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Ministry of Finance
Accountant General Office

ANNUAL REPORT

Debt Management Unit in the Accountant General Division

2016



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Message from the Accountant General

The past year has posed significant challenges to government debt management. The global macroeconomic environment, the commencement of processes of separation between the U.S. monetary policy and that of Europe, and political upheavals in western countries with a significant impact on the economic policy of these countries has led to high volatility in the capital and commodity markets. Additionally, internal challenges, headed by the increase in assets of pension funds and insurance companies, and as a result an increase in issues of designated bonds, required adjustments to the debt management policy, in order to balance the state's considerations in its capacity as a sovereign and as the issuer that supports the tradable and deep capital market.

Over the course of the year, the Debt Unit of the Finance Division in the Accountant General's Department acted to implement the debt management policy, while dealing with these challenges. For this purpose, the Unit increased its use of advanced tools, such as switch Auctions and early redemption tenders, as well as opening new bond series, which helped reduce the government debt rollover risk and smooth out the redemption curve. It also created a flexible debt structure, which can be adapted and undergo rapid changes in financial markets. The Unit's activity in reducing the government debt rollover risk by extending the redemption range peaked in January 2017, upon the issue of 10- and 20-year bond series, totaling over EUR 2 billion.

The trend of improvement in the Israeli market in key economic indicators, headed by the ongoing decrease in the debt-to-GDP ratio and the decrease in interest expenses relative to GDP at an absolute level, led to a decrease in the debt burden from the state budget and allowed for the redirection of resources to the implementation of government policy in the social and infrastructure fields that encourage growth in the economy. The increase in the State of Israel's credit rating by Fitch to A+ in November 2016 serves as an additional indication of this trend.

Such improvements would not have been possible without the implementation of a responsible and innovative policy in managing government debt. We intend to continue improving the debt management system in 2017 as well, in order to strengthen the financial soundness of the Israeli economy and its ability to withstand shock, and to support sustainable growth in the coming years.

I would like to thank the employees of the Debt Management Unit in the Finance and Credit Division, who are working professionally and diligently to overcome these challenges.

Respectfully,

Rony Hizkiyahu

Accountant General

Section A: Introduction

We are pleased to present the 15th Annual Report of the Government Debt Management Unit in the Accountant General's Department for 2016.

Global Funding Environment in 2016

The stock markets began 2016 with sharp drops in light of the first increase in U.S. interest rates (December 2015) since 2006, coupled with a continued slowdown in Chinese growth. Over the course of the year, financial markets were influenced by the decoupling processes between economic policies in different markets, as well as by a number of significant political-economic events.

In light of the bank's forecasts regarding four interest rate increases in 2016, the Federal Reserve restated over the course of the year its policy of raising interest rates subject to the state of the U.S. economy. Contrary to forecasts, the Fed performed an additional increase in December 2016. On the other hand, the European Central Bank and the central bank of Japan continued with a "dovish" policy. This, among other things, was done by expanding the purchasing plans, decreasing interest rates on deposits in Europe to a negative level of -0.4% and decreasing the central Japanese interest rate to a negative rate of -0.1% for the first time.

The uncertainty in Europe regarding the geopolitical situation continued. Note in particular the British referendum of June, at which the UK voted to exit the European Union: the Brexit. As a result of the referendum, British Prime Minister David Cameron resigned, and the pound sterling dropped sharply relative to leading currencies. Stock markets responded by dropping, which was rapidly replaced by increases. Continuing this event, we may note the Italian referendum from early December, which rejected massive constitutional reforms. As a result of the referendum, Prime Minister Matteo Renzi resigned, while the market response was moderate. In 2017, the European political situation is expected to draw further interest, thanks to elections in Germany, France and the Netherlands.

Following the results of the November 2016 U.S. general elections, in which Donald Trump was elected president, stock markets rose, as did the U.S. dollar compared to all leading currencies (and drops in government bond markets).

Wall Street indices were up, led by the Dow Jones Index, which was up by 13.4% and finished the year near its all-time peak. The S&P 500 rose 9.5% and the NASDAQ 7.5%. On the other hand, the leading indices in Europe were traded with mixed results: the German DAX Index rose by 6.9%, the French CAC 40 rose by 4.9% and the UK FTSE 100 rose by 14.4% (in local currency terms, which weakened by 16% vs. the USD due to the Brexit). The Italian FTSEMIB index dropped by 10.2%.

The Japanese NIKKEI Index increased by 0.42% this past year, following a drop of more

than 21% by June, while the Shanghai Index dropped by 12.3% on a yearly basis, in light of a moderate slowdown in the growth rate of 6.7% in 2016 (compared to 6.9% in 2015 and 7.3% in 2014).

After late 2015 saw the lowest prices since 2004, energy prices increased, with petroleum prices increasing by over 50% by the end of the year. Oil prices were influenced, among other things, by agreements with OPEC countries and major manufacturers to decrease production. Commodities prices also recovered, in light of the U.S. elections, and market estimates regarding the new administration's economic policy.

Israeli Funding Environment in 2016

2016 was characterized by mixed trends in the Tel Aviv Stock Exchange. The Tel Aviv 25 Index dropped by approximately 3.8%, after an approximate 4.6% increase the previous year. The index was influenced by a drop in the pharmaceutical companies' stocks, notably the Teva Company's stock, which dropped by over 45%. The Tel Aviv 100 Index dropped by 2.5% on a yearly basis, while the Tel Aviv 75 Index increased by 17%, after a 5.5% decrease in 2015.

The Bank of Israel kept interest rates at a historical low point of 0.1% (since March 2015), in light of the low inflationary environment in Israel and around the world. The Consumer Price Index dropped 0.2% in 2016, after a 1% decrease in 2015 and a 0.2% decrease in 2014. The past five years have seen a cumulative increase of just 2% in the CPI. Without housing, the CPI dropped 0.7% in yearly terms. Sections that saw an increase this year are: housing, apartment maintenance, health, education, culture and entertainment, and miscellaneous. On the other hand, decreases were noted in the following items: food, vegetable and fruit, furniture and home equipment, clothing and footwear, transportation and communications.

Over the course of the year the USD/NIS exchange rate ranged from 3.74-3.98 NIS per USD compared to 3.75-4.05 NIS per USD in 2015. At the end of the year, the exchange rate was 3.85 NIS per USD, compared to 3.89 at the beginning of the year. The EUR-ILS exchange rate was 4.06 NIS per euro at the end of 2016, compared to 4.23 NIS per euro at its beginning, after growing more than 10% stronger in 2015. Against the 26 currencies representing Israel's 33 primary trading partners, as was weighted in the effective nominal exchange rate, the NIS grew 4.8% stronger, following a 7.3% increase in 2015.

The government bond market saw moderate price increases of approximately 0.9% this past year, following a 1.6% increase in 2015 and 6.5% increase in 2014. The CPI-linked government bond index increased by 0.7% (nominal), while the nominal fixed-coupon government bonds listed a 1.3% increase (nominal), compared to 3.3% increases in the previous year.

The corporate bonds increased by 3.9%, following a 2.2% increase in 2015, with the Tel-Bond 20



increasing by 4.1%. Total funding by companies amounted to approximately NIS 63.3 billion on the TASE, a historic record, compared to approximately NIS 54.5 billion in 2015. Of the various industries, the real estate companies continued to lead the funding, raising approximately NIS 21.5 billion compared to approximately 20 billion in the previous year. The banking industry raised approximately NIS 16 billion, compared to approximately 18 billion in 2015.

Trading volumes in the bond market dropped by approximately 10% relative to the previous year, amounting to approximately NIS 3.8 billion per day. The average daily trading volumes in government bonds dropped by approximately 13%, while the average daily trading volumes in the corporate market increased to approximately NIS 830 million per day from NIS 770 million.

Israeli Fiscal Trends

The government debt funding in 2016 amounted to approximately NIS 99 billion. Money raised in 2016 was broken down as follows: approximately NIS 88 billion originating from funding in the domestic market, and the balance, approximately NIS 12 billion, from foreign currency funding in foreign markets. The net amount of funding in 2016 amounted to approximately NIS 22 billion, and represents an increase relative to the net amount of funding in the previous year, which amounted to approximately NIS 20 billion.

The decrease in debt to GDP ratio continued in 2016 as well. The rate of government debt from output was 60.6% vs. 62.4% in 2015, and the public debt to GDP rate (including debts of local authorities) was 62.2% vs. 63.9% in the previous year. The primary explanation for the decrease in the past year in the ratio of public debt to GDP in Israel is a relative increase in nominal GDP relative to the government debt inventory, in light of the level of growth and GDP prices, as well as due to the negative inflation rate. An improvement in this rate serves as a positive indicator for the state's financial soundness and its ability to repay its obligations. Furthermore, due to the fact that this indicator is a key index in determining the state's credit rating, the ongoing improvement in this ratio supported an improvement in the country's credit rating in recent years.

The deficit in the state budget in 2016 amounted to NIS 25.5 billion, which is 2.1% of the GDP. In the original 2016 budget, a NIS 35 billion deficit was planned, which according to the original design was expected to reach 2.9%. The deficit deviation in relation to the original budget plan reflects higher-than-forecast revenues, totaling NIS 9.9 billion, and higher expenses than planned in the original budget totaling NIS 0.3 billion.

Interest expenses relative to GDP at the end of 2016 were 3.07%, compared to 3.29% in 2015. The debt rollover in 2016 was carried out at low interest rates, in light of the comfortable funding environment. Such funding allows a decrease of the debt burden on the state budget and

helps with significant savings in interest payments in coming years. The decrease in interest expenses relative to GDP increased, with the decrease in the cost of tradable debt carried out parallel to the continued support of a relatively long debt portfolio.

Long-Term Debt Management Policy

As part of the long-term policy, two government curves are supported, a linked curve and an NIS (nominal) curve. These assist in creating a reference point for corporate issues in Israel and in order to help in pricing financial GDP in the capital market (**for more see Section B**).

The following are the primary funding tools used in 2016:

Tradable Domestic Debt

- **Current issues:** The primary dealers undertake to purchase government bonds totaling NIS 2 billion per year or 4% (the lower of the two) of the total of NIS and CPI-linked bonds issued as part of the competitive tenders on the local market. The Unit raised NIS 48 billion through current tenders.
- **Swap tenders:** As part of improving the government debt management, and in order to reduce the rollover risk, funding was carried out via swap tenders amounting to approximately NIS 16 billion (compared to approximately NIS 8 billion the previous year).
- **Buyback Auctions:** As part of the government's cash balance management and savings in interest budget, the debt underwent early redemption through buyback auctions amounting to approximately NIS 3.7 billion (compared to approximately NIS 4.1 billion the previous year). The use of these advanced liquidity tools is part of the yearly recruitment plan, and its purpose is to support strategic debt management goals, subject to market conditions and the government's financing needs. In addition, use of these tools increases flexibility in debt management and allows rapid adaptation to changes in the macroeconomic environment (**for more see Section D**).
- The following is a partial list of goals:
 - Decreasing the rollover risk by replacing short bonds with long bonds, allowing a smoothing out of the redemption curve and an extension of the redemption range of government debt
 - Managing government cash balances
 - Savings on interest budgets
 - Increasing tradability and liquidity in government bonds, mainly by issuing Off-the-Run bonds

Non-Tradable Domestic Debt

- **Designated bonds for pension funds:** issuance of “Arad” type designated bonds totaling NIS 17.6 billion compared to NIS 18.7 billion the previous year (**for further details see Appendix B**).
- **Designated bonds for insurance companies:** issuance of “Hetz” type designated bonds totaling NIS 5.7 billion (compared to NIS 4.8 billion the previous year).
- **Emissions and deposits managed by the Ministry of Finance:** funding through this segment amounted to approximately NIS 524 million compared to approximately NIS 550 million the previous year.

