Measuring the Country's External Debt

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The economy's gross external debt to abroad is defined as total liabilities to nonresidents through debt instruments in shekels and in foreign exchange.

Raising debt from nonresidents increases the economy's sources of financing, lowers the costs of raising debt, enables the economy to integrate into global markets, and supports economic growth. An analysis of external debt data shows the level of foreign exchange liquidity available to the economy, and the extent of its financial strength vis-à-vis abroad.

The Bank of Israel's Information and Statistics Department publishes data on the Israeli economy's external debt on a quarterly basis, according to the International Monetary Fund's guidelines. The Bank of Israel uses this information in its current analyses of trends in economic activity vis-à-vis abroad, and publishes the information as part of Israel's International Investment Position.

This work presents the main terms and definitions concerning external debt data, outlines how debt is measured and reported, and samples the main uses of this information, including an international comparison of main data.

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1. Introduction

The economy's gross external debt to abroad is defined as total liabilities (public, private, and banking sectors) to nonresidents through debt instruments in shekels and in foreign exchange.

Raising debt from nonresidents increases the economy's sources of financing, lowers the costs of raising debt, enables the economy to integrate into global markets, and supports economic growth.

The Bank of Israel's Information and Statistics Department publishes data on the Israeli economy's external debt on a quarterly basis, according to the International Monetary Fund's guidelines.[1] The Bank of Israel uses this information in its current analyses of trends in economic activity vis-à-vis abroad, publishes the information, and sends it to the Central Bureau of Statistics to build the economy's balance of payments data.

The gross external debt as a share of GDP, the mix of the debt, and its sectoral composition are important indicators of the level of liquidity available to the economy and of the extent of its financial robustness vis-à-vis abroad. A low debt enables the economy to lower the costs of raising capital, and contributes to strengthening its ability to withstand financial crises. For instance, it enables room for activity to increase debt during a financial crisis.

A low net external debt is an indication of the economy's ability to repay debt abroad. A high coverage ratio between short-term debt and short-term assets indicates a high level of liquidity and financial robustness.

Gross external debt as a share of GDP has declined in recent years, which reflects an increase in the GDP growth rate alongside a decline in the growth rate of debt. The decline in the gross external debt to GDP ratio in Israel is in stark contrast to the increase in this ratio among other OECD countries, mainly against the background of the Global Financial Crisis in 2008–09.

There was also a continued decline in net external debt—the surplus of liabilities over assets in debt instruments only—thanks to a marked increase in the balance of assets abroad, mainly foreign exchange reserves held by the Bank of Israel. At the beginning of the 2000s, net external debt even became negative, meaning that the economy is a net lender to abroad.

This article presents the main terms and definitions of the external debt data framework, outlines how debt is measured and reported, and samples the main uses of external debt data, including an international comparison of the main indicators.

[1] The BPM5 rules and the External Debt Guide that are subject to the National Accounts (SNA) calculation and distribution rules.

2. The data framework and definitions

2.1 Definitions

2.1.1 Debt instruments

Financial instruments created from the unconditional contractual liabilities of one institutional entity (the debtor) toward another institutional entity (the creditor) for future payment of principle or interest. Debt instruments include loans, cash, deposits, bonds, and commercial credit.

2.1.2 Residency

- Israeli resident[2]:
  1. An Israeli citizen, new immigrant, or holder of a permanent residency permit who, in the 12 months preceding the transaction, was in Israel continuously or noncontinuously for a period of more than 180 days.
  2. A corporation registered with the Registrar of Companies in Israel.
- Nonresident – Anyone not an Israeli resident.

2.1.3 External debt

- **Gross external debt**: The economy's total liabilities toward abroad in debt instruments in foreign currency or in Israeli currency.
- **External assets in debt instruments**: The economy's total financial assets vis-à-vis abroad in debt instruments. These assets include loans to nonresidents, deposits at banks abroad, foreign bonds, and any other financial instrument held abroad by Israelis.
- **Net external debt**: The surplus of liabilities over assets in debt instruments only. Net external debt is calculated as gross external debt minus foreign assets in debt instruments.

