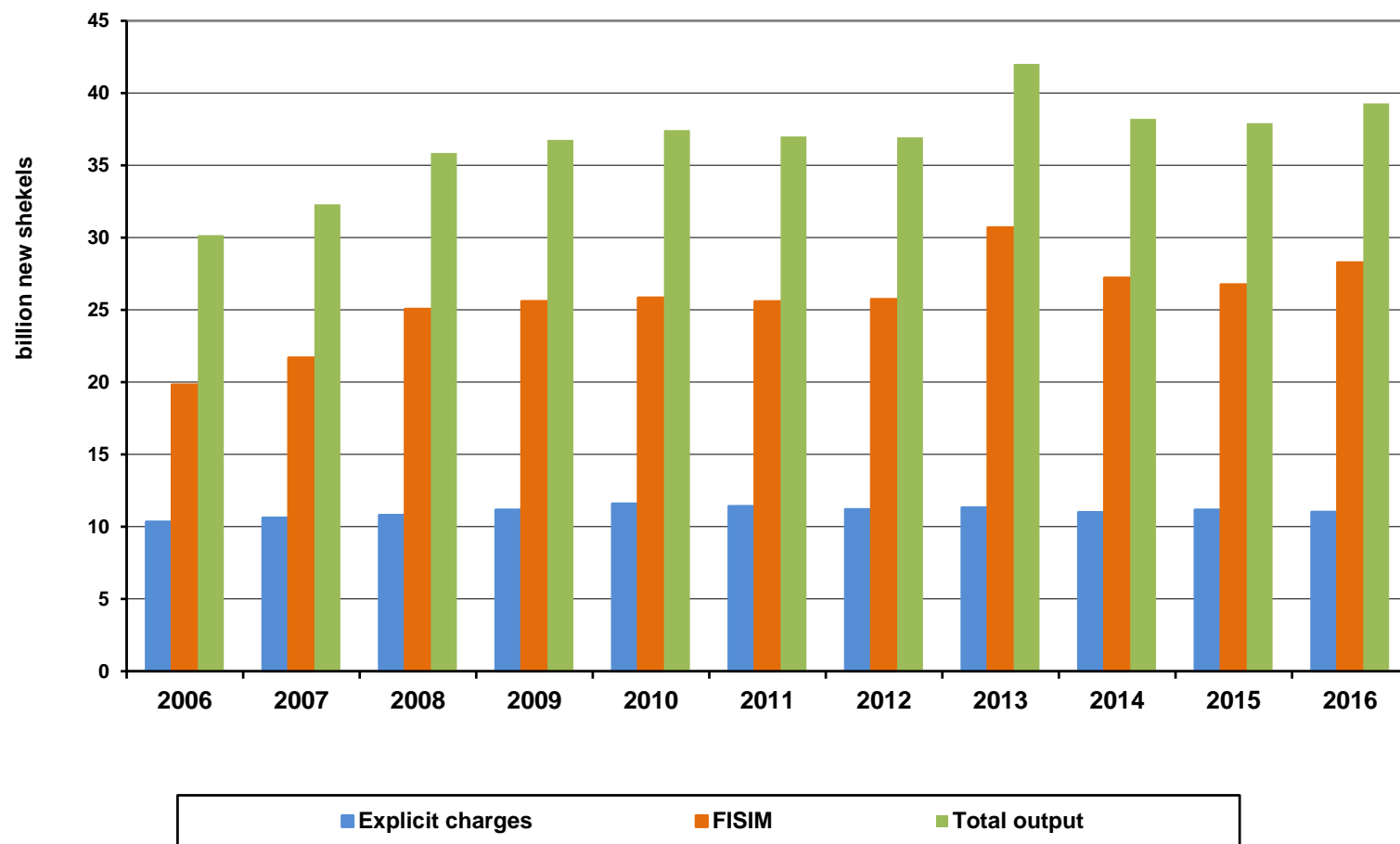
# *Commercial banks*

- Commercial banks are covered in subsector S122 "Deposit-taking corporations except the central bank".
- Statistics on commercial banks is compiled by CBS (Department of National Accounts).
- Data sources:
  - ✓ annual financial statements of commercial banks
  - ✓ summary report of the Office for Banks Supervision (Bank of Israel)
  - ✓ quarterly data on the activities of commercial banks (Bank of Israel).

# *Output of commercial banks*

- Output of commercial banks includes:
  - ❖ Services for which an explicit fee is charged (account management, banking operations ...)
  - ❖ Financial intermediation services :
    - acceptance of deposits from some units
    - lending to other units.
- Financial intermediation services allow one unit to lend its available assets to another unit
- For this service, each of the two parties pays the bank an implicit charge – the payment is determined indirectly as the ratio between interest on deposits or loans and the basic interest rate

## Output of services of commercial banks (current prices)



# FISIM

Estimated individually for loans and deposits:

$$\text{FISIM} = (r_L - rr)Y_L + (rr - r_D)Y_D$$

Where:

- $Y_L, Y_D$  - loans and deposits
- $r_L, r_D$  - interest rates on loans and deposits
- $rr$  - the reference interest rate
- The reference interest rate:
  - between bank interest rates on deposits and loans
  - contains no element of service payment
  - reflects the structure of deposits and loans on the risks and terms of payment
  - different values for operations in the local market and international operations (the currency).