External Debt

- **Sovereign issuance:** In March 2016, a two-tranche issue in USD was executed in the global market: a 10-year series amounting to USD 1 billion, with a yield of 2.942% and a coupon of 2.875%, and an expansion of an existing 30-year series by USD 500 million, at a yield of 4.181% and with a coupon of 4.5%. This was the 11th USD issue made by the State of Israel following a three-year absence from the market. The bond issue for 10 years was characterized by the lowest funding cost the State of Israel has paid in a dollar issue. The dual issue was characterized by particularly high levels of demand of approximately USD 8.3 billion, and took place after an extended round of meetings with foreign investors, carried out by the Unit for Managing Government Debt in Europe, Asia and the United States. This issue showed an expression of trust by foreign investors in general, and the United States in particular, in the State of Israel's ability to repay medium- and long-term debt, and was indicative of the State's varied financing options in various markets and currencies. In addition, in January 2017 a series was issued for the first time for a term of 20 years amounting to EUR 750 million, the longest term for the State of Israel, as well as a 10-year issue of EUR 1.5 billion.
- **Development Corporation for Israel (Israel Bonds):** In 2016, the DCI raised USD 1.3 billion, compared to USD 1.2 billion in 2015. The total funding by DCI in 2016 amounted to a positive cash funding of approximately USD 250 million.

Challenges for Government Debt Management in 2017

- **Implementing an effective policy for managing government debt:** The fluctuations in global markets in light of increased U.S. interest rate and the decoupling between the U.S. economic policy and that of Europe poses challenges for managing debt. Maintaining a funding plan that reflects the strategic goals, alongside tactical adaptation to changes

in financial markets, will allow long-term and effective planning of debt management (**for further details see Section B**).

- **Designated bonds:** In accordance with the 2003 reform, the Debt Management unit issues designated bonds amounting to 30% of the pension funds assets. The purpose of these issues is to support financial savings. At the same time, as these bonds bear a high coupon relative to tradable government bonds, and on a de facto basis these issues finance financial savings using the interest budget. In addition, these bonds press the tradable debt, thus increasing the State's funding costs and interest expenses on debt, which are poor relative to other peer countries. The volume of issues of non-tradable bonds in 2016 amounted to approximately NIS 24 billion, approximately 27% of the total funding amount (compared to approximately NIS 24 billion the previous year, approximately 32% of the funding). The total yearly subsidy for the designated bonds is NIS 5.8 billion (NIS 4.3 billion for the pension funds and NIS 1.5 billion for the insurance companies). This subsidy constitutes an approximate 21% increase over the subsidy of the previous year, which was NIS 4.8 billion (**for further details see Appendix B**).
- **Exposure to Consumer Price Index:** The rate of CPI-linked debt is 41% of the total debt. A historical examination of the volume of linked debt shows that in the past three years, exposure to the CPI has been 47%-50%, after a significant decrease in previous years. Note that the capital market's need to issue CPI-linked government bonds, which constitute a reference point for corporate issues, and the issue rate of designated bonds, which has been increasing in recent years, makes it difficult to continue reducing the CPI-linked debt component (**for further details see Section C**).

Section B of this report describes the policy goals of the Debt Management Unit. **Section C** presents the government debt array as well as indices for assessing financial risks in the debt. **Section D** reviews the activity in the primary market both in local debt and in external debt, with an emphasis on detailing sources of financing. **Section E** details the key developments in the secondary market.

Respectfully,

Yali Rotenberg
Senior Deputy to the Accountant General
Head of Financial Division

Gil Cohen
Head of Government Debt Unit

Section B: Risk Management Goals & Policy

The Risk Management Unit's activity focuses on financing government activity, while serving long-term debt management goals.

This policy refers both to the State's considerations as a sovereign - acting to support and develop the government bond market, and the State's considerations as issuers - acting to lower recruitment costs and reduce risk. The debt funding and the policy for its management have a direct impact on the rate of government debt from GDP and on the burden of interest in the State's budget. Long-term strategic planning and maintaining a stable and consistent policy help with the effective management of government debt and increasing flexibility and certainty in its management with players and others active in the capital market.

The following are the secondary goals in local debt:

1. Focusing on large series for fixed terms (benchmarks), as is accepted around the world.
2. Increasing the bonds' tradability and liquidity.
3. Weighting the government bond market and developing new products.

The following are secondary goals in external debt:

1. Diversifying the government's sources of finance and creating a benchmark for issues by Israeli companies abroad.
2. Expanding the base of investors in government bonds.
3. Improving the credit rating of the State of Israel as much as possible and decreasing the risk premium of the State of Israel abroad.

Government Debt Risk Management

Government debt risk management focuses on managing financial risks in accordance with the desired risk level (risk appetite) and the minimum possible cost. Optimization of the government debt portfolio in terms of minimizing risks and costs will allow optimal management of the portfolio.

The following are key financial risks:

1. Refinancing risk - the risk will not be able to uphold its obligations to pay past risks. This risk is the main risk States face in managing the government debt portfolio. The risk assessment is carried out both by examining the extent of short-term debt (debt redeemed over the coming year) relative to the total debt (rollover ratio) and by the average time to maturity (ATM). This risk is reduced by maintaining a fixed policy, in which fixed amounts are issued for fixed terms (benchmarks), with the goal of smoothing out the redemption curve.
2. Liquidity risk - the risk that the existing sources of finance are not enough to finance the

State's needs. This risk is decreased by managing the liquidity risks based on a central scenario, pressure scenarios and extreme scenarios.

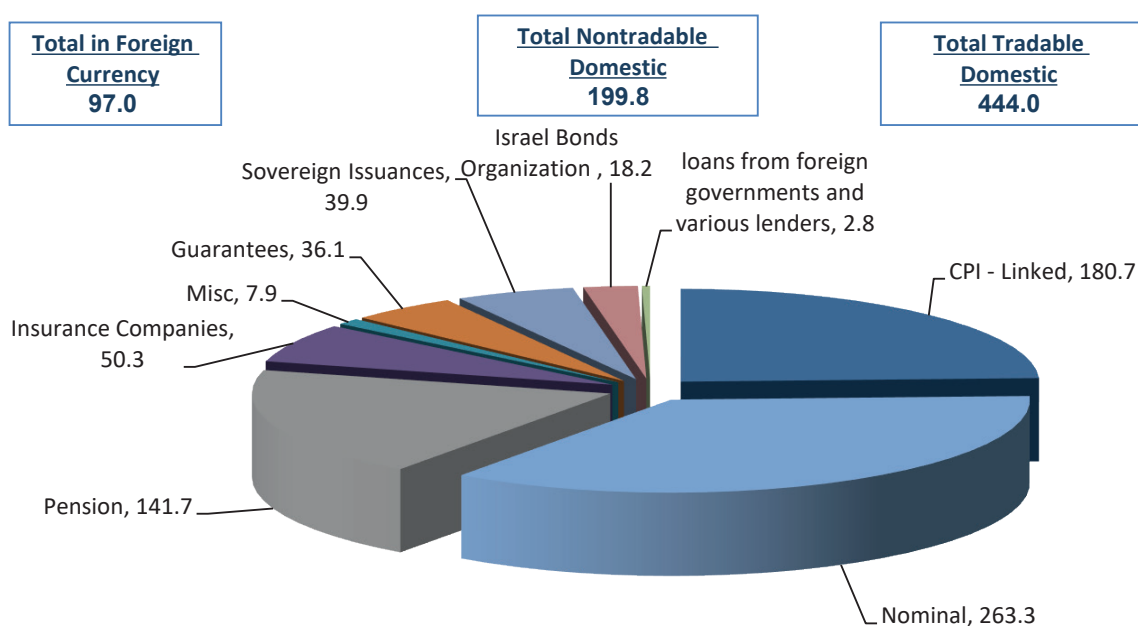
3. Market risks - changes in government debt and the interest budget as a result of changes in market factors (CPI, interest and exchange rate). This risk estimate is carried out via sensitivity analyses to government debt as described in **Section C** and its management is carried out by hedging exposure by financial instruments (such as forward transactions).
4. Credit risks - the State's activities in hedging agreements exposes the government to credit risks in the event of insolvency on behalf of the opposite party of the transaction. In order to manage this risk, the State's activity in hedging transactions is with primary dealers, who have signed a CASA agreement under an ISDA contract. In accordance with this agreement, a weekly calculation is performed, according to which collateral is transferred at a weekly level above a minimum threshold in accordance with the fair value of the transactions. Transferring the collateral helps reduce exposure to the opposite party's insolvency risk.

Section C: Government Debt Portfolio

Government Debt

In 2016, the government debt increased by approximately 1.9% and amounted to NIS 740.8 billion, compared to NIS 726.7 billion the previous year. The primary reason for the nominal increase in government debt originates from net debt raised. On the other hand, the drop in the consumer price index contributed to a decrease in the government debt balance.

Chart C-1:
Structure of the Government Debt at the End of 2016 (NIS billions)



Sensitivity of Government Debt to Market Factors

Table C-1 below presents the sensitivity of government debt and the debt/GDP ratio to primary risk factors, such as the Consumer Price Index and changes in the exchange rates of foreign currencies, as of the end of 2016.

Table C-1
Sensitivity of Government Debt and Debt-to-GDP Ratio to Primary Risk Factors

	Change in government debt (NIS millions)	Change in government Debt-to-GDP ratio (Percent of GDP)
Accumulated increase in the CPI	3,805	0.31%
Increase in USD-NIS Exchange Rate in Percentage Points	812	0.07%
Increase in EUR-NIS Exchange Rate in Percentage Points	140	0.01%

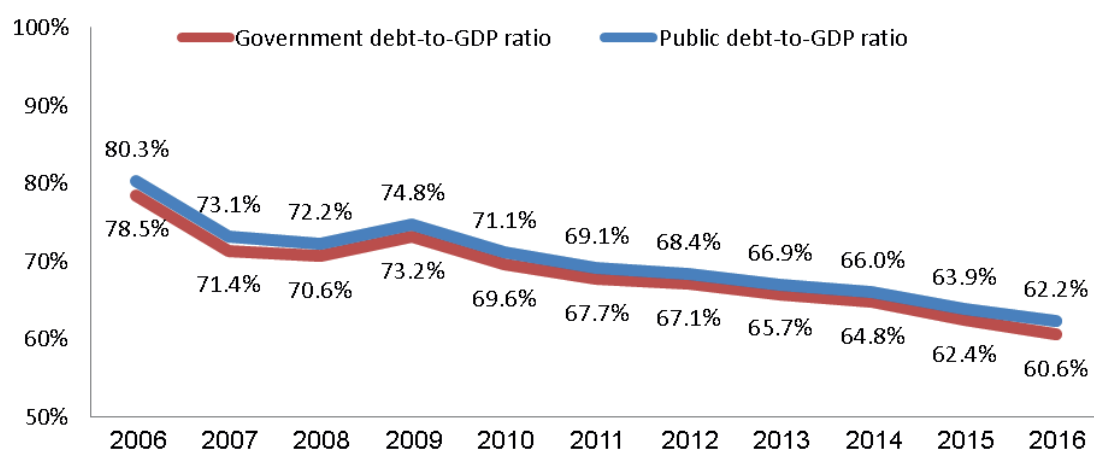
Ratio of Debt-to-GDP

The debt-to-GDP ratio is a key marker in establishing credit ratings and constitutes an indicator of the State's financial stability.

The continued trend of decreasing the debt-to-GDP ratio is a direct result of the economic policy, and it strengthens the State's financial soundness, particularly in light of the significant increase in this regard in developed countries, as expressed in Charts C-3, C-4 and C-5.