2.1.4 Tradability

- **Tradable external debt**: Debt instruments traded in the capital markets—government bonds backed by the US government, nonguaranteed government bonds, and corporate bonds.
- **Nontradable external debt**: Debt instruments issued abroad that are not traded on the capital markets—financial loans, owners' loans, suppliers' credit, Israel Bonds, and government loans.

[2] According to the International Monetary Fund (IMF), a resident is defined as a corporation or an individual whose center of economic activity is in the country, or who has resided in the country for more than one year. As part of measuring the Israeli economy's activity vis-à-vis abroad, residency is classified by the resident's place of incorporation or citizenship, due to data collection limitations.

2.2 Indices

Published external debt tables include information on the economy's outstanding debt vis-à-vis abroad, in various indices:

2.2.1 Sector

- **The public sector**: The government, the Bank of Israel, and the national institutions.[3]
- **The banking sector**: The commercial banking corporations, meaning banks that are not mortgage banks or investment banks, as defined by the Banking (Licensing) Law.
- **The nonbanking private sector**: Individuals, corporations and other institutional entities (such as institutional investors and mutual funds) that are not included in either the public sector or the banking sector.

2.2.2 Credit durations

- **Credit duration (term to repayment)**: The duration of time until the principle of the debt is paid off. In this article, we relate to the actual repayment date[4] of the debt instrument, which includes the remaining principle to be paid.
- **Short-term debt instrument**: An instrument with a repayment range of up to one year.

2.2.3 Balances, transactions, exchange rate differentials, and price and other adjustments

- **The balances of external debt** include the principle and accumulated interest (the interest costs accumulated and not yet paid).
- **Transactions in external debt** include net flows (such as the provision of loans minus repayments) in financial debt instruments.
- **Exchange rate differentials and other adjustments**: Exchange rate differentials present the changes in debt balances in instruments that are not denominated in dollars, in respect of translation differentials. Other adjustments present additional changes in the balances, such as changes in the prices of securities, accumulation of interest, and residency changes.

The table below samples a combination of main indices (instruments, sectors and credit durations) in the data on external debt to nonresidents for 2016 and for the second quarter of 2017. It shows that most of the debt of the nonbanking private sector is concentrated in financial loans, most of the external public debt is concentrated in government bonds, and most of the banking system debt comes from deposits by nonresidents.

[3] Keren Hayesod, Jewish National Fund, Jewish Agency, and the World Zionist Organization.

[4] The repayment date can be measured as the original repayment date or as the actual repayment date. The original repayment date is the repayment date at the time the debt instrument is issued, and the actual repayment date is the repayment date during the reviewed period.

Table 1: Israel's Outstanding Gross External Debt, by Original Debt Period, by Sector and by Instrument
(End of Period, $ million)

		December 2016			December 2017		
	Source of debt	Up to 1 year	More than 1 year	Total	Up to 1 year	More than 1 year	Total
1	Public sector	1,560	26,463	28,023	1,074	30,848	31,922
	Foreign governments and international institutions	81	1,586	1,667	0	1,679	1,679
	Tradable bonds backed by the US government	210	9,749	9,959	0	9,324	9,324
	Nonguaranteed tradable bonds	295	11,347	11,642	1,074	14,809	15,883
	Israel Bonds	965	3,670	4,635	0	4,909	4,909
	Others	9	111	120	0	127	127
2	Nonbank private sector	20,702	24,518	45,220	20,787	22,511	43,298
	Financial loans	1,929	10,930	12,859	950	8,547	9,497
	Bonds	-2	6,638	6,636	0	5,913	5,913
	Owners' loans	1,226	6,950	8,176	895	8,051	8,946
	Suppliers' credit	17,549	0	17,549	18,942	0	18,942
3	Banking system liabilities abroad	12,603	1,886	14,489	12,169	1,826	13,995
	Deposits from banks abroad	2,581	825	3,406	2,019	818	2,837
	Nonresidents' deposits	10,022	1,061	11,083	10,150	1,008	11,158
4	Total gross external debt (1+2+3)	34,865	52,867	87,732	34,030	55,185	89,215

3. The measurement and presentation of external debt

The economy's gross external debt can be derived from its assets and liabilities vis-à-vis abroad[5] (International Investment Position—IIP), which provides a combined view of the financial activity between the economy and abroad.