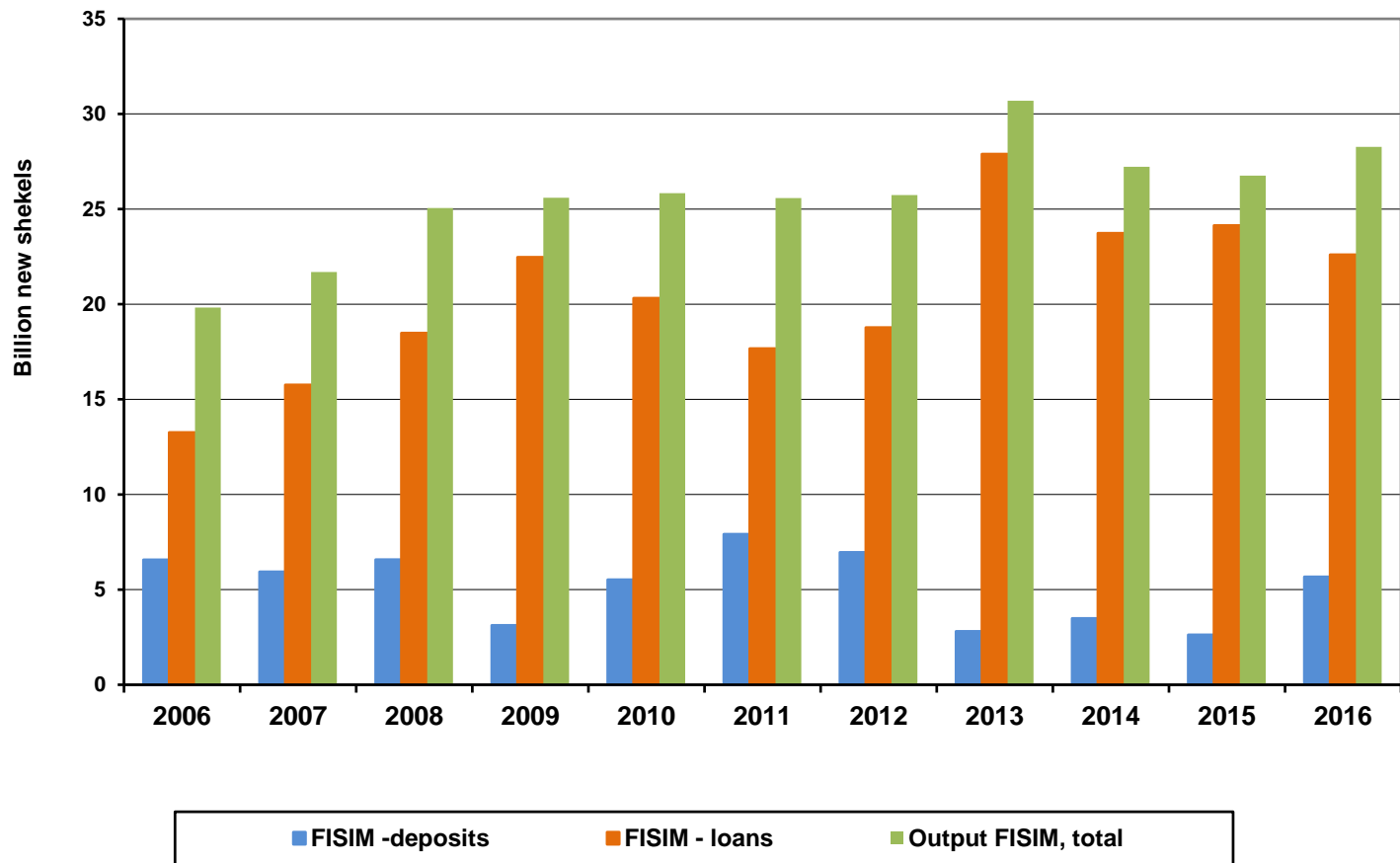
# *Determining of the reference interest rate*

- There are several approaches to select the reference interest rate
- Based on the availability of information comparative analysis between the following options was made :
  - ❖ The average interest rate on deposits and loans
  - ❖ The weighted average interest rate on deposits and loans:
    - common for all types of deposits and loans
    - taking into account the maturity of deposits and loans.
  - ❖ Interbank interest rate.
- As a result:
  - ❖ For FISIM provided by commercial banks to resident units Interbank rate is used
  - ❖ For exports and imports of FISIM the weighted average interest rate is used