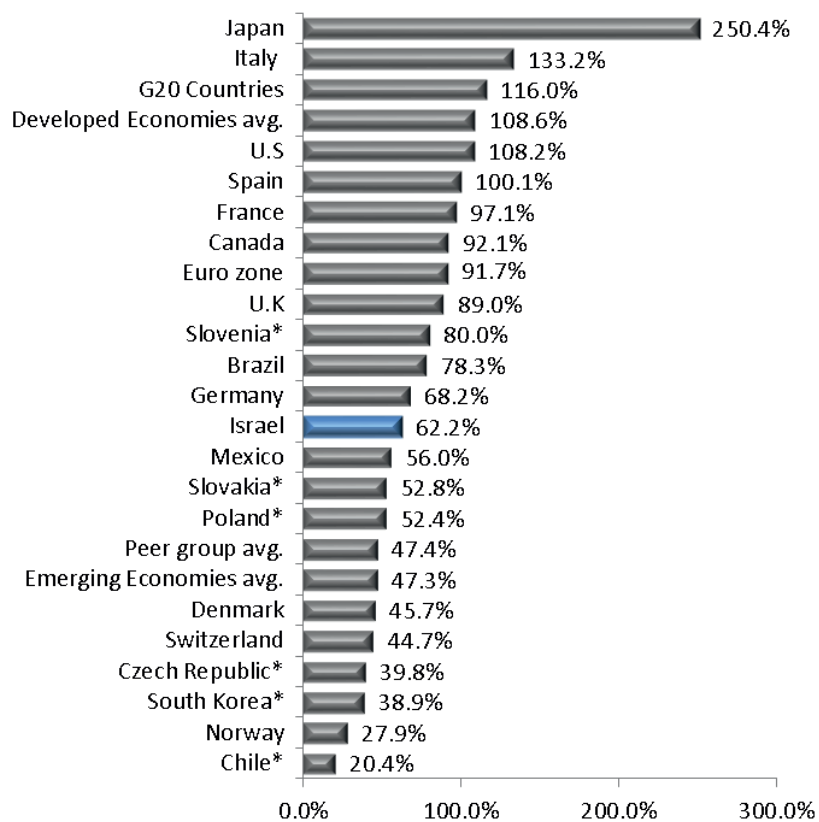
The public debt ratio (including additional debt, which is mostly debts of local authorities) is 1.7% smaller and amounted to 62.2%, compared to 63.9% in the previous year. The government debt ratio decreased by 1.8% and amounted to 60.6%, compared to 62.4% in the previous year.

Chart C-2:
Government and Public Debt-to-GDP Ratio in 2006-2016 (in Percentages)



Source: Ministry of Finance and Bank of Israel, 2016 GDP in accordance with national accounts of the Government Bureau of Statistics from March 9, 2017.

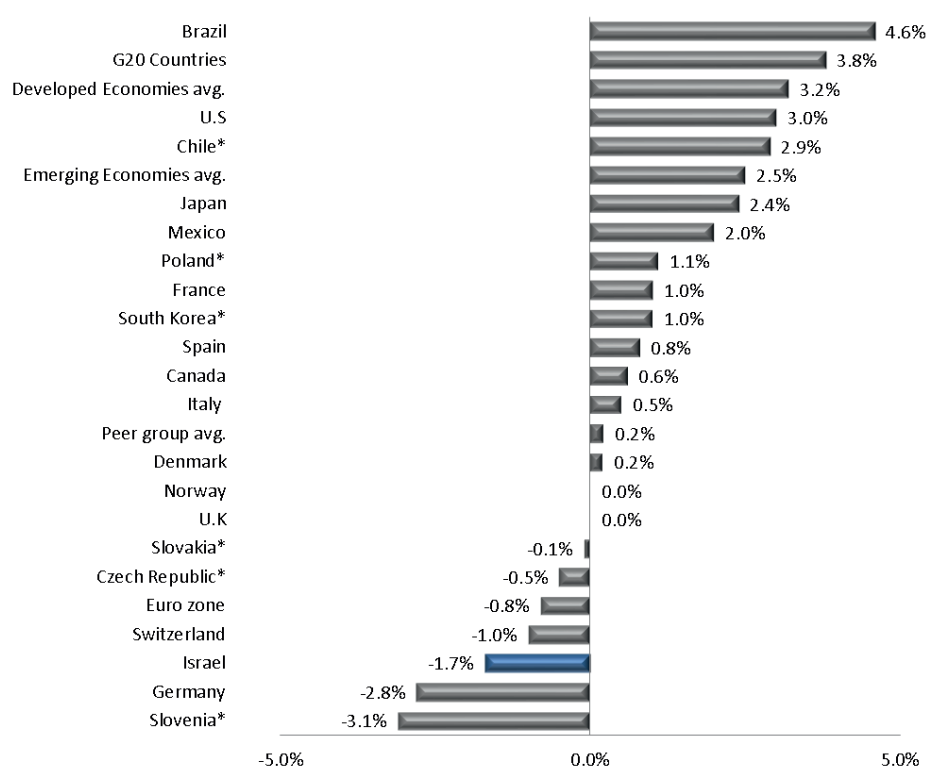
Chart C-3:
Ratio of Public Debt from GDP in 2016



Source: Israel - Ministry of Finance and Bank of Israel, 2016 GDP in accordance with national accounts of the Government Bureau of Statistics from March 9, 2017. Other countries - Fiscal Monitor, October 2016

* Peer countries.

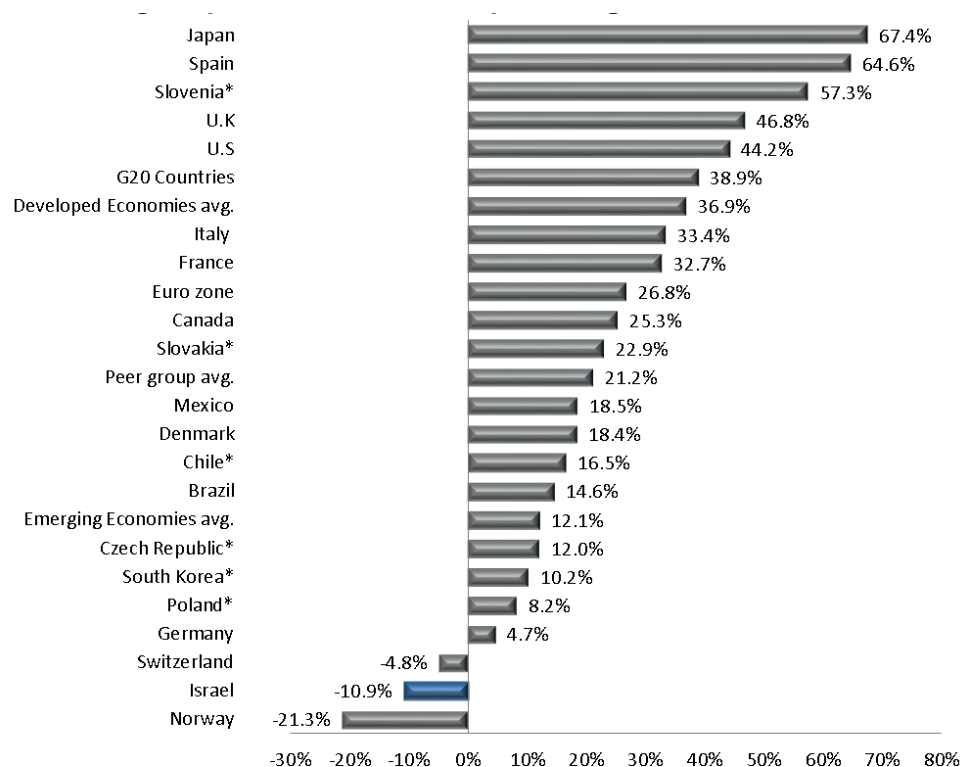
Chart C-4:
Change in Ratio of Public Debt to GDP between 2015 and 2016



Source: Israel - Ministry of Finance and Bank of Israel, 2016 GDP in accordance with national accounts of the Government Bureau of Statistics from March 9, 2017. Other countries - Fiscal Monitor, October 2016

* Peer countries.

Chart C-5:
Change in Ratio of Public Debt to GDP between 2008 and 2016



Source: Israel - Ministry of Finance and Bank of Israel, 2016 GDP in accordance with national accounts of the Government Bureau of Statistics from March 9, 2017. Other countries - Fiscal Monitor, October 2016

* Peer countries.

The State of Israel's Credit Rating

The credit rating is an index of the ability of a bond issuer, including sovereign states, to comply with the bonds' principal and interest payments and test the degree of their commitment to repay the debts. A review by a rating company decreases the dimension of uncertainty the potential investor faces, and is necessary in order to issue bonds in global markets.

The three leading international credit rating agencies are Moody's, S&P and Fitch, with the State of Israel rated by all three agencies. The government's credit rating has a direct influence on other issuers, such as banks, companies and public bodies, as it serves as a reference point for pricing their bonds. Therefore, the credit rating is very important not only for the public sector - but for the economy as a whole. Note that the State of Israel has entered into yearly contracts with the rating agencies and pays them for their activity.

All of the credit rating agencies visited in Israel over the course of 2016 and published rating reports. Additional publications issued by the agencies were specific and included updates to investors on subjects such as macroeconomic data. In April 2016, rating agency Fitch upgraded the rating forecast of the State of Israel to "Positive" from "Stable" and continued with this trend by increasing Israel's credit rating to A+ from A with a "Stable" outlook. The other two rating companies left Israel's credit rating unchanged, at A1/A+, with a "Stable" outlook.

The State of Israel's strengths (according to credit agency reports):

- A durable, flexible and varied economy, supported by strong institutions, optimal structure of the government debt and financial flexibility, as well as strong external accounts.
- The flourishing high-tech sector and gas discoveries, as a source of future growth and income for the economy and the government.
- The ongoing increase in Israel's employment and the unemployment rate.

The State of Israel's weaknesses (according to the credit agency reports):

- Despite the drop in the debt-to-GDP ratio in recent years, the level of debt is still a weak point, as it is still higher than other countries in the peer group.
- The possible implications of the geopolitical situation on Israel constitute a restriction of the State's credit rating.

Table C-2
Israel's Credit Rating According to the Three Rating Companies

Rating company	Term	Domestic bond ratings	Forecast	Foreign bond ratings	Last change in rating
Moody's	Long term	A1	Stable	A1	Rating upgrade in April 2008 The forecast set - Stable
	Short term	-			
Standard & Poor's	Long term	A+	Stable	A+	Rating upgrade in September 2011 The forecast set - Stable
	Short term	A-1		A-1	
Fitch	Long term	A+	Stable	A+	Rating upgrade in November 2016 The forecast set - Stable
	Short term	+1F		F1+	

(More on credit ratings can be found in Appendix A)

Interest Expenses on Government Debt

Interest expenses in 2016 amounted to NIS 37.6 billion (compared to NIS 38.3 billion the previous year). The rate of interest expenses relative to GDP was 3.07% in 2016 compared to 3.29% in the past year, as presented in Chart C-6.