Israelis' investments in foreign assets are the economy's assets abroad, and nonresidents' investments in Israeli assets are the economy's liabilities.

The IIP report details the economy's assets and liabilities at a point in time, and explains the change between the opening balance and the closing balance. The change is explained by transactions in the economy's financial assets and liabilities vis-à-vis abroad in a particular period, and through the other differences between the balances that are not explained by transactions, such as exchange rate differentials, price differentials and other adjustments.

The economy's gross external debt to abroad is the balance of liabilities in debt instruments only.

3.1 Data sources

External debt data are obtained from various sources according to the activity sector and debt instrument: the Ministry of Finance, the Central Bureau of Statistics, reports from the institutional investors, direct reports from the banks regarding bank debt, direct reports[6] from companies and individuals about their activity vis-à-vis nonresidents pursuant to the Bank of Israel Order, and indirect reports from the banks regarding private sector holdings on the domestic stock exchange and of nontradable debt instruments.

3.2 Measurement

3.2.1 Measurement principles and basic assumptions

External debt is measured in US dollars. Balances denominated in other currencies are translated into dollars according to the representative exchange rate at the end of the measured period.

The measurement of external debt includes both the principal and accumulated interest. The measurement is according to the nominal value of the debt (the balance of the denominated amount for repayment plus indexation differentials).

Several assumptions are used during the measurement of external debt:

- There is no early realization, expansion of the amount raised, delay of repayment, debt reorganization, or other changes in the terms of the debt after its issuance.
- Nontradable external debt (debt instruments issued abroad) are held in full by nonresidents.

[5] For more information on the IIP: http://www.boi.org.il/en/DataAndStatistics/Pages/MainPage.aspx?Level=2&Sid=27&SubjectType=2

[6] For more information regarding the forms for reporting to the Bank of Israel (in Hebrew): http://www.boi.org.il/he/DataAndStatistics/Pages/ReportingForms.aspx

3.2.2 Main calculations

Measuring the balances

The economy's external debt balances are measured through an aggregate calculation of itemized information obtained from various information sources and adjusted to the International Monetary Fund guidelines.

- **Tradable external debt** (liabilities toward nonresidents) is estimated as the balance of total debt instruments issued by Israelis minus the instruments held by Israelis—institutional investors, domestic banks and the domestic private sector. This balance is estimated at market value.
- N**ontradable external debt** is estimated, according to the guidelines, as the balance of total nontradable debt instruments issued by Israelis.

Measuring transactions

- In the absence of direct reports on transactions, most of the measurement of transactions in the external debt of the nonbank private sector and of the banking sector is calculated as the difference in balances.
- Transactions in the external debt of the public sector are measured in accordance with repayment estimates (repayment tables) based on itemized information obtained at the time of issuance[7] after methodological adjustments to the data on debt reported by the Ministry of Finance.[8]

Calculating credit durations

Calculation of the credit durations on outstanding external debt is based on the repayment dates reported by the various information sources. An instrument with a repayment date within one year is defined as a short-term debt instrument (current debt).

In cases where the credit duration is unknown:

- The credit duration of owners' loans and financial loans is estimated assuming that 85 percent of the debt is repaid within a period of more than one year (medium-long credit duration).
- The credit duration of suppliers' credit is estimated on the assumption that it is repaid in full within one year (short credit duration)

Calculating the repayment forecast

The calculation of the repayment forecast for external debt includes the forecast of payment of the principal and interest by sector, excluding the banking sector. The payment forecast is calculated according to repayment tables, which are for the most part estimated on the basis of itemized information obtained at the time of issuance.

The repayment forecast is calculated on a cash basis—the interest is calculated according to payment dates set out at the time of issuance, and does not accumulate during the period.

[7] Excluding the estimate on the issuance of Israel Bonds, which is made according to Ministry of Finance data on monthly issuances and various assumptions regarding repayment dates, interest rates, and currency.

[8] Including SDR liabilities toward the International Monetary Fund and adjustments of the debt of binational funds and the including national institutions, in accordance with IMF guidelines.

