

The Credit Market in Israel

By Hadar Gotsman* and Maayan Kellerman*

Abstract

The Information and Statistics Department at the Bank of Israel runs a database of local credit market activity and calculates aggregate data regarding credit volumes in the market, by segment. The data's main significance is for the purpose of determining the Bank of Israel's monetary policies and for the purpose of monitoring and analyzing financial stability. Datasets of credit aggregates are published on the Bank's website, and are very useful to economists and analysts following financial activity in the market.

The study features various segmentations of the market's credit aggregates, such as lender segments, borrower segments, types of instruments, balances and transactions, as well as their manner of calculation. This study includes a description of the data framework and definitions, with numerical examples of the borrower-lender (who to whom) matrix, a breakdown of the data sources, and a description of key application and processing methods.

* The Information and Statistics Department, Bank of Israel

1. Background and purpose of the study

The credit market is a meeting point between businesses and individuals seeking financing for their activity—such as investments and purchase of goods—and financial entities that are engaged in investment and financing. In a credit transaction, the lender provides the borrower with financing, and expects repayment at a preset date, in return for preset interest, and under additional terms and conditions agreed upon by the lender and the borrower. Financing is provided in the form of loans or in the form of purchasing debt securities issued by the borrower (which in the latter case is either a company or a government).

A perfect credit market contributes to the economy's growth by enabling redirection of financial resources to the appropriate places for the economy, efficiently and continually, while correctly pricing risks. This explains the importance of monitoring and analyzing the activity in the credit market for both economic policy makers and analysts analyzing the economic situation. The Bank of Israel is specifically interested in the credit market in Israel from three perspectives: The monetary perspective—the effect of the monetary policy (the interest rate) on the activity and inflation through the credit market; the real perspective—providing the financing needed for economic activity in the market; and the financial perspective—the financial market's stability.

For these purposes, the Information and Statistics Department at the Bank of Israel runs a database of the credit market in Israel. The Department collects data and information from reports and various sources, processes them to a whole and consistent data system and calculates the credit aggregates in the market by segment. The system also includes data on credit volumes and costs as well as interest rates. In this capacity, the Department monitors structural changes in the credit market and credit resources, and improves the data and methodology from time to time. The credit aggregates are used by the Bank of Israel in decision making processes, as well as for studies involving the Israeli credit market. The data are published on the Bank of Israel's website¹ and reported to international entities.

The purpose of this study is to present the credit data system in Israel in terms of credit volumes alone, and specifically, the manner in which the economy's credit aggregates are calculated. The study includes a description of the data framework and definitions, with numerical examples, a breakdown of the data sources, and a description of key application and processing methods.

2. The data and definitions framework

The credit system includes a large amount of data by various sections. In order to calculate the credit aggregates, several sections were used, which will be described in this chapter: by key dimensions, by balances and transactions, and by the debt side and credit side.

¹ <http://www.boi.org.il/en/DataAndStatistics/Pages/MainPage.aspx?Level=4&Sid=53&SubjectType=2>

2.1 Dimensions

Israel's credit aggregates include three key dimensions: lender segments, borrower segments and the financial instruments used to provide credit.

2.1.1 Lender segments are the entities and institutions providing credit in the market:

- The financial sector—the banks, institutional investors (insurance companies, provident funds, advanced training funds and pension funds) and credit card companies;
- Nonresidents;
- The government²;
- Households and others.

There are additional financial entities outside the banks and institutional investors, which are engaged, inter alia, in credit provision. The volume of their credit activity is estimated to be small in relation to the system's overall volume of activity. These entities are not included in the credit system due to lack of sufficient information.

2.1.2 Borrowing segments are the entities and institutions taking credit in the market:

- Households;
- The business sector—Israeli businesses that do not form part of the financial lender sector (i.e., are not banks or insurance companies). At this stage, there is no distribution of the entire business sector's debt by economic activity;
- Government and municipalities.