Chart C-6:
Interest Expenses Relative to GDP in 2006-2016 (NIS billions, percentage of GDP)

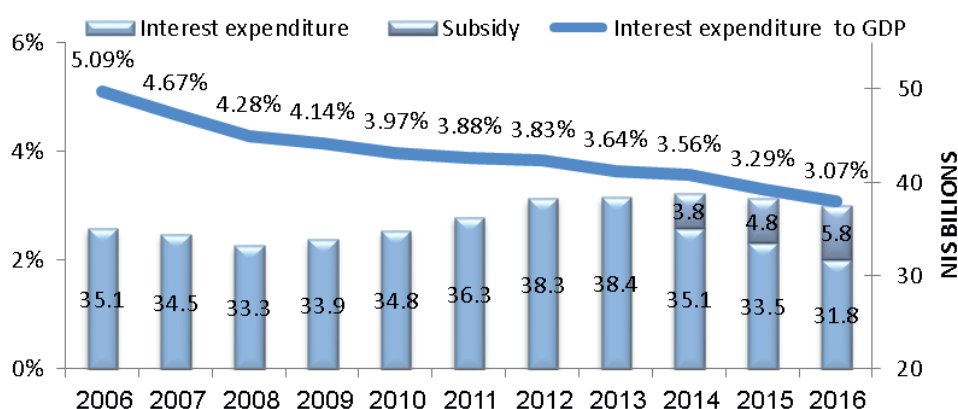
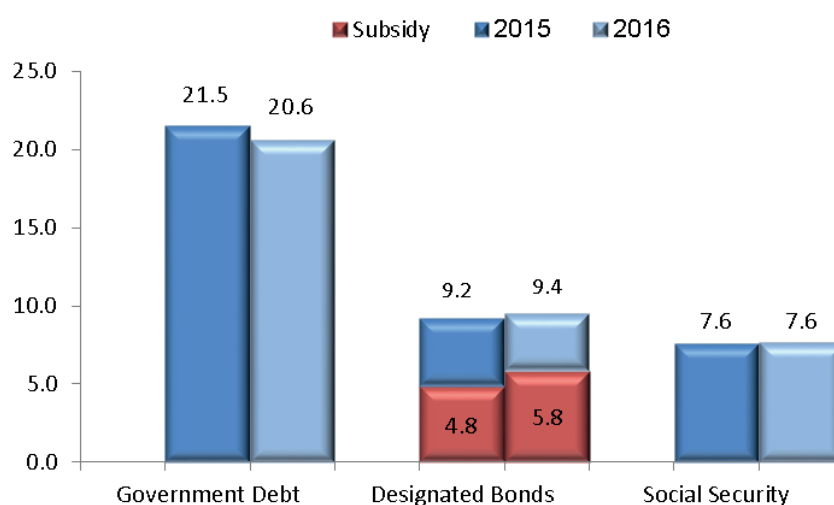


Chart C-7 presents the breakdown of interest expenses for government debt and for interest payments to the National Insurance in 2015 and 2016. As can be seen, the decrease in the rate of financing costs relative to government debt, which amounts to approximately NIS 0.9 billion, originates, among other things, from the debt refinancing at low debt funding costs, and from the inflationary environment, which was negative 0.2%. This ongoing decrease in recent years allows the release of budgetary resources to other government targets. Furthermore, we can see that the interest expenses on these designated bonds increased from a level of NIS 9.2 million to a level of NIS 9.4 million, in light of the positive net funding rate. The total current yearly subsidy is approximately NIS 5.8 billion - 4.3 billion to the pension funds and 1.5 billion to the insurance companies, which constitutes an increase of approximately 21% relative to the subsidy of NIS 4.8 billion in 2015 (3.5 to the pension funds and 1.3 to the insurance companies) (more on the subsidy can be found in Appendix B).

Chart C-7:
Breakdown of Interest Expenses between 2015 and 2016 (NIS billions)



Risk Indices in Government Debt

The refinancing risk is a key risk in the financial risk management policy of the government debt. The risk's realization means that the State is unable to uphold its obligations to pay past debts, and is in effect approaching insolvency. The risk assessment is carried out both by examining the extent of short-term debt (debt redeemed over the coming year) relative to the total debt (rollover ratio) and by the average time to maturity (ATM) of the government debt. This risk is managed by using a strategic model for long-term planning for flattening the redemption curve.

The model is based on the principle of maintaining a stable debt structure, which contributes to the risk appetite by setting a debt raising policy for fixed terms (benchmark terms), thereby creating a high level of certainty as to the extent of the redemptions. This model helps create a uniform volume of redemptions in a given year, increases certainty and transparency in the risk management policy and allows the creation of a consistent presence along the government curves.

Chart C-12 presents complementary indices for assessing the refinancing risk.

The volume of short-term debt (principle redemptions expected in the coming year relative to the total comprehensive debt (rollover ratio) and the short-term debt relative to GDP.

Chart C-13 presents the average time to maturity. Assessing the refinancing risk by the average time to maturity assists in maintaining the risk level in long-term design, while examining the short-term debt relative to the total debt and to the GDP help assess the refinancing risk in the immediate term, with an emphasis on the coming year. As Chart C-12 shows, the rollover ratio and the index and the short-term debt to GDP index remained similar to the previous year, at 9% and 6%, respectively.

Chart C-8
Short-Term Government Debt Relative to Total Debt and relative to GDP in 2006-2016
(in Percentage Points)

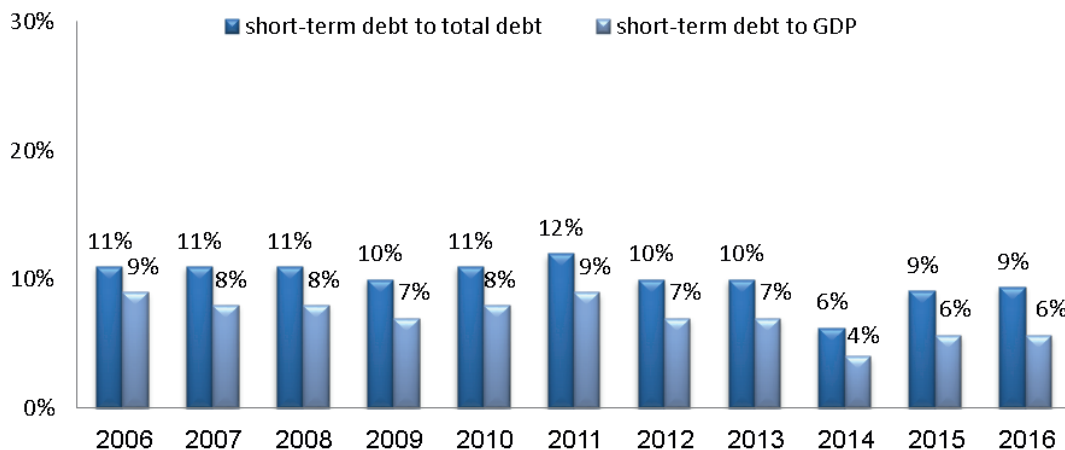
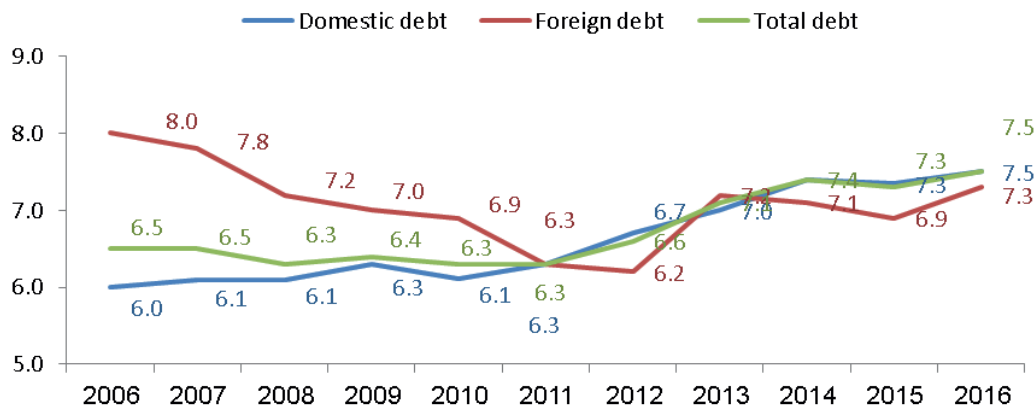
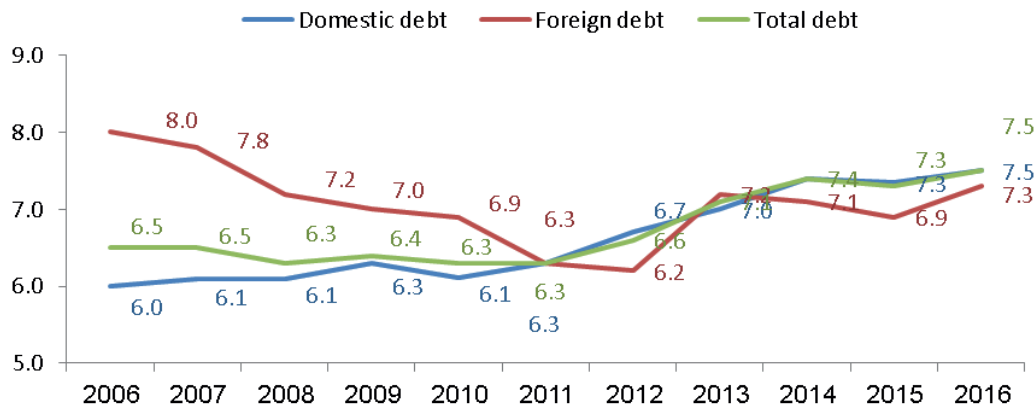


Chart C-9:
Average Time to Maturity of Government Debt in 2006-2016 (in Years)



The Modified Duration is an index that helps determine the influence of the interest rate on the debt's market value. Chart C-12 shows an increase in this index in recent years, in accordance with the trend of extending government debt. As noted, this index does not reflect the debt's refinancing risk, which is measured using other quantitative indices.

Chart C-10:
Standardized Average Life Span of Government Debt in 2006-2016 (in Years)



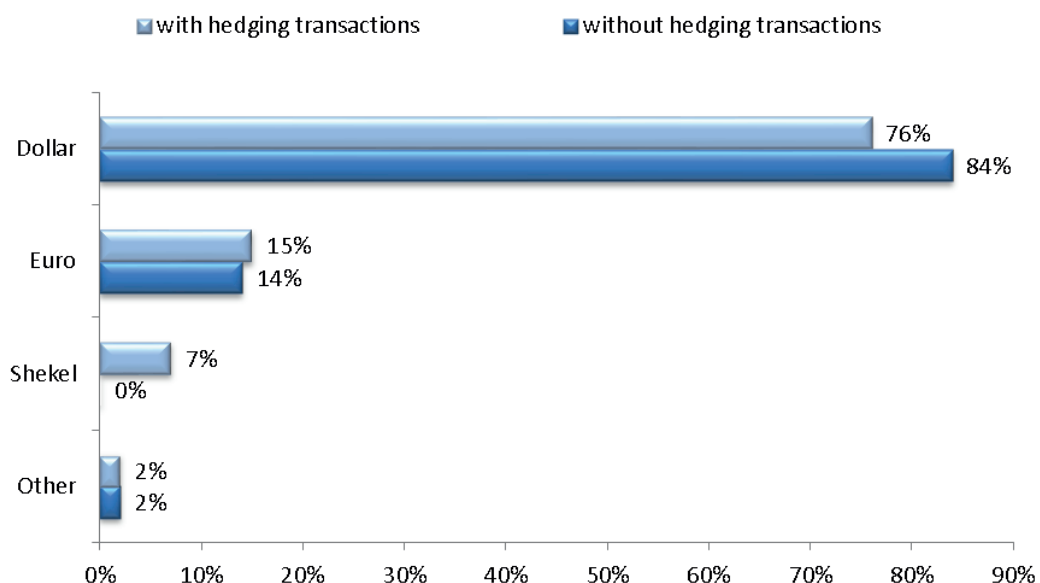
Hedging Currency Exposure of Government Debt

The debt rate denominated in foreign currency constitutes 13% of the debt portfolio. Furthermore, the debt mixture in foreign currency is characterized by the dominance of the dollar debt. As of the end of 2016 and without hedging agreements, 84% of the foreign currency debt is denominated in USD, 15% is denominated in EUR and the balance is in other currencies. As part of its policy of decreasing the exposure of the debt portfolio and the interest budget to changes in market factors, the Debt Management Unit performs USD-NIS short-term forward transactions. These transactions allow a decrease in the exposure of the government debt and the interest budget in the coming year to changes in the USD-NIS and EUR-NIS exchange rates.