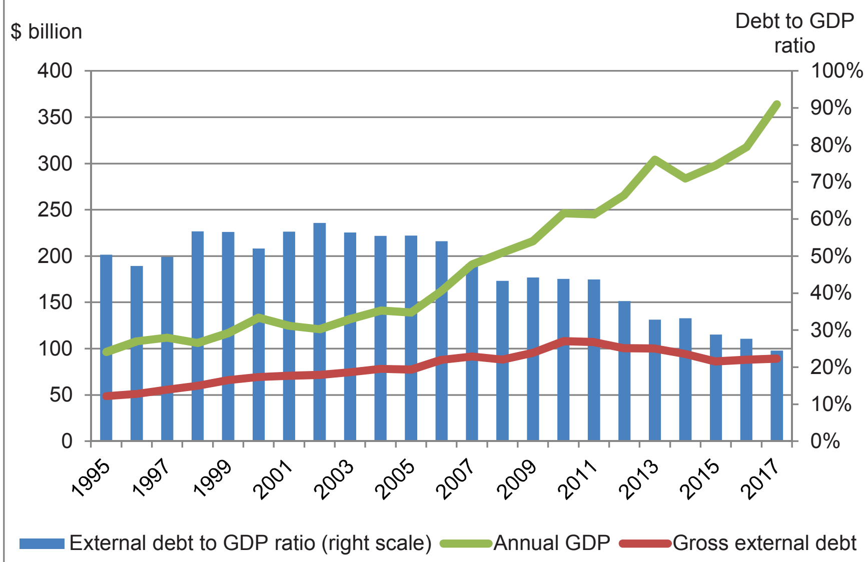
4. Using data on external debt

This chapter samples the possible uses of data on external debt. These uses provide a helpful tool for economic analysis of the state of liquidity in the economy and its robustness vis-à-vis abroad.

4.1 Israel's gross external debt, and international comparison[9]

- The gross external debt to GDP ratio declined from about 55 percent in 1995 to about 25 percent in 2017, mainly due to the accelerated growth of GDP concurrent with the significant slowdown in the growth rate of debt (Figure 1).

Figure 1
Gross External Debt and its Share of Israel's GDP, 1995–2017

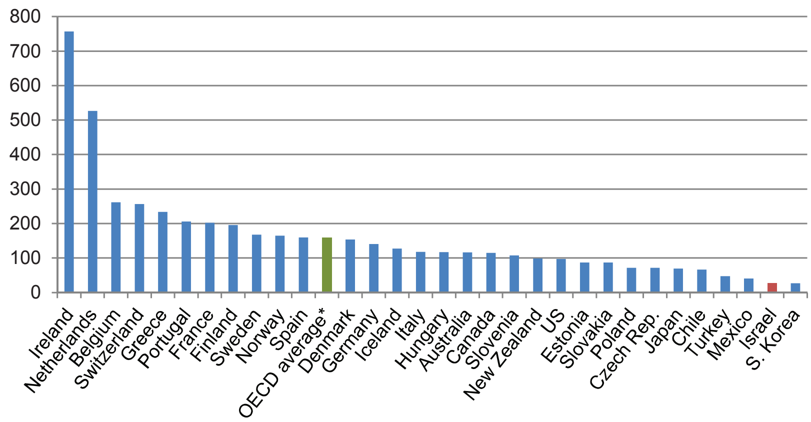


SOURCE: Based on Central Bureau of Statistics

[9] The international comparison presented in this work relates to 2016.

- By international comparison, Israel's gross external debt to GDP ratio is lower than that of most other OECD countries. The average ratio among OECD countries was 159 percent at the end of 2016 (Figure 2).