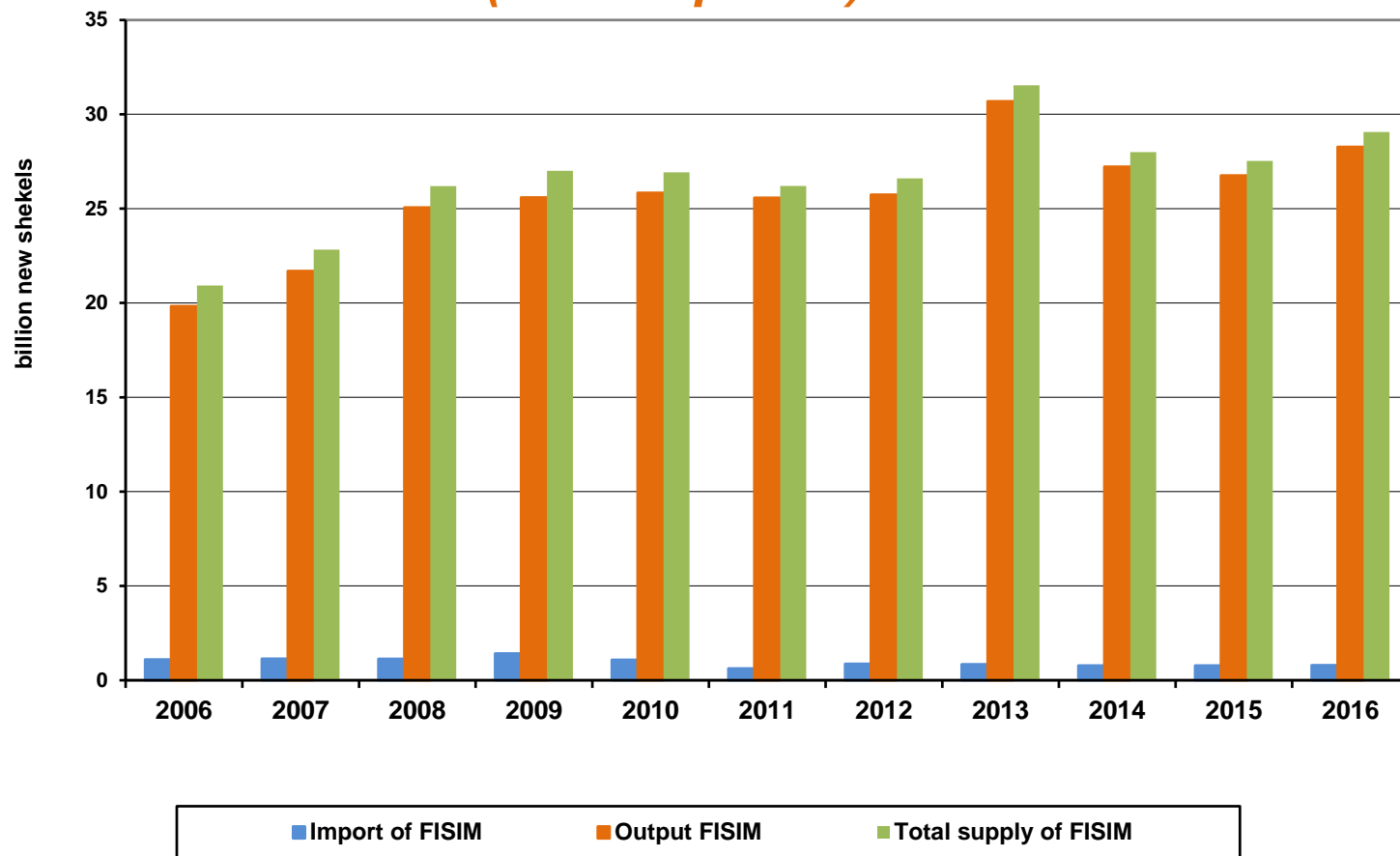
## Output of FISIM on deposits and loans (current prices)