Over the course of 2016, hedging transactions amounted to USD 1,656 million. All of the transactions are short-term forward transactions.

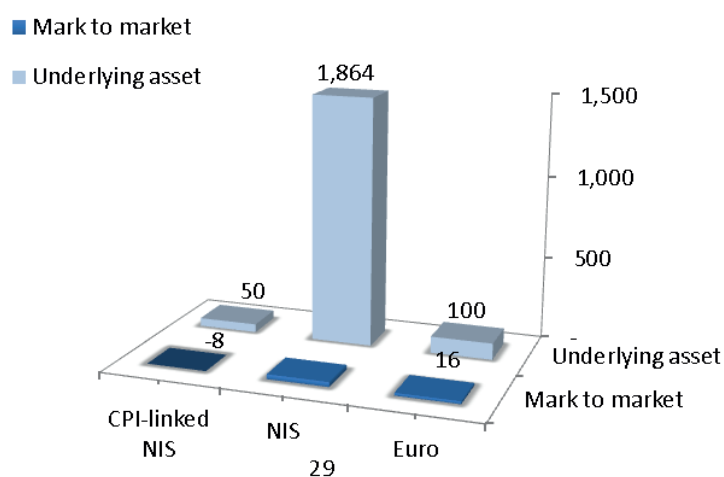
Parallel to decreasing the exposure to currency risk, the counterparty risk is managed as part of the shelf agreements of the ISDA (International Swap and Derivative Association), which arranges the legal proceedings for transferring securities. In accordance with the CSA (credit support annex), securities are transferred (margin call) in accordance with the fair value of the transaction (mark to market) and the threshold level set in the agreement.

Chart C-11:
Composition of Debt in Foreign Currency by Comprehensive Currency Distribution and Without Hedging Agreements (in Percentage Points)



As of December 31, 2016, the inventory of government hedging agreements amounted to USD 2,014 million, of which USD 100 million was in USD-EUR transactions, USD 3,115 million in USD-NIS and EUR-NIS transactions and USD 150 million in linked USD-NIS transactions. As part of managing the counterparty's risk, the fair value (Mark to Market) of all positions as of December 31, 2016 amounted to approximately USD 38 million.

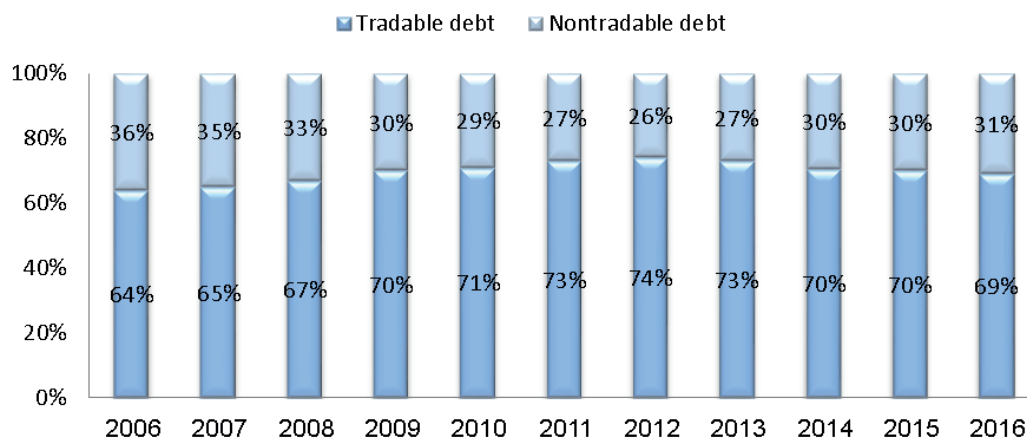
Chart C-12:
Balance of Hedging Transactions in USD millions, as of December 31, 2016



Domestic Debt

The balance of domestic debt (tradable and non-tradable) amounted to NIS 643.9 billion as of the end of 2016. Tradable debt amounted to NIS 444 billion, constituting 69% of the total domestic debt. The non-tradable debt increased by 5% and amounted to NIS 199.9 billion compared to 189.9 the previous year, which constitutes 31% of the total domestic debt. This increase originates from the increase in bond issues designated for pension funds as a result of the increase in their assets.¹

Chart C-13:
Breakdown of Domestic Debt to Tradable Debt and Non-Tradable Debt in 2006-2016
(in Percentage Points)

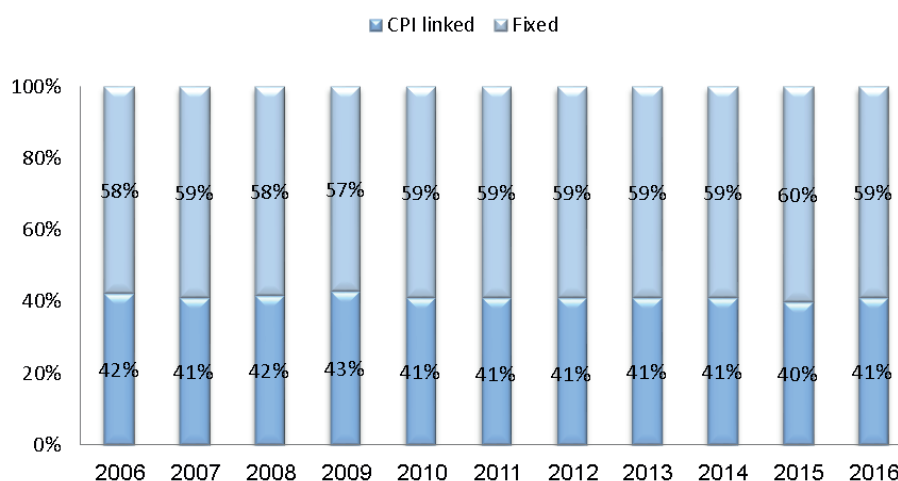


Tradable Domestic Debt

The distribution in tradable domestic debt between the nominal fixed-coupon segment and the CPI-linked segment changed in favor of the nominal fixed-coupon segment, mainly as a result of an NIS-oriented issue mixture and the decrease in the Consumer Price Index. The CPI-linked tradable domestic debt ratio amounted to 41%. The unlinked domestic debt ratio was 59%.

¹ Pension funds are entitled to 30% designated bonds from their entire assets.

Chart C-14:
Breakdown of Tradable Debt by Linkage Types in 2006-2016 (in Percentage Points)



Breakdown of Holdings in Tradable Government Bonds

The holding rate of pension funds in tradable government bonds in 2016 amounted to 16.0% compared to 14.9% in the previous year. In 2016, the stakes of the provident funds and education funds amounted to 20.6% compared to 20.0% at the end of 2015.

The weight of the holdings of foreign investors in government bonds amounted to 5.3% compared to 5.5% at the end of 2015.

The weight of public holdings as of the end of 2016 was 14.9% of the total inventory of government tradable bonds, compared to 16.6% at the end of 2015. The weight of the banks' holdings at the end of 2015 increased to 16.3% compared to 14.5% in the previous year. The weight of holdings of mutual funds in government bonds was 11.5% versus 13.5% in 2015. The Bank of Israel's share of holdings in tradable government bonds in 2016 was 1.8% compared to 2.0% in the previous year; this rate stems from the plan to purchase government bonds in the secondary market.

Chart C-3:
Breakdown of Tradable Government Bonds in 2006-2016 (NIS billions, in percentages)

Year	Total Listed Capital (NIS billions)	Public	Mutual funds	Provident and education funds	Pension funds	Banks	Insurance companies ¹	Foreign investors	Bank of Israel
2006	265.1	19.5	12.4	24.1	10.6	17.8	9.7	4.7	1.2
2007	269.4	23.9	14.2	18.4	11	18.4	8.9	4.2	1.1
2008	312.9	28.0	11.5	20.5	12.8	14.6	10.2	1.6	0.8
2009	367.5	26.4	13.0	17.9	12.3	12.9	9.3	2.7	5.5
2010	388.7	24.0	13.2	18.8	13.3	12.8	9.7	3.1	5.1
2011	408.8	22.1	8.5	19.3	14.9	14.1	9.8	6.6	4.8
2012	459.5	21.7	9.6	19.8	15.5	12.8	11.2	5.6	3.7
2013	480.7	19.8	11.8	20.3	15.9	13.1	12.3	3.7	3.1
2014	496.2	18.5	13.6	20.1	15.4	11.9	12.6	5.5	2.4
2015	502.7	16.6	13.5	20.0	14.9	14.5	13.0	5.5	2.0
2016	494.3	14.9	11.5	20.6	16.0	16.3	13.8	5.3	1.8

(1) The data includes the holdings of the life insurance, general insurance and nostro companies.

Source: Bank of Israel, 2016, breakdown of tradable government bond holdings.

Average Series Size and Number of Series

The debt management policy in the Accountant General's Department is to limit the number of outstanding series of government bonds and to increase their volume. This policy contributes to increasing the tradability and liquidity of the bonds, and helps to lower funding costs. This policy continued in 2016, and the average series size increased to approximately NIS 14 billion, compared to the previous year when it was approximately NIS 13.4 billion. The relatively high average series size stems from the continued policy of making large issues of fixed series (benchmark series).

In 2016, four new series were issued on the local tradable market: a short-term government bond, two NIS government bonds (ILGOV 0421 maturing in 2021 and ILGOV 0327 maturing in 2027), and a CPI-linked government bond (ILCPI 1020 maturing in 2020).

Five series reached maturity over the course of 2016, and therefore the inventory of existing series decreased to 30, compared to 31 in the previous year.



Chart C-15:
Average Series Size in 1995-2016 (NIS billions)

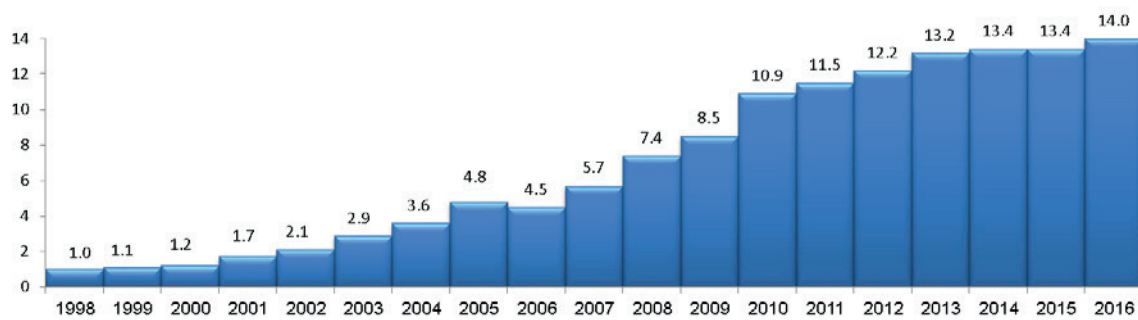
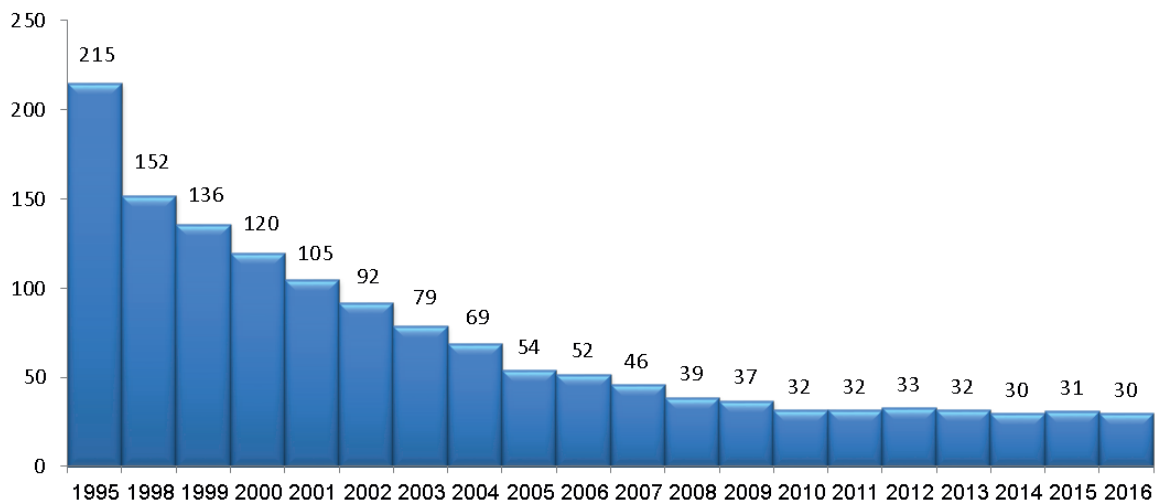


Chart C-16:
Number of Tradable Series in 1995-2016



Non-Tradable Domestic Debt

The inventory of non-tradable domestic debt at the end of 2016 increased by approximately 5% and amounted to NIS 199.9 billion. The inventory of designated bonds issued to the pension funds ("Arad" and "Meron" bonds) increased by approximately 6% and amounted to NIS 141.7 billion, compared to NIS 133.1 billion the previous year. The inventory of debt for designated bonds held by the insurance companies ("Hetz" bonds) increased by approximately 3% over the course of 2016 and amounted to NIS 50.3 billion. The emissions² managed at the Accountant General and the balance of the debit loans managed by the Bank of Israel remained unchanged.