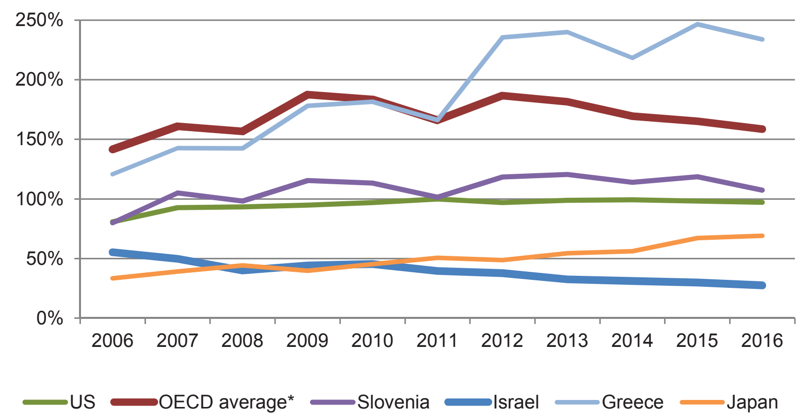
Figure 2
Gross External Debt to GDP Ratio, December 2016 (percent)



* The OECD average does not include Luxembourg, where the debt to GDP ratio is a statistical outlier.
SOURCE: Based on Bloomberg.

- When comparing the development of Israel's gross external debt to GDP ratio with that of other OECD countries between 2006 and 2016, the decline in Israel's ratio is prominent compared with the increase in the ratios of the comparison countries, mainly due to the Global Financial Crisis of 2008–9 (Figure 3).

Figure 3
Gross External Debt to GDP Ratio, 2006–16 (percent)

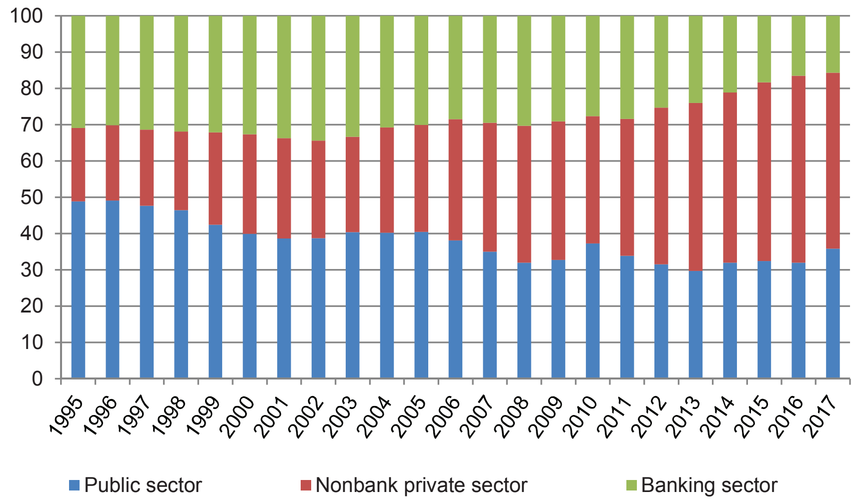


* The OECD average does not include Luxembourg, where the debt to GDP ratio is a statistical outlier.
SOURCE: Based on Bloomberg.

4.2 Distribution of gross external debt by sector

- A breakdown of external debt by sector indicates a marked increase in debt by the nonbank private sector as a share of total gross external debt from about 20 percent in 1995 to about 50 percent in 2016. This increase was a result of this sector's increased outstanding debt, from about $9.8 billion in 1995 to about $43.3 billion in 2017, inter alia against the background of the economy's openness to abroad and an increase in imports (Figure 4).

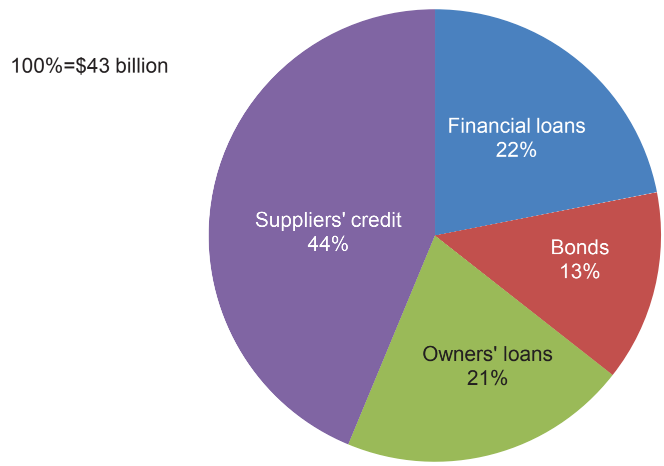
Figure 4
Composition of Gross External Debt by Sector, 1995–2017 (percent)



SOURCE: Bank of Israel.