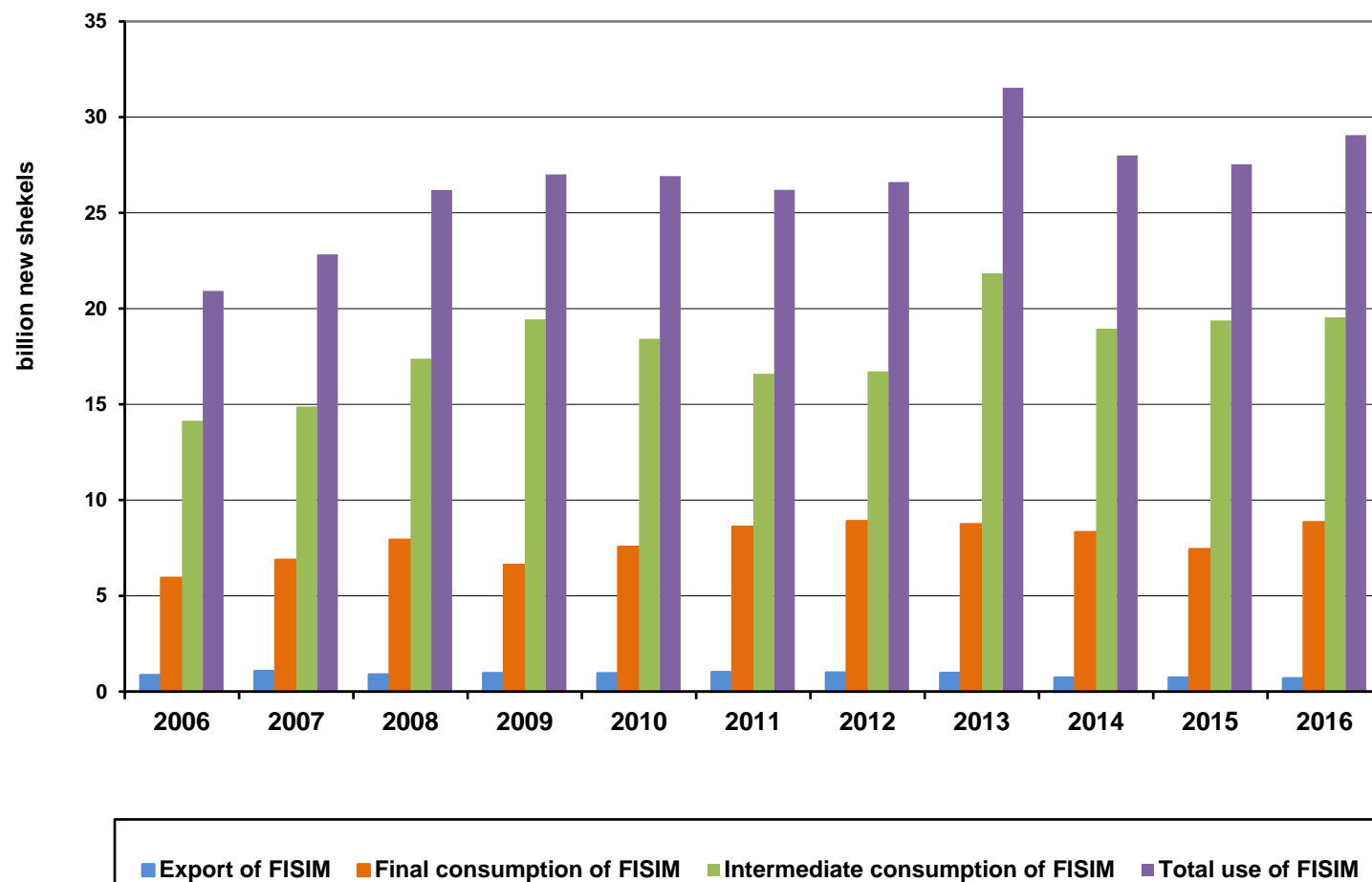
# Supply and use of FISIM

- Supply of FISIM :
  - Output of services by resident banks
  - Import of services from non-resident banks.
- Use of FISIM:
  - ❖ Intermediate consumption (by industry) :
    - ✓ *market producers*:
      - Non-financial corporations
      - Households – as producers
    - ✓ *non-market producers*:
      - Government sector units
      - Non-profit institutions serving households
  - ❖ Final use:
    - Households – final consumers
  - ❖ Export of services of resident banks to non-resident units

## Supply of FISIM (current prices)



## Use of FISIM (current prices)



# *Estimation of the output of commercial banks at prices of the previous year*

- Output of services on the basis of explicit payment is estimated using the price index for banking services
- Output of FISIM is estimated by using:
  - rates of the previous year on loans and deposits
  - reference interest rate of the previous year
  - average balances of deposits and loans of the current year in previous year prices
- The calculation is done separately:
  - by loans and deposits
  - by sector

# *Services of the Central Bank of Israel*

- Bank of Israel in the System of National Accounts:
  - is defined as a government financial corporation
  - refers to subsector S121 "Central Bank" of the sector S12 "Financial corporations."
- Central bank services statistics are compiled at CBS (Department of National Accounts)
- Data sources:
  - Annual financial report of the Central Bank of Israel
  - Monthly data (departments of Bank of Israel).



# *Main functions of Bank of Israel*

- The activities of the Central Bank of Israel are regulated by the "Law on the Bank of Israel", the latest edition of which was adopted by the Knesset in 2010
- The main functions of the Central Bank of Israel are:
  - ❖ implementation of the monetary policy
  - ❖ supervision of the banking system
  - ❖ ensuring financial stability
  - ❖ management of the country's foreign exchange reserves
  - ❖ banking services to the government
  - ❖ and other financial services



# *Measuring the services of the Bank of Israel*

- The treatment of the activities of the Central Bank and the approach to measure its services have undergone significant changes in the 2008 SNA
- The estimation of the output of the services of the Central Bank of Israel consists of two parts:
  - output of market services for individual consumption
  - output of non-market services for collective consumption
- ❖ The distribution of services of the Central Bank by type (market or non-market) is based on analysis of the nature of the services and taking into account the information available to assess their output