Chart C-4:
Breakdown of Non-Tradable Debt by Types in 2008-2015 (NIS billions)

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total (NIS billions)	142	144	144	143.2	147.8	163.3	180.1	189.9	199.9
Pension ("Arad" and "Meron")	99	99	97	94	96.6	109.3	124.4	133.1	141.7
Insurance ("Hetz")	35	37	38.6	40.7	42.8	45.8	47.6	48.8	50.3
Miscellaneous⁽¹⁾	8	8	8.4	8.5	8.4	8.2	8.1	7.9	7.9

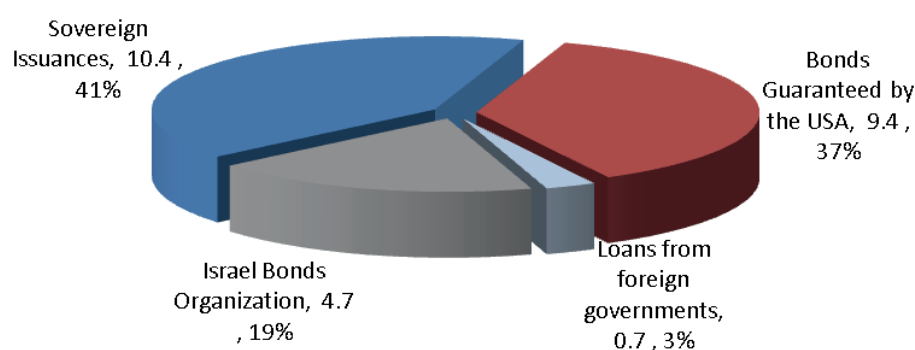
(1) Including debit loans managed by the Bank of Israel, deposits and emissions managed by the Ministry of Finance.

Debt in Foreign Currency

At the end of 2016, the government's debt in foreign currency amounted to 97 billion NIS (approximately USD 25 billion), which constitutes approximately 13% of the total government debt. The following is the breakdown of the debt by sectors:

² Loans and deposits taken in the 1950s from various bodies (banks, statutory authorities and more).

Chart C-17:
Composition of Debt in Foreign Currency According to Source of Debt
 (in USD billions, in percentages)



Sovereign Issuances

The inventory of sovereign bonds in foreign currency as of the end of 2016 amounts to NIS 39.9 billion. Debt issues in foreign currency in international markets were designed to serve a number of strategic goals:

- Establishing an additional source of money in order to finance the government deficit.
- Expanding the State of Israel's base of investors.
- Creating a benchmark for the business sector to raise funding abroad.

Eighteen sovereign issuances were carried out in 1995-2017, in the United States, Europe, Japan and on the global market. According to the sovereign issuances table in Appendix D, it can be seen that in recent years, the size of the issued series has increased, in light of the issue policy of benchmark series, are the high demand in foreign markets for State of Israel sovereign issues.

Issuances through the Development Corporation for Israel (DCI)

The inventory of bonds sold through the DCI (Israel Bonds) organization, as of the end of 2016, amounted to NIS 18.1 billion. The State of Israel Bonds, founded in 1951, serves as a platform for funding non-tradable debt in foreign currency and is a vital channel of communications between the State and the diaspora Jewish community. Over the years, funding by the DCI has had an anti-cyclical nature; in years with increased geopolitical tensions, the funding volumes through the organization increased.

Its primary goal is to expand the base of investors and diversify the Israeli Government funding sources by funding mainly from retail customers.

Issuances Guaranteed by the U.S. Government

The inventory of bonds guaranteed by the U.S. government as of the end of 2016 amounted to NIS 36.1 billion. In April 2003, the U.S. Congress approved a program to provide collateral to the Israeli government in order to raise a par value of USD 9 billion abroad for three years. The bonds issued by the Israel government guaranteed by the U.S. government have a credit rating similar to that of the United States, and indeed the yield at which the bonds are sold is only slightly higher than the yield on U.S. government bonds.

The plan has been extended by the U.S. government a number of times, and in 2015 it was extended once more to 2019, with the option of taking advantage of the program in 2020 as well (carry over year). As part of the program, the United States fully guarantees the principal and interest payments of the bonds Israel issues through this program.

Under the guarantee program, in 2003-2004 (years with major deficits in the State budget) the State of Israel issued bonds with a par value of USD 4.1 billion. The Israeli government has not utilized the guarantees program since November 2004. As of the end of 2016, the balance under the program amounted to USD 3.8 billion.

The American guarantees program serves as a financial “safety net” for the Israeli government. Preserving the U.S. guarantee framework supports the State of Israel’s ability to raise money on international markets during emergencies as well. Appendix D presents all of the bonds issued under the U.S. guarantee, as part of the second guarantee program in 2003-2004.

Loans from Foreign Governments and Various Lenders

The balance of the non-tradable debt is covered by bonds to foreign governments, international institutions, foreign banks and binational funds. This balance amounted to NIS 2.8 billion as of the end of 2016. At the end of 2016, the loans constituted approximately 3% of the total debt in foreign currency.

Private Issuances

The inventory of private issuances as of the end of 2016 reached approximately NIS 473 million. There is currently a single unredeemed loan made in 1999 in pound sterling, in the amount of GBP 100 million, to be repaid in 2034. The final private issue was made in June 2012 to an Asian institutional investor in the amount of USD 200 million, for a term of two years at a floating

rate based on LIBOR interest rates. In addition to the bond issue itself, the issue also included a swap agreement, through which the government converted the liability from foreign currency to NIS at fixed NIS interest rates. The issue was carried out under the shelf plan for issues by the Israeli government (the EMTN).

Central Data for the Debt Portfolio in 2010-2016 (NIS billions)

Data/Year	2010	2011	2012	2013	2014	2015	2016
Debt inventory							
Tradable domestic debt	358.5	378.4	411.6	433.0	429.6	439.0	444.0
Non-tradable domestic debt	144	143.2	147.8	163.3	180.1	189.9	199.9
External debt	105.7	111.3	107.4	99.9	106.1	97.8	97.0
Total debt	608.2	632.9	666.8	696.2	715.8	726.7	740.8
Interest expenses							
Tradable	15.1	16.5	17.1	16.9	16.6	15.5	14.6
Tradable (percentage of tradable debt inventory)	4.2%	4.4%	4.1%	3.9%	3.9%	3.5%	3.3%
Non-tradable	7.5	7.5	7.5	7.7	8.3	9.2	9.4
Of this: subsidy for designated	Subsidy wasn't calculated				3.21%	2.91%	
National insurance	7.0	7.2	7.6	7.7	7.8	7.7	7.6
External tradable	4.1	4.2	5.3	5.0	4.9	5.2	5.3
External non-tradable	1.1	0.9	0.9	1.0	1.3	0.8	0.6
Key indicators							
ATM	6.3	6.3	6.6	7.1	7.4	7.3	7.5
Interest expenses relative to GDP	3.97%	3.88%	3.83%	3.64%	3.56%	3.33%	3.07%
Public debt to GDP ratio	70.9%	69.0%	67.9%	67.2%	66.7%	64.6%	2.59%
Rollover ratio	11.0%	11.9%	10.2%	9.9%	6.2%	9.1%	62.1%
External debt to total debt ratio	17.4%	17.6%	16.1%	14.3%	14.8%	13.5%	9.4%

Section D: primary Market

Funding In The Tradable Domestic Market

2016 was characterized by a funding environment with low interest rates, in light of the continued drop in yields of government bonds around the world. Both the NIS curve and the linked curve were characterized by a decrease over the course of the year, with the last quarter seeing an increase in yields, and the year ending with a non-material change on both curves.

The 10-year NIS bond was traded at a yield of 2.07% at the beginning of the year, compared to a yield of 2.06% at the end of the year. The parallel linked bond was traded at 0.63% at the beginning of the year and dropped to a level of 0.57% at the end of the year.

The Debt Unit used the full variety of funding tools at its disposal this year as well, which allows the funding to be spread out over the course of the year. In 2016, most funding needs were financed by the domestic tradable market. Total money raised on the domestic market in 2016 amounted to approximately NIS 88 billion compared to NIS 71 billion in 2015. The net debt raised on the domestic market is smaller than last year and amounts to NIS 10 billion. The funding and its deployment over the course of the year is adapted to the monthly deficit level and to the state of the fund's balances in the Bank of Israel.

In 2016, the comprehensive coverage ratio in the State's tradable debt issues remained high, at an average of 4.5 per year.

The following is the breakdown of debt raised in the domestic market:

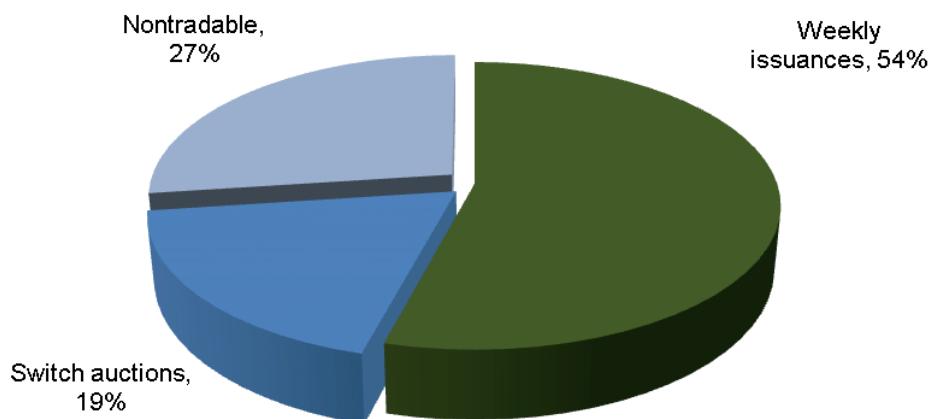
Funding	NIS billions
Tradable domestic funding	64
Non-tradable domestic funding	23.8

The total redemptions in the tradable domestic market in 2016 amounted to NIS 54.3 billion, broken down as follows:

Redemptions	NIS billions
Current and swap tenders	50.6
Buyback auctions	3.7

The following is the gross amount raised on the domestic market:

Chart D-1:
Breakdown of Gross Debt Raised on the Local Market in 2016*

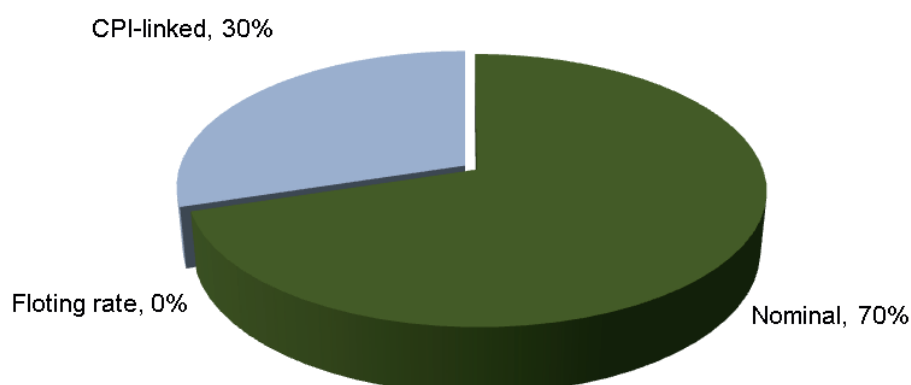


* Funding amount including issues under excess allocations.