- Public sector debt as a share of total gross external debt declined from about 49 percent in 1995 to about 36 percent in 2017, despite the increase in this sector's outstanding debt. The balance of this debt reached about $32 billion in the past decade, an increase that resulted mainly from the increase in outstanding government bonds.

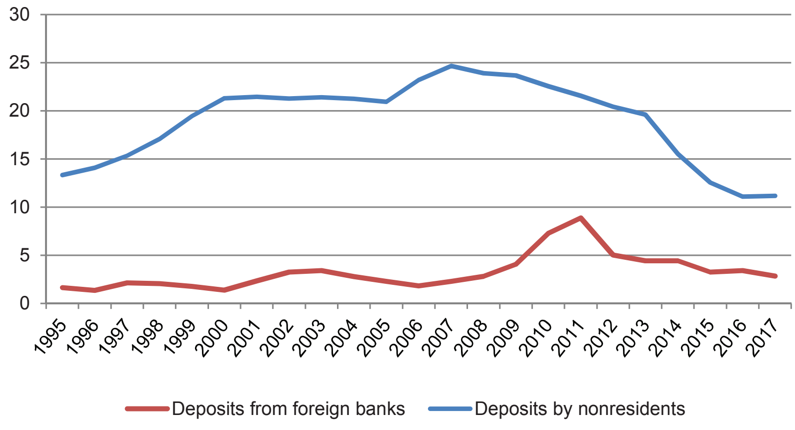
Figure 5
Outstanding Gross External Debt of the Nonbank Private Sector, by Instrument, 2017:Q4



SOURCE: Bank of Israel.

- **The nonbank private sector**—The outstanding gross external debt of the nonbank private sector is comprised mostly of suppliers' credit and financial loans. Alongside the increase in the outstanding debt of this sector since 1995, the mix of debt remains virtually unchanged.
  - **The banking sector**—The outstanding gross external debt of the banking sector is comprised mostly of deposits by nonresidents (foreign exchange). The balance of nonresidents' deposits in Israeli banks increased until 2007. Since then, there has been a marked trend of withdrawals from those deposits. This trend accelerated in the past four years (Figure 6), inter alia due to more stringent foreign investment reporting requirements in the United States (FATCA 2003).

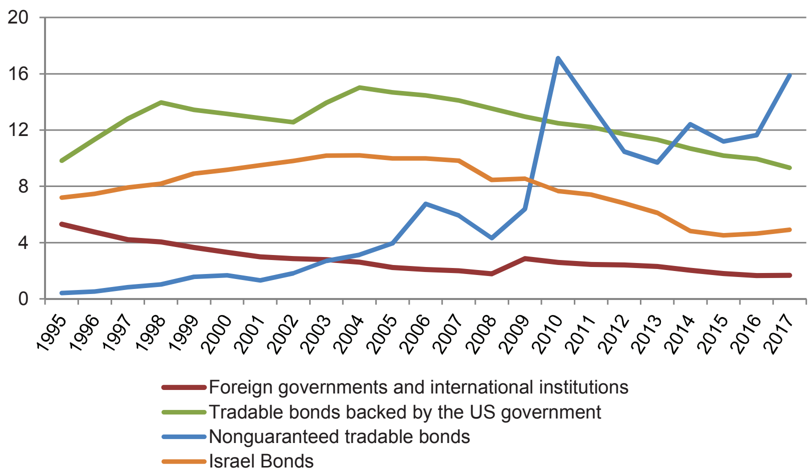
Figure 6
Outstanding Gross External Debt of the Banking System, by Instrument, 1995–2017 ($ billion)



SOURCE: Bank of Israel.

- **The public sector**—A breakdown of the public sector's gross external debt by instrument shows a continued increase in tradable nonguaranteed bonds. At the beginning of the reviewed period, the balance of tradable bonds—both those backed by the US government and those that are not guaranteed—increased. Following the Global Financial Crisis of 2008–9, due to the decline in interest rates on world markets, the balance of guaranteed tradable bonds declined sharply, as a result of the halt in raising debt in this channel. In parallel, there was a marked increase in nonguaranteed bonds (Figure 7).