2.1.3 The financial instruments by which credit is provided:

Loans (including overdrawn current accounts;

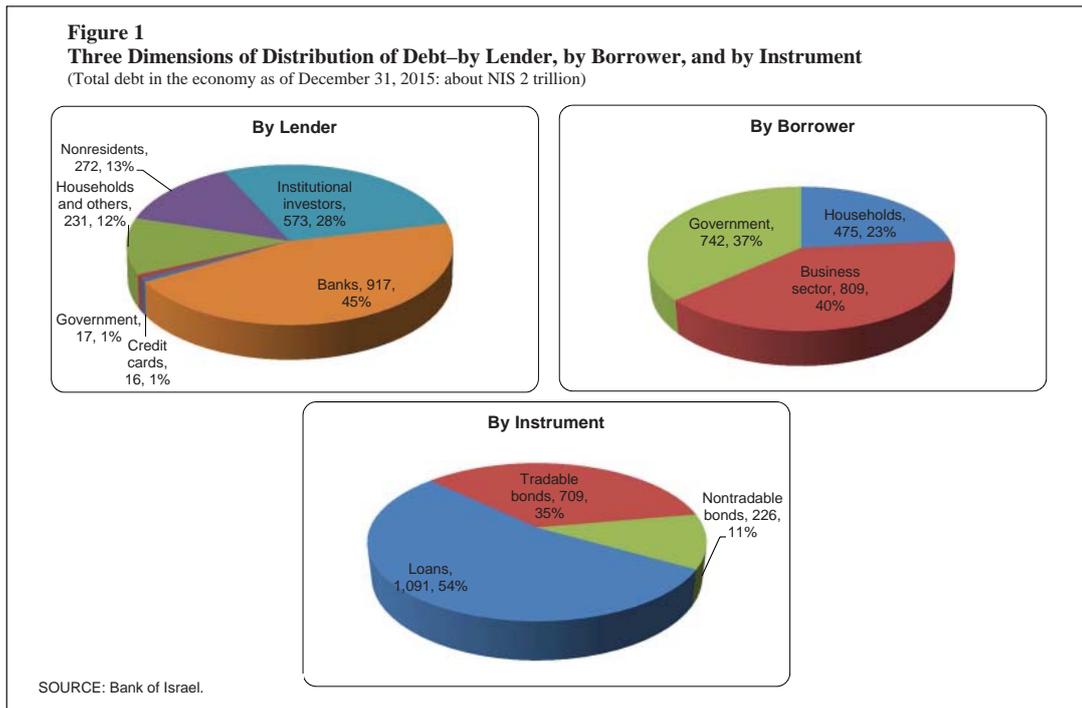
Tradable bonds (regular and convertible);

Nontradable bonds.

The instruments include all indexation segments (unindexed, CPI-indexed, and denominated in and indexed to foreign currency).

Figure 1 presents an example of the three credit dimensions for creating the economy's credit aggregates—the distribution of total debt in the economy as of a specific point in time (end of December, 2015) according to the three dimensions presented above. Table 1 is a matrix showing the economy's key credit aggregates as of that point in time—the debt balance of all three borrower segments and total debt in the economy, divided by lender segments and by the various lending instruments.

² Loans provided to borrowers by the government, usually go through the banking system, which serves as a pipeline for payment transfers.



The data in Figure 1 and in Table 1 reflect several main points:

- The balance of the **total market debt** as of the end of 2015³ was NIS 2 trillion. The distribution of debt according to the three dimensions shows that the two main borrowing segments in the market are the business sector and the government, which are similar in weight; the main lenders in the economy are the banks, with more than half of the debt in the economy created through loans;
- Total **business sector** debt reached about NIS 809 billion. Loans were the main instrument through which the debt was created (73%). The business sector is financed, in almost equal parts, by the banking system and by nonbank entities, with the main lenders being institutional investors and nonresidents;
- Total debt of **the government and local authorities** was about NIS 742 billion, mostly through tradable bonds (70%). The institutional investors are the main lenders to the government (55%);
- Outstanding **household debt** was NIS 475 billion, mostly from the banks (91%)—mainly for housing.
- **Institutional investors provide** credit mainly through the purchase of bonds—of the government and business sector. In recent years, the area of loans from institutional investors, mainly for the business sector, has been developing.

³ For an analysis of debt developments, please see Chapter B in the first section of this report.

- **Households** provide credit by purchasing government bonds and bonds issued by the business sector—either directly or through holdings in mutual funds that invest in bonds. (Households also provide loans to businesses, but these are not included in the system).