The funding is executed through current tenders and swap tenders, and with the exception of new bond issues, the issues are carried out by expanding existing series (Tapping).

As described in Diagram D-2, most tradable domestic debt raised is in fixed-interest NIS bonds.

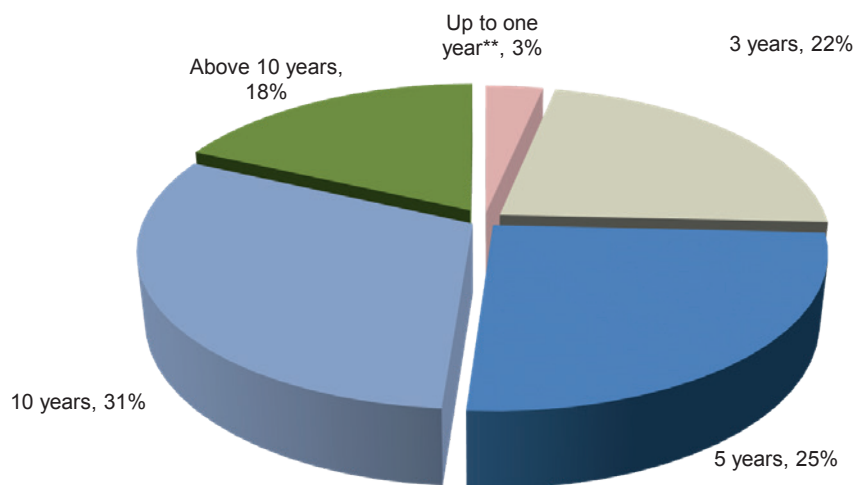
Chart D-2:
Breakdown of Tradable Debt Funding on the Domestic Market According to Segment in 2016*



* Including excess allocations and swap tenders.

The debt raised focuses on benchmark ranges of 3, 5, 10 and 30 years. In addition, short-term bonds are issued (less than one year), serving as bridging tools.

Diagram D-3:
Breakdown of Comprehensive Tradable Debt Raised
According to Terms for Redemption in 2016* (in Percentage Points)

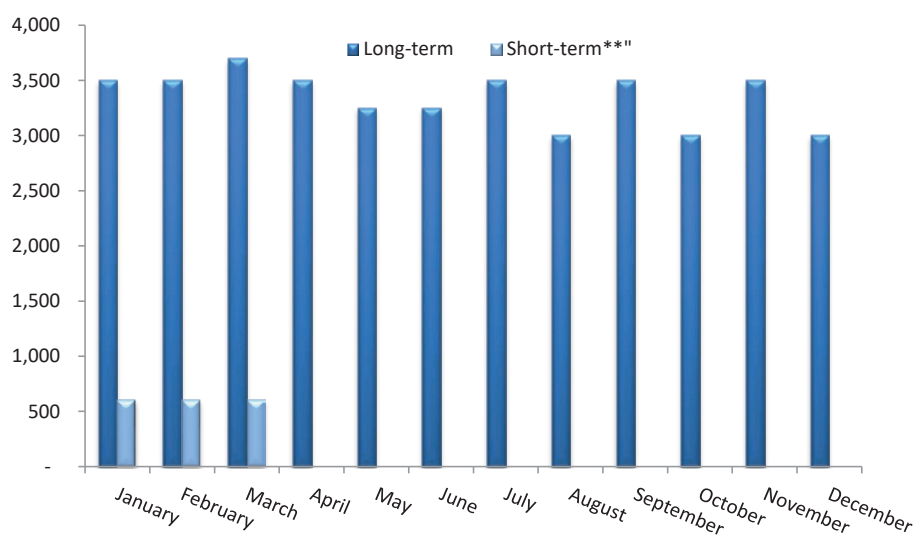


* Including excess allocation and issues within the framework of swap tenders.

** Short-term bonds raised and redeemed over the course of the year.



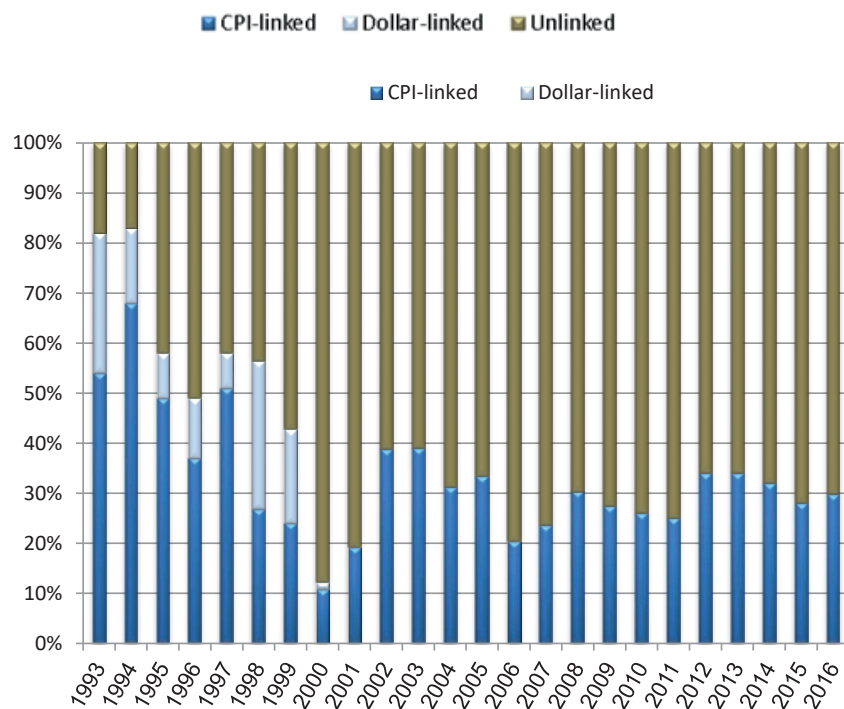
Chart D-4:
Breakdown of Yearly Tradable Domestic Debt Funding in 2016* (PV NIS millions)



* Not including excess allocation, with no swap tenders.

** Less than one year.

Chart D-5:
Breakdown of Tradable Domestic Funding In Various Segments in 1993-2016*
 (in Percentage Points)



* Including excess allocation and swap tenders.

Summary of Tradable Bond Issue Data in 2016 and Selected Bonds

In this section we review the results of current issues with an emphasis on coverage ratios and general data, and a comparison to major issuers in peer countries.

The coverage ratio, calculated by dividing the amount requested by the amount offered, reflects the strength of market demand and may even specifically indicate various economic trends, such as flight-to-quality, which may influence government funding options. The factors that influence the coverage ratios are: prices and situation in domestic markets, the state of global market, the bond offered and the amount offered.

The following graph describes the coverage ratio of all issues, according to 2016 debt raising dates. The average coverage ratio of all issues in 2016 amounted to 4.5. This coverage ratio is high relative to peer countries, as presented in Chart D-7.

Chart D-6:
Coverage Ratio in 2016 Issues According to Issue Dates (Trend Line - Average 4)

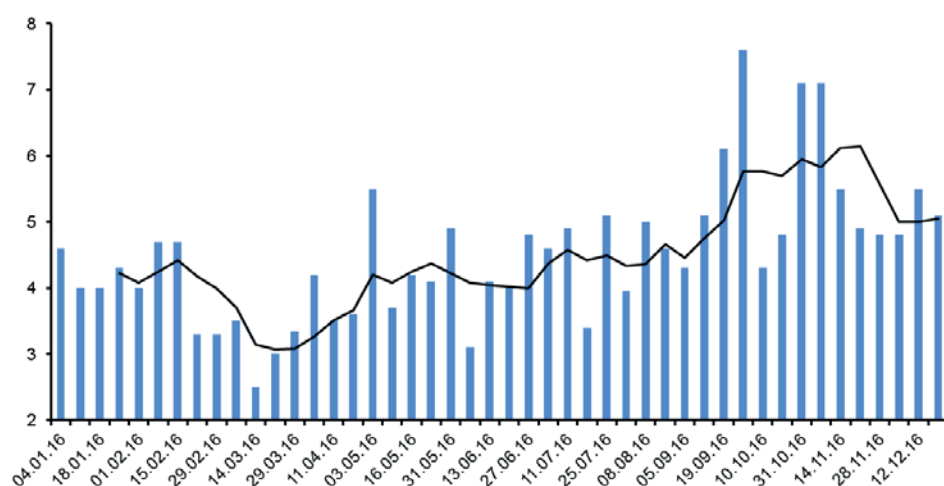
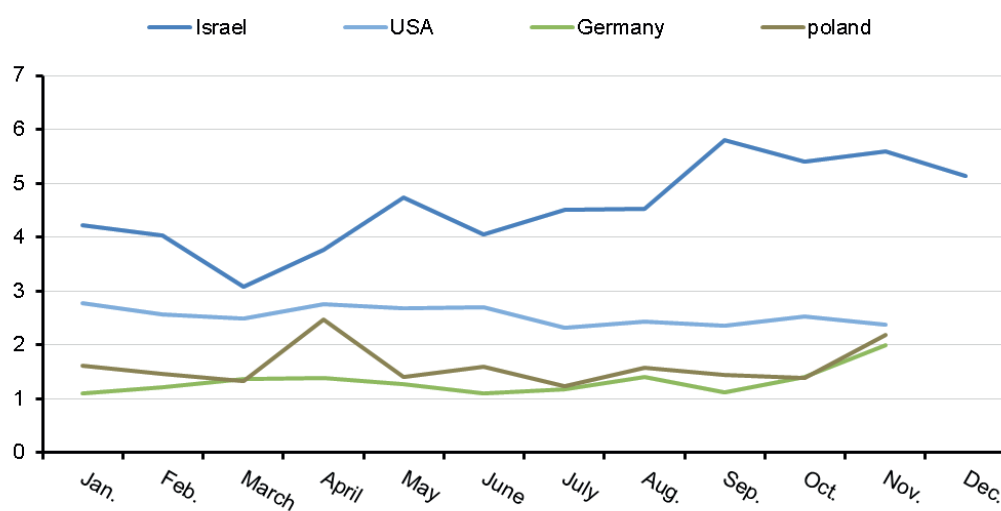


Chart D-7:
Comparison of Coverage Ratios in Selected Peer Countries*

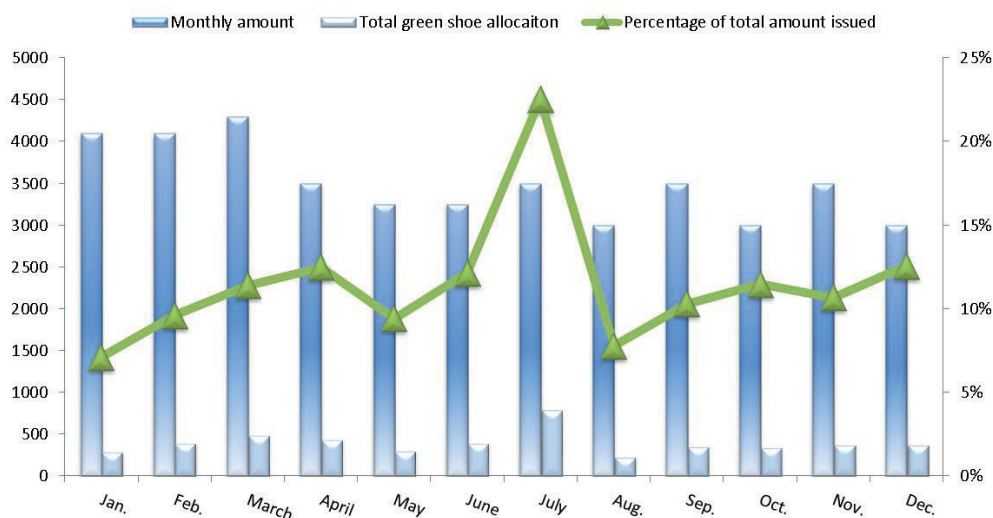


* The comparison was made on bonds with a maturity term of 10 years.