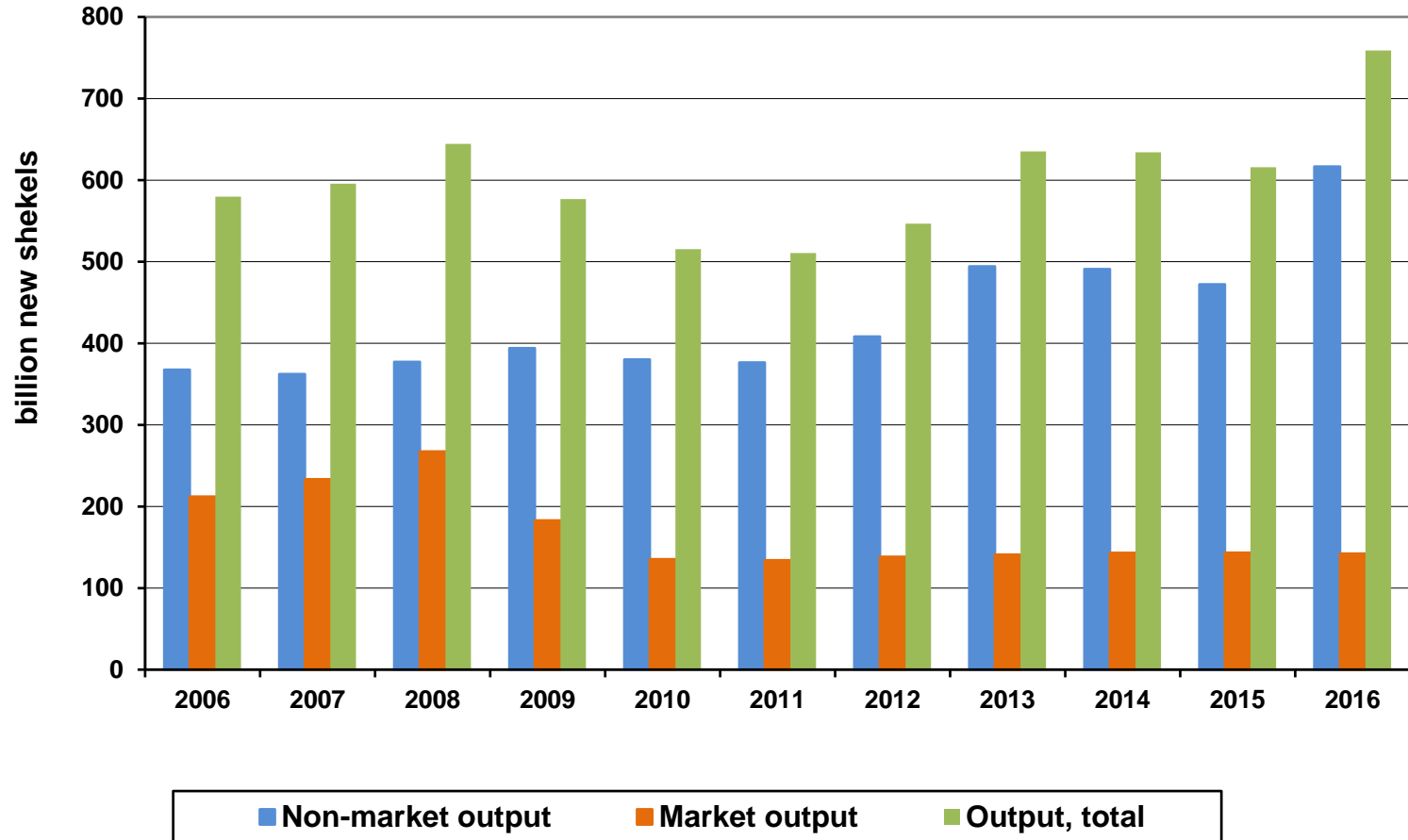
# *Market services of the Bank of Israel*

- The provision of banking services to the government is considered as market output of the Central Bank (estimation of FISIM estimate)
- These services are used by general government units as intermediate consumption in the production of non-market services provided to society
- This, in turn, results:
  - in an increase of the estimate of non-market services by government sector units, since it is estimated as production costs
  - in an increase of government final consumption expenditure
  - In growth of the country's GDP

# *Non-market services of the Bank of Israel*

- All other services rendered by the Bank of Israel are considered as non-market output and are estimated as the sum of the costs for their production.
- Non-market services of the central bank:
  - provided to society as a whole
  - recorded as final consumption expenditure of general government.
- ❖ Results in an increase in these expenditures and, accordingly, to GDP growth

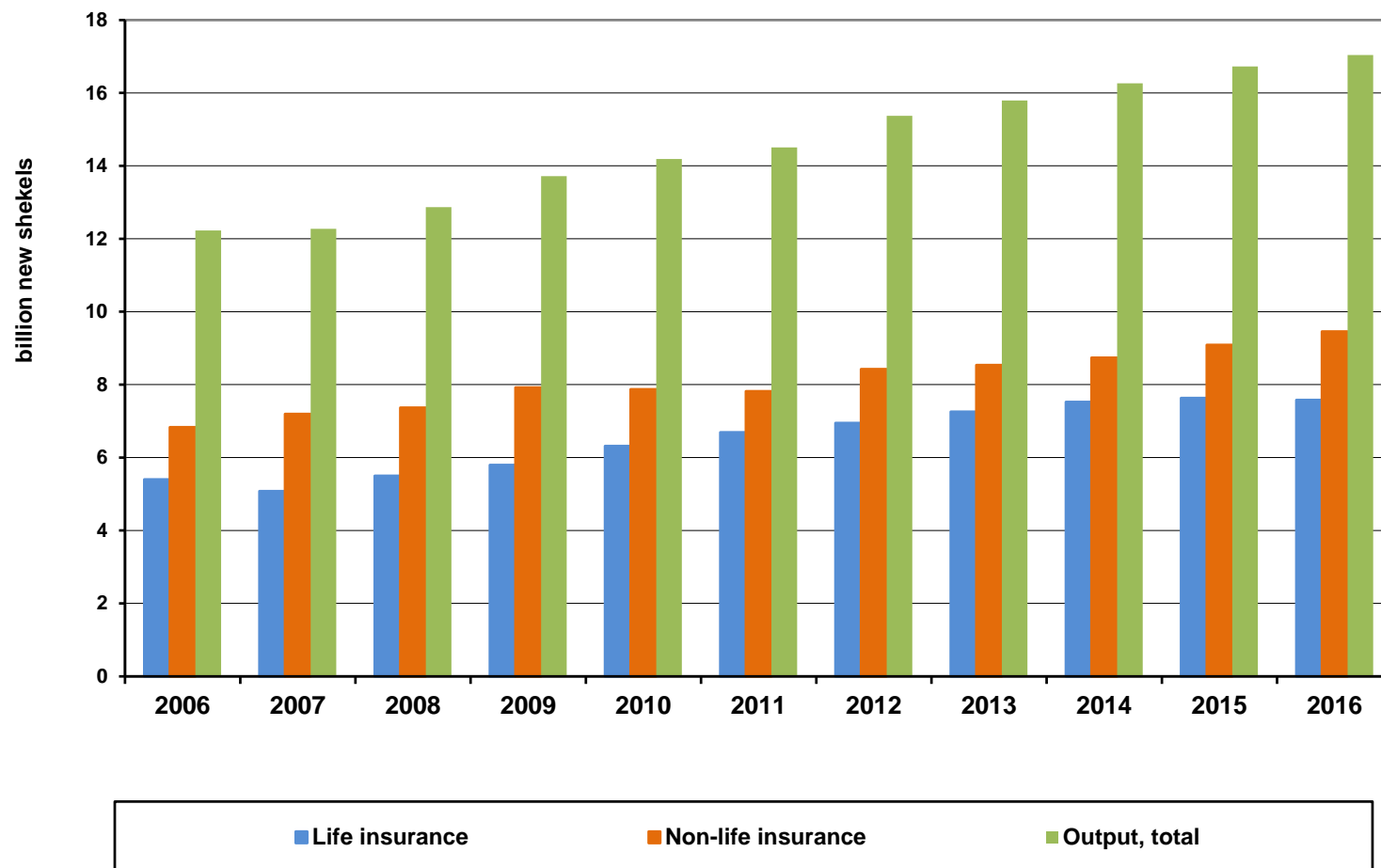
## Output of services of the central bank of Israel (current prices)