Table 1
Gross debt balances in the economy: Distribution among lending and borrowing sectors (excluding the financial sector), December 2015

(NIS billion)

	Borrowing sectors			Total debt in the economy
	Households	Business sector	Government	
Lending sectors				
Total debt to banks	433	397	87	917
Nonhousing credit to the public	126	390	16	532
Housing credit to the public	307			307
Tradable bonds		7	72	78
Total debt to institutional investors	11	154	409	573
Loans	11	58	5	73
Tradable bonds		71	221	292
Nontradable bonds		25	183	208
Total debt to credit card companies	14	1		16
Loans	14	1		16
Total debt to nonresidents		171	101	272
Loans		143	3	146
Tradable bonds		28	80	108
Nontradable bonds			18	18
Debt from government sources	17	0		17
Targeted credit	17	0		17
Debt to households and others		86	145	231
Tradable bonds		86	145	231
Total debt	475	809	742^a	2,026
By main debt instruments				
Loans	475	593	24	1,091
Tradable bonds		191	517	709
Nontradable bonds		25	201	226

SOURCE: Bank of Israel.

Information regarding credit provided by the business sector to households, such as loans from employers to their employees and trade credit (for households only), financed by the company itself rather than by a financial institution (such as credit card companies) is not included in the system due to insufficient data. The assumption is that these amounts are negligible in relation to the total credit provided to households.

It should be noted that the debt of each sector is net, i.e., it does not include intra-sector loans: The business sector's debt does not include trade credit, i.e. business to business (B2B) credit, and the debt of the government and municipalities does not include the debt of the municipalities to the government.

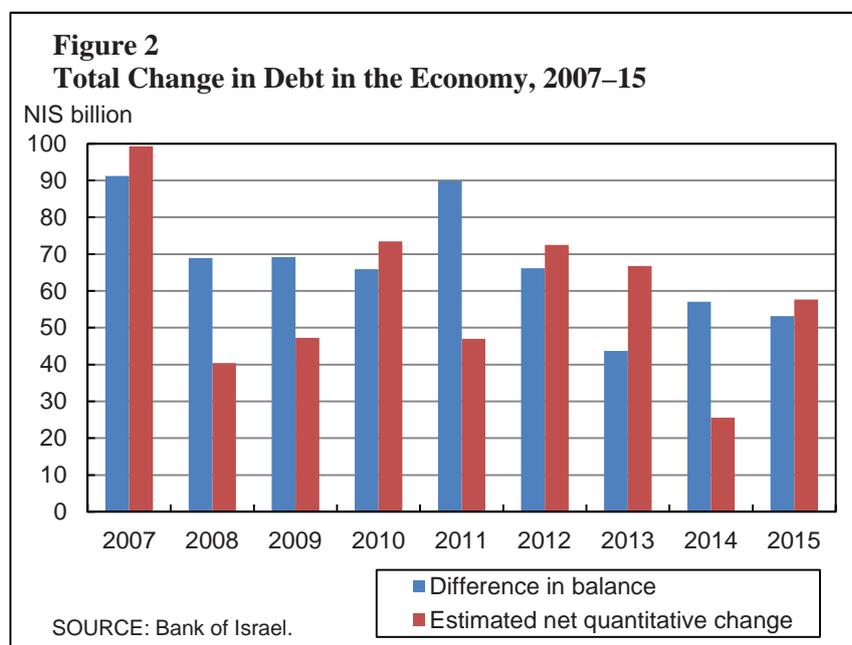
2.2. Balances and transactions

2.2.1 Balances represent the credit inventory (positions, stocks) and are related to the debt level at each point in time, as presented in Table 1. The balances are affected by the following key variables: Raising new debt (such as taking a new loan), repayment of old debts (for example, repayment of bonds), payments and accrued interest, changes in prices (the change in the Consumer Price Index and the exchange rate for CPI-indexed or exchange rate-indexed debt), and other factors;

2.2.2 Quantitative changes (transactions) represent the economic activity in the credit market and include two components—net raising of new debt and interest accruals and payments. Net raising of debt is new debt raised net of debt repaid during a given period (between two points in time). Most of the credit components lack direct data regarding quantitative changes. In such cases, the “quantitative change estimate” is calculated (see Section 3.2.1).

Figure 2 shows the quantitative changes (estimated net quantitative change) and the annual balance differences of total market debt each year, from 2007 to 2015.

Figure 2 provides information regarding various phenomena that have taken place in the past few years:



- From 2007 to 2015, total market debt increased from year to year—i.e., each year, the economy raised new debt, and the balance differentials were also positive;
- In years when there was a higher difference in the balance than the estimated net quantitative change—a price increase occurred in addition to the quantitative increase, for example, in 2008 and 2014;
- In other years, in which the difference in the balance was lower than the estimated net quantitative change—the quantitative increase was partly offset by price decreases (over the entire credit balance), such as in 2012 and 2013.