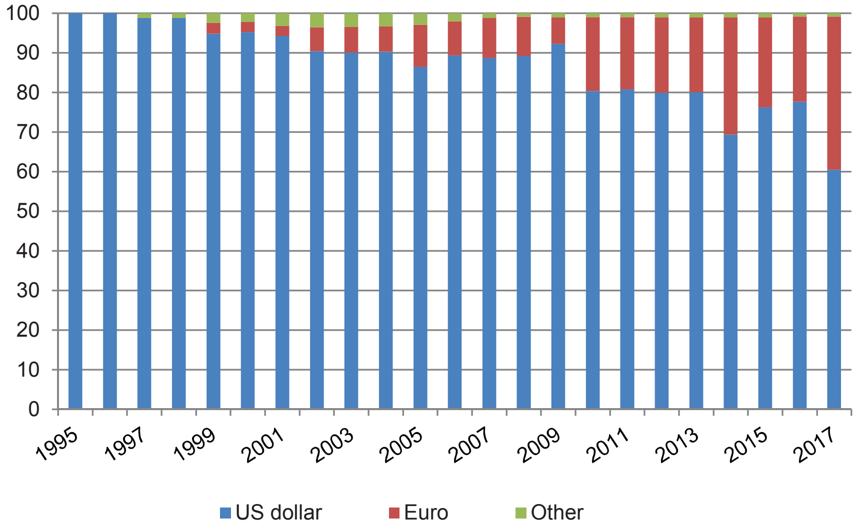
Figure 7
Outstanding Gross External Debt of the Public Sector, by Instrument, ($ billion)



SOURCE: Bank of Israel.

- The currency composition of the public sector's tradable debt changed over time, following the first issuance of nonguaranteed euro bonds in 1997. In 2005, the issuance of bonds backed by the US government (in US dollars only) was halted, and nonguaranteed bonds began being issued alternately in euros and in US dollars. In 2017, there were two issuances in euros totaling €2.25 billion (Figure 8).

Figure 8
Currency Composition of the Public Sector's Tradable External Debt, 1995–2017 (percent)



SOURCE: Bank of Israel.

4.3 Gross and net external debt

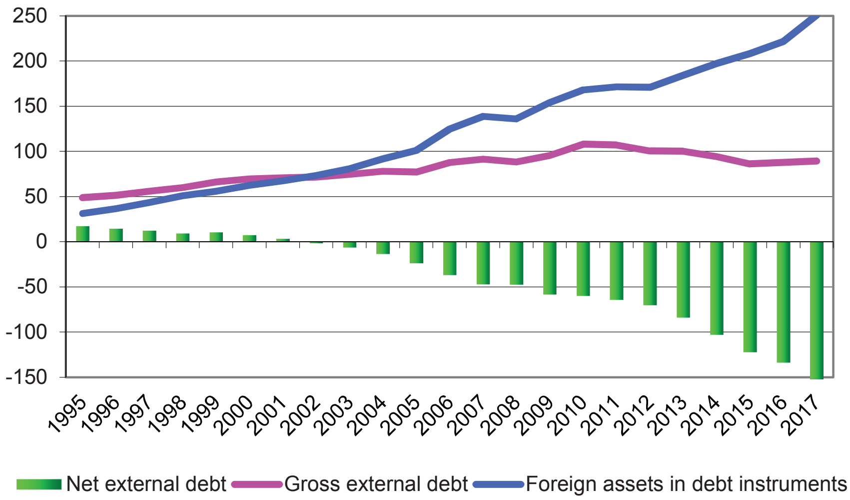
The following table shows Israel's assets and liabilities vis-à-vis abroad in debt instruments. The table summarizes outstanding liabilities by nonresident borrower sector and outstanding assets by lender sector toward abroad divided into credit durations.