# *Output of insurance corporations*

- Output of insurance corporations includes the following services:
  - ❖ life insurance
  - ❖ non-life insurance services
- The estimate of the output of insurance services is made by the CSB (National Accounts department)
- Data sources:
  - ✓ financial reports of insurance companies
  - ✓ consolidated report of the Office for Supervision and Regulation of Insurance Activities (Ministry of Finance)

## Output of life and non-life insurance services (current prices)



## *Non-life insurance - volatility*

- The output of non-life insurance services in the 1993 SNA was estimated as the difference of insurance premiums received and insurance claims paid
- In practice, insurance claims are subject to large fluctuations, which resulted in:
  - volatility of the estimated output of non-life insurance services
  - and thus have an impact on national accounts aggregates

# Output of non-life insurance

- In the 2008 SNA the output of non-life insurance is determined on the basis of adjusted insurance payments
- An approach based on estimate of expectations is used:
  - insurance claims
  - income from investment of insurance reserves
- Output of non-life insurance services=  
    actual premiums earned  
plus  
    premium supplements (expected)  
minus  
    adjusted claims incurred (expected)

# *Expectations strategy*

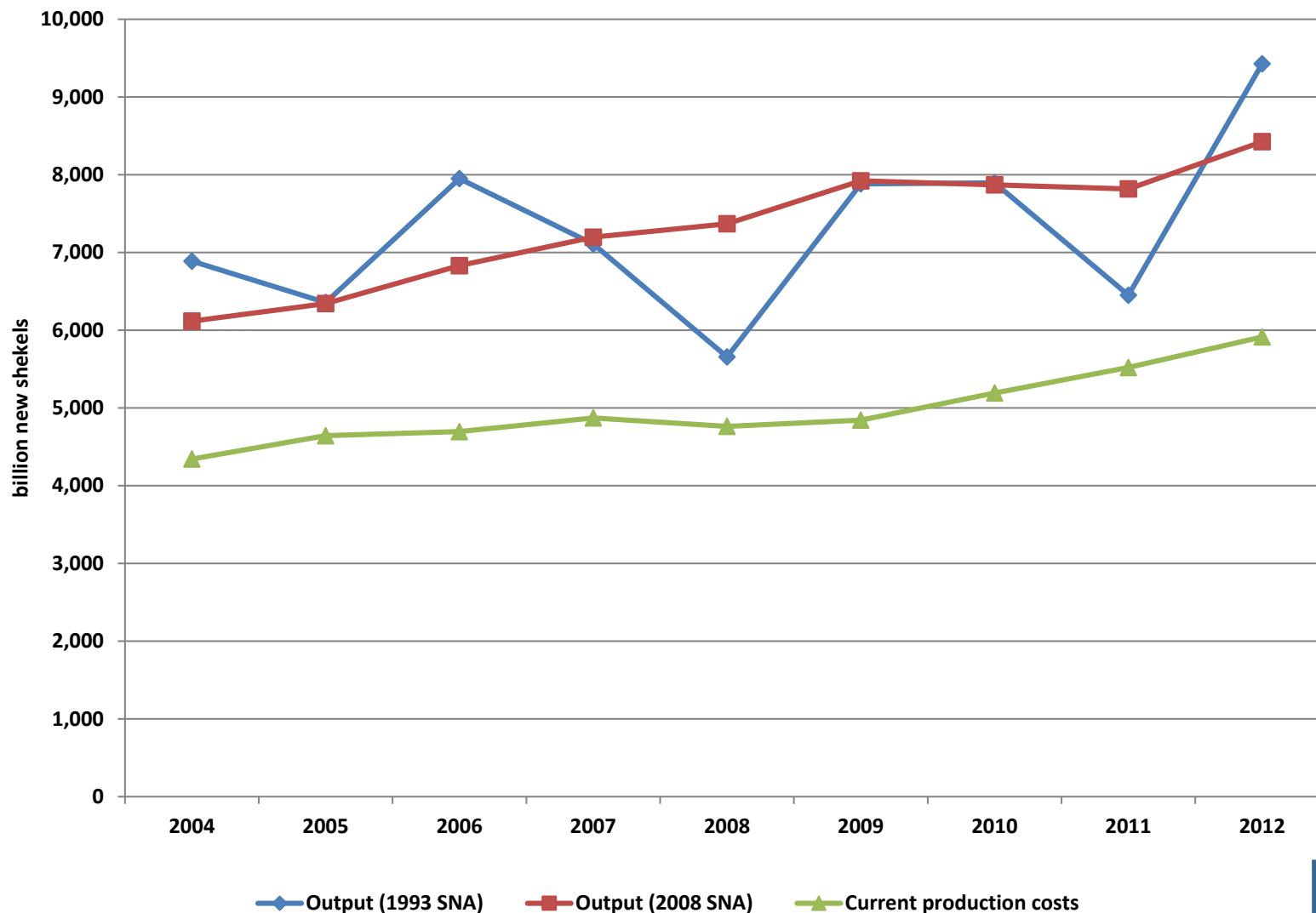
- The insurance company sets the level of insurance premiums, taking into account the expected income from the investment of insurance reserves required to cover the payments on the expected insurance claims
- Expectations of the insurance company on the amount of insurance claims based on policies, taking into account the actual results of previous years
- Decided to use the moving average method to estimate the expected insurance claims