2.3 Debt vs. credit

2.3.1 “Debt” – from borrowers’ perspective: Represents the debt estimate for each of the main three borrower sectors in the economy. From the borrowers’ point of view, the value of the debt is independent of its market value or its lenders’ book value. Thus, the bond balances are presented at adjusted par value⁴ and the total debt balances are presented before deduction of balances for allowance for credit losses in the lenders’ books (for example, “doubtful debt provision / problematic debt provisions” in the banks’ balance sheets).

2.3.2 “Credit” -from the lenders’ perspective: Represents the credit estimate for each of the major lender segments in the market: From the lenders’ perspective, the credit value depends on its market value or book value. Therefore, the balances of the tradable bonds are presented at market value, nontradable bond balances are presented at fair value (estimated market value) and total credit balances are presented after deduction of allowance for credit losses in the lenders’ books.

Israel’s credit aggregates are calculated and presented from these two perspectives—the debt side and the credit side. Each type of calculation has different uses. For example, data on the debt side is suitable for an analysis of the distribution of financing in the economy among the borrower sectors or among the various instruments, while data on the credit side is suitable for analysis of financial stability and the risks to which the lender segments (such as banks) are exposed.

⁴ Outstanding principal that remains to be repaid, plus accumulated interest that remains unpaid and index/exchange rate differentials (according to the terms of the bond).

3. Main sources of data and calculations

3.1 Data sources and availability

- 3.1.1** The banking system reports to the Banking Supervision Department—Most of the data come from monthly reports on the banks' balance sheets (in stand-alone and non-consolidated financial statements).⁵ Most of the data used in the credit system come from the assets side of the entire banking system's balance sheet: Credit balances provided to commercial entities, individuals and the government—by type of linkage; housing credit data—balances by linkage type; data on loan loss provisions; holdings in bonds; directed credit balances (credit provided by the government to the public through the banks).
- 3.1.2** Quarterly financial statements of credit card companies are also submitted to the Banking Supervision Department—data regarding credit provided by these companies to the business sector and households.
- 3.1.3** Reports by institutional investors to the Finance Ministry and the Bank of Israel—monthly reports containing details of the assets held by the institutional investors. The data used by the credit system are loans provided by these entities to companies and members (households) and their holdings of corporate bonds (of companies) and government bonds.
- 3.1.4** The Tel Aviv Stock Exchange—the source for data on tradable bonds issued by Israeli companies, including the par value balances and market value.
- 3.1.5** Direct reports of large Israeli corporations⁶ to the Bank of Israel on their activities vis-à-vis nonresidents. The data that are relevant to the credit system are loans from nonresidents—shareholders' loans, loans from financial institutions, trade credit and corporate bond offerings abroad.
- 3.1.6** Reports of banks and other financial intermediaries to the Bank of Israel regarding nonresident holdings of Israeli financial assets.
- 3.1.7** The Ministry of Finance – the source for loans, and tradable and nontradable government bonds.

Most of the data are received on a monthly basis, but it is important to note that some are less audited than the quarterly data, and the quarterly data are often amended and improved in a manner that is not reflected in the monthly data. Thus, in some of the aggregates, end of quarter

⁵ A bank's consolidated balance sheet consolidates the accounts of the parent bank with those of its subsidiaries, as if they were a single company. Among other things, it "offsets" activity between the parent bank and its subsidiaries, while a stand-alone balance sheet is a separate balance sheet for the parent bank and each of its banking subsidiaries.

⁶ The reporting requirement applies to companies with annual turnovers of over \$50 million and/or balance of financial assets exceeding \$20 million. In addition, the reporting requirement applies to individuals who hold a balance of financial assets abroad of over \$20 million.

balance data are inconsistent with the data as at the end of the months included in the quarter. In addition, the monthly data are more volatile than the quarterly data. Therefore, we recommend using quarterly data for analysis and drawing conclusions (although the data published on monthly balances appear on the Bank of Israel website). The Bank's website contains datasets of credit aggregate data from September 1992.

3.2 Main calculations

The Information and Statistics Department processes the abovementioned data in various ways so as to achieve a detailed, consistent and closed data system. Below is a breakdown of the main calculations and estimates:

3.2.1 Calculation of the estimated net quantitative change: Existing data sources include direct reports only regarding the quantitative changes in government debt and activity vis-à-vis nonresidents. Out of the other data, the "estimated quantitative change" is calculated only for the total credit of each borrowing sector—the business sector, households and the government. In addition, an estimated quantitative change is calculated for each of the business sector's fund-raising channels alone—bank loans, tradable bonds in Israel, nontradable bonds and nonbank loans and foreign credit.