Table 2: Israel's External Debt: Gross, Net and Forecast of Actual Repayment
(balances, $ million)

			Repayment/ Realization			Repayment/ Realization	
		Total balance 31.12.16	Within 1 year	Beyond 1 year	Total balance 31.12.17	Within 1 year	Beyond 1 year
Israel's gross external debt to abroad							
1	Public sector	28,024	1,561	26,463	31,921	2,376	29,545
2	Nonbank private sector	45,220	20,702	24,518	43,927	21,710	21,587
3	Banking system	14,489	12,603	1,886	13,995	12,169	1,826
4	Total gross external debt (1+2+3)	87,733	34,866	52,867	89,213	36,255	52,958
	(Percentage)	100	40	60	100	41	59
Israel's assets abroad (debt instruments)							
5	Public sector	101,415	101,415	0	115,691	115,691	0
6	Nonbank private sector	89,918	27,544	62,374	100,652	28,392	72,260
7	Banking system	30,147	19,153	10,994	34,591	21,633	12,958
8	Total assets abroad (5+6+7)	221,480	148,112	73,368	250,934	165,716	85,218
	(Percentage)	100	67	33	100	66	34
Israel's net external debt to abroad							
9	Public sector (1-5)	-73,391	-99,854	26,463	-83,770	-113,315	29,545
10	Nonbank private sector (2-6)	-44,698	-6,842	-37,856	-57,355	-6,682	-50,673
11	Banking system (3-7)	-15,658	-6,550	-9,108	-20,596	-9,464	-11,132
12	Net external debt (4-8)	-133,747	-113,246	-20,501	-161,721	-129,461	-32,260

- Israel's external assets in debt instruments increased in recent years, mainly due to a marked increase in foreign exchange reserves held by the Bank of Israel. The growth rate of foreign assets exceeded that of outstanding gross external debt, resulting in a continued decline in net external debt (surplus liabilities over assets in debt instruments only). At the beginning of the 2000s, net external debt even became negative, meaning that the economy is a net lender to abroad (Figure 9).

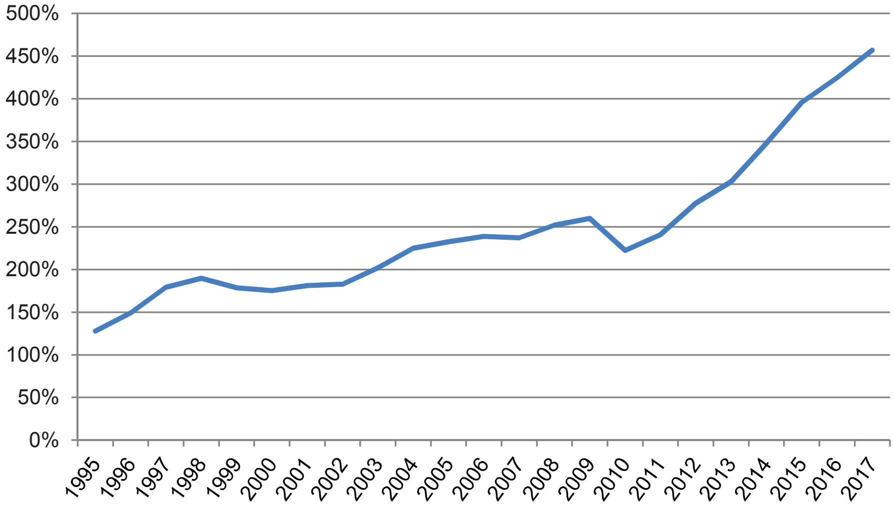
Figure 9
Net External Debt*, 1995–2017 ($ billion)



* External debt minus Israel's assets abroad in debt instruments (excluding share capital).
A negative value means the economy is a net lender to abroad.
SOURCE: Bank of Israel.

- The coverage ratio of short-term gross external debt by short-term debt assets shows that the economy has a high level of liquidity available to it, and is financially robust. This coverage is characterized by a constant upward trend, and at the end of 2017, it reached coverage of close to 5 times, mainly due to an increase in the foreign exchange reserves held by the Bank of Israel. The upward trend in this ratio has even accelerated since 2010, when the ratio was just two times (Figure 10).

Figure 10
Coverage Ratio between Debt Assets and Short-Term Gross External Debt, 1995–2017



SOURCE: Bank of Israel.