# *Expectations valuation method*

- The adjusted value of claims - moving average of the actual value of claims for seven years
- ❖ The actual value of claims - the ratio of actual insurance claims to premiums earned for the year
- The level of expected insurance claims - a product of the adjusted value of insurance claims to the earned premiums in a given year
- Expected premium supplements (income from investment of insurance reserves) are determined by the same method

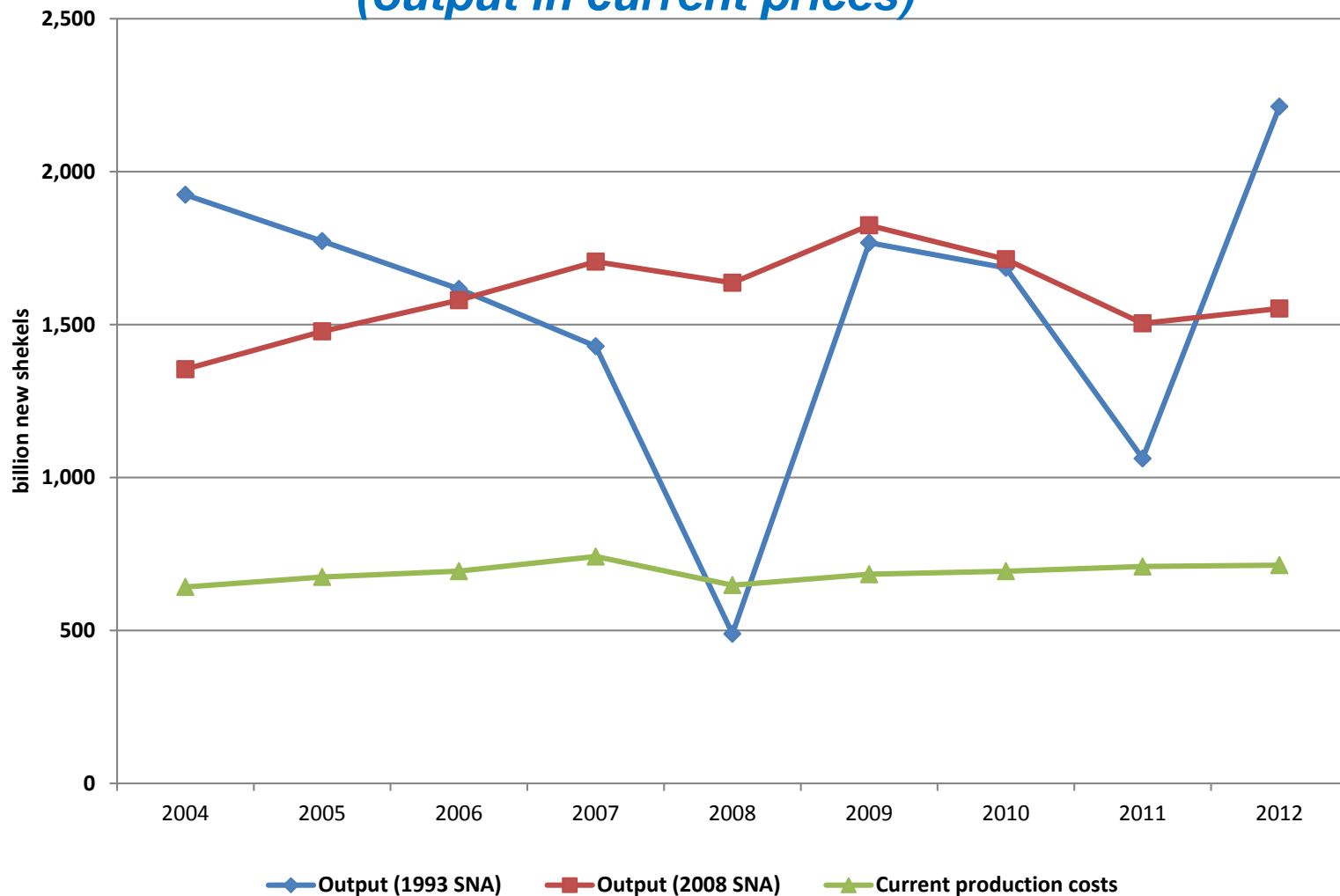
## Output of non-life insurance (in current prices)