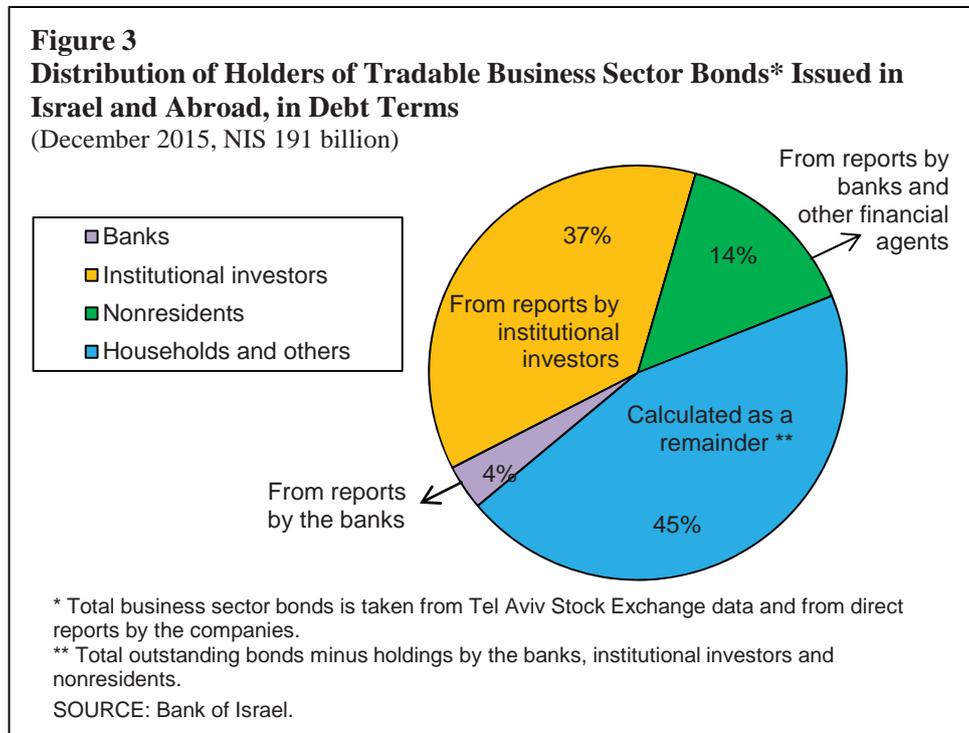
The estimated quantitative change is calculated as follows: The estimated price effect is deducted from the difference between the debt balance at the end of the period and the balance at the beginning of the period. The calculation of the estimated price effect during the period is performed according to the debt balance's indexation sectors: Unindexed—zero price effect; CPI-indexed—deducting the effect of the change in the index; and indexed to and denominated in foreign currency—deducting the effect of the change in the exchange rate. Since the estimated net quantitative change is derived from the balances, it also includes additional effects such as interest payments/accruals, in addition to the net debt raised.

3.2.2 Breakdown of the balance of tradable bonds in Israel and abroad issued by the business sector, by holders:

3.2.2.1 The estimate is calculated only for holdings by institutional investors and nonresidents of bonds issued by the business sector: the total of these two lending sectors' holdings of corporate bonds, less the estimated holdings of bonds issued by banks and insurance companies.

3.2.2.2 The balance of households' and others' holdings of corporate bonds: calculated as a remainder—total balances of bonds issued by the business sector (data were taken from reports by the Tel Aviv Stock Exchange and direct reports of the companies), net of holdings in these bonds by the banks, institutional investors and nonresidents. Since the figure is calculated as a remainder, it includes households' holdings of these bonds, either directly or through mutual funds, as well as holdings by companies from the business sector.

Figure 3 depicts the result of the two calculations above for a distribution of the business sector’s outstanding debt by holding sector as of December 2015:



3.2.3 Bank loans to the business sector—The following are deducted from the credit balances of loans to Israeli commercial corporations in the banks’ balance sheets: credit to municipalities (included in credit to the government) and credit to credit card companies (since they are part of the lender entities and the credit they provide is measured directly).

This credit includes loans to individuals who are not private parties, but rather small independent businesses.