## *Output non-life insurance by type*

- The estimation of output of non-life insurance services by type of insurance risk allows:
  - To take into account the differences in insurance products and in insurance policy holders
  - and hence - more precise distribution of the output of insurance services between final use and intermediate consumption
- Output of insurance services:
  - ✓ for each type, the level of expected insurance claims and expected premium supplements is determined using a moving average for seven years

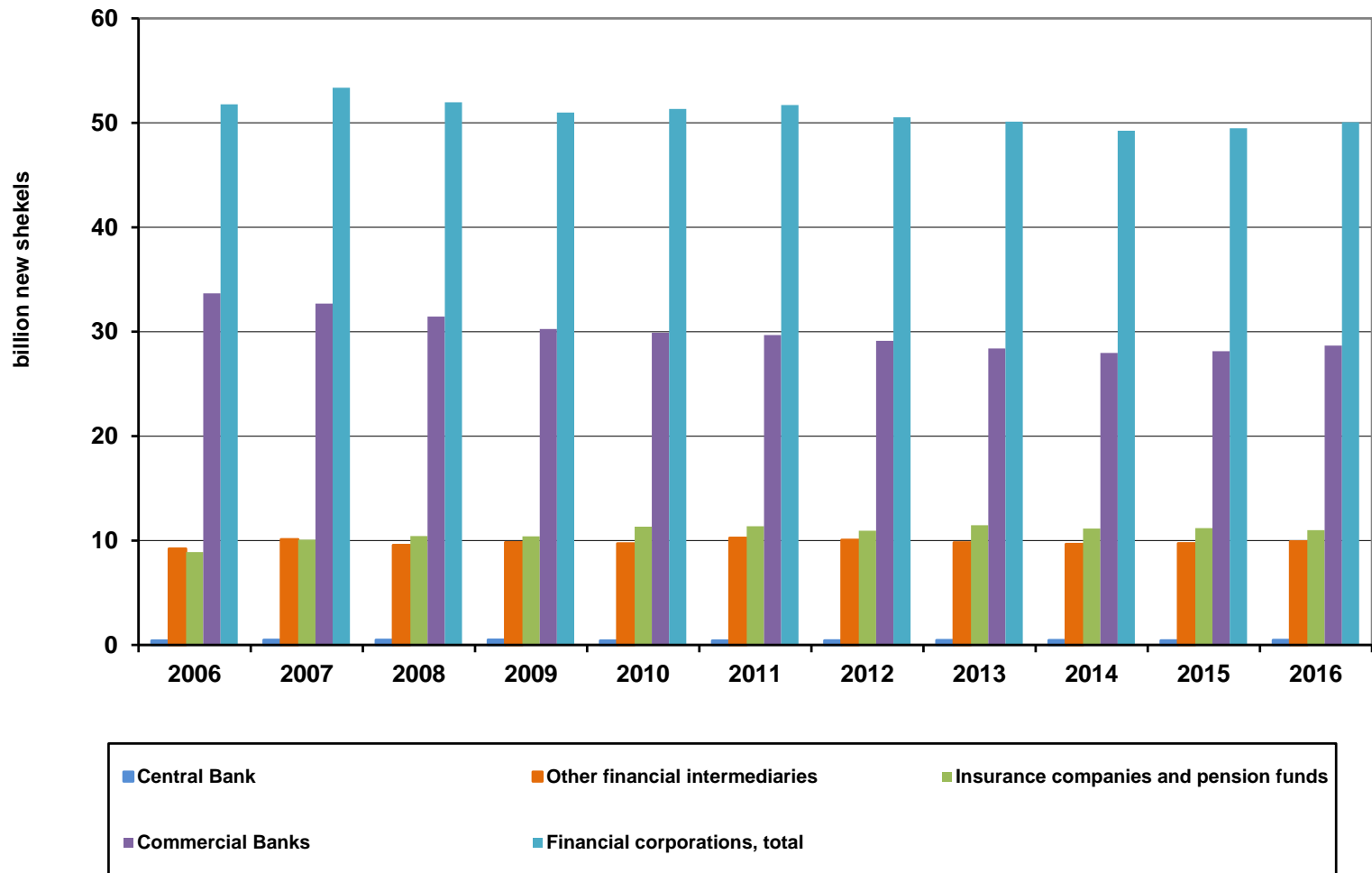
## Obligatory insurance of motor vehicles (output in current prices)



# *The output of non-insurance in real terms*

- Estimation of output in constant prices:
  - ✓ for the construction of time series, a method of extrapolation of the value of output in the base period using the index of the volume of insurance premiums
- ❖ Index of insurance premiums:
  - ✓ determined by deflation of the insurance premiums at current prices using the premium price index by types of insurance

## *Gross product of Financial corporations sector (in prices of 2015)*



# Conclusions

❑ *The Israel Central Bureau of Statistics prepares and presents the following financial statistics:*

- Supply and use of financial services, insurance services and pension funds
- Financial accounts
- Balances of assets and liabilities

❑ *Future plans:*

Analysis and integration of new data sources to improve the quality of statistics on the supply of financial services and a more accurate distribution by type of use and by SNA sectors.



**THANK YOU FOR YOUR  
ATTENTION**

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