Green Shoe Allocations

As part of the market making reform, primary dealers must be active participants both in the primary market (issues, swap and reverse tenders) and in the secondary market (purchase and sales quotes) in government bonds. At the same time, the primary dealers who won the competitive tender were also given the right to purchase additional government bonds at the average price of the tender, in accordance with the rating testing the level of activity in the secondary market. In 2016, the total funding in this segment amounted to approximately 4.5 billion PV, approximately 11% of the total amount issued via current tenders (not including swap tenders).

Chart D-8:
Purchases in Green Shoe Allocation Auctions as a Percentage of the Monthly Amount Issued



Buyback Auctions

In October 2008, the Debt Management Unit began using buyback auctions in order to perform an early redemption of tradable government bonds. Under these tenders, the redeemed bonds are purchased off the market, in a manner that differs from the swap tenders, in which the redeemed bonds are replaced with other bonds.

The main objective of buyback auctions is the more efficient management of the government cash flow and the savings in interest budgets.

In 2016, the total advance purchases using buyback tenders reached approximately NIS 3.7 billion, compared to approximately NIS 4 billion in 2015.

Funding in the non-tradable Domestic Market

In 2016, the non-tradable domestic debt raised amounted to approximately NIS 23.8 billion. This funding was executed using the following instruments: designated bonds for pension funds ("Arad"), designated bonds for insurance companies ("Hetz"), as well as emissions and various deposits managed by the Ministry of Finance.

This year, Arad designated bonds were issued for the pension funds to the sum of NIS 17.6 billion - an approximate 6% decrease compared to NIS 18.7 billion in 2015.

The net funding in designated bonds for the pension funds amounted to approximately NIS 8.6 billion in 2016.

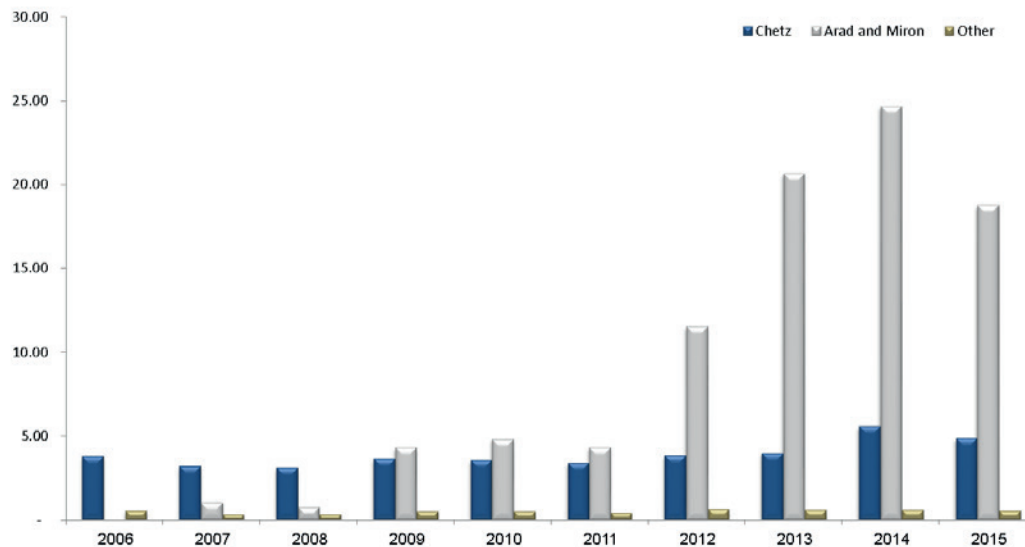
The Hetz bond issues designated for insurance companies amounted to NIS 5.67 billion. The net funding amount in 2016 in designated bonds for the insurance companies amounted to approximately NIS 1.56 billion.

Funding through emissions totaled approximately NIS 524 million. The funding in this segment amounted to a net negative debt raised in the amount of approximately NIS 98 million.

Table D-1:
Issues and Redemptions in Non-Tradable Debt, 2016

Funding segment	Principal funding		Principal redemptions		Net funding
	NIS millions	% of total	NIS millions	% of total	NIS millions
Arad and Meron	17,651	74	9,008	65	8,643
Hetz	5,669	24	4,111	30	1,558
Others	524	2	622	5	(98)
Total	23,844	100	13,741	100	10,103

Chart D-9:
Composition of Non-Tradable Debt Raised in 2006-2016



Funding in Foreign Currency

Sources of funding in foreign currency:

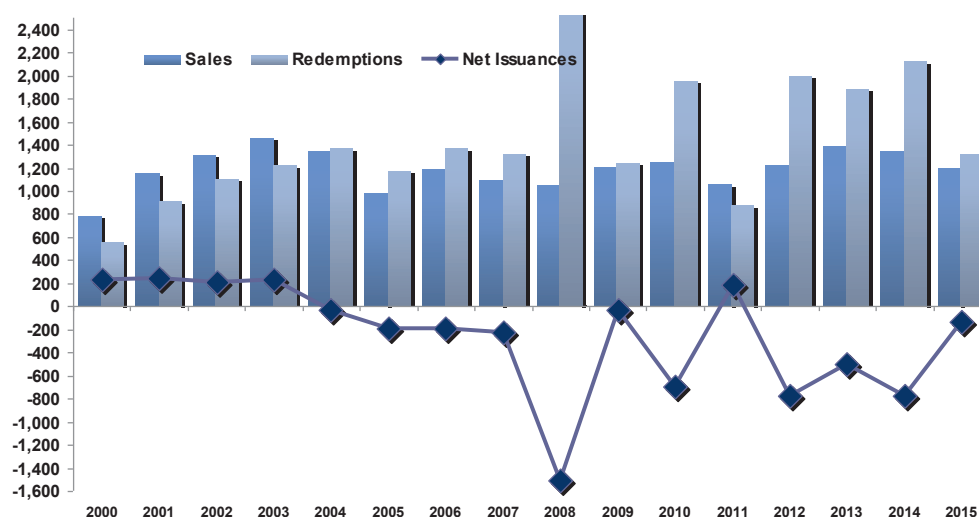
- Tradable issues on international markets (sovereign issuances)
- Israel Bonds
- Private issues
- Public issues guaranteed by the US government

In March 2016, a two-tranche issue in USD was executed on the global market: 10 years, and an expansion of an existing series to 30 years, amounting to USD 1 billion and USD 500 million, respectively. The issue yield amounted to 2.942%, including a spread of 105 base points above the US Government 10-year interest rates, and 4.181%, including a spread of 150 base points above the US Government 30-year interest rates. The bond issue for a term of 10 years was characterized by the lowest funding cost the State of Israel had ever paid for a USD issue. This was the first time the State of Israel had expanded an existing series on global markets. The issue took place in Israel.

Israel Bonds raised USD 1.3 billion in 2016. This is an approximate 8% increase in the organization's sales compared to 2015, when the total funding was USD 1.2 billion. The total funding by DCI in 2016 amounted to a positive cash funding of approximately USD 250 million.

In January 2017, a two-tranche issue was executed in EUR: a 10-year series amounting to EUR 1.5 billion, at a yield of 1.552%, including a spread of 87 base points above the 10-year benchmark interest rate (mid-swap); and additional series, for a term of 20 years, amounting to EUR 750 million, with a yield of 2.456%, including a spread of 125 base points above the 20-year benchmark insurance rate. The bonds' issue was characterized by the lowest funding costs ever paid by the State of Israel. The dual offering was characterized by particularly high demands of EUR 9.8 million, indicating investors' great interest in the bonds. This is the first time the State of Israel has issued a long series in the euro market.

Chart D-10:
Sales and Redemptions of Israel Bonds in 2000-2016 (in USD millions)

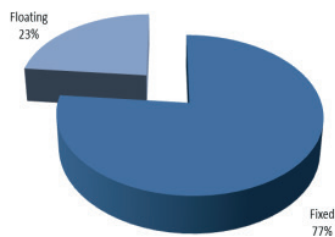


Characteristics of Israel Bonds funding:

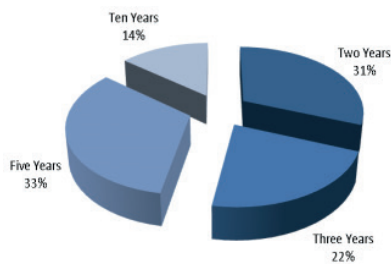
1. Breakdown by interest types - in 2016, 74% of the money was raised using fixed-interest instruments, and the rest - at a floating rate (see Chart D-11). This is a slight drop in the fixed interest component relative to 2014 and 2015, when the fixed interest instruments constituted 76% and 77%, respectively, of the money raised by the organization, and the rest - at a floating rate.
2. Spreads in DCI bonds - the yields in the bonds sold by the Development Corporation for Israel are adapted to the market yields and funding costs of the State of Israel in the USD.

3. Currency distribution - as in the previous year, in 2016 the Israeli government offered bonds in USD, in Canadian dollars, euros and pound sterling. Over the course of 2016, out of total sales, 95% were in USD, 4% were in Canadian dollars, and the remainder were in euros and pound sterling (see Chart D-12).
4. Distribution by time to maturity - as in the previous year, in 2016 the Israeli government offered bonds for terms of 2, 3, 5 and 10 years. Over the course of 2016, out of total sales, approximately 35% were for two years, approximately 27% for 3 years, approximately 27% for 5 years, and the balance was for 10 years, as presented in Chart D-13.

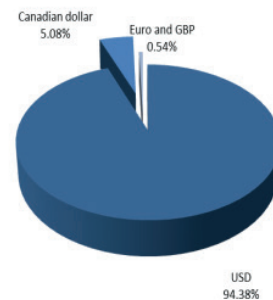
**Chart D-13:
Distribution of Sales
by Time to Maturity**



**Chart D-12:
Currency Distribution
of Sales**



**Chart D-11:
Distribution of Funding
by Interest**



Section E: Secondary Market

As in recent years, 2016 was characterized by a low interest environment in Israel and around the world. In global markets, the year was defined by the decoupling process between the U.S. monetary policy and that of Europe and Japan. Following the increase in interest rates in late 2015 (first increase since June 2006), the Federal Reserve increased interest rates once more in December 2016. On the other hand, the European Central Bank decided to employ an expansionary monetary policy by further reducing interest rates on deposits to a level of -0.40% (March 2016) and expanding the purchase plan used.

There were certain material events that influenced financial markets over the course of the year. Among other things, one may note the results of the Brexit referendum, which surprised the markets and increased uncertainty regarding Europe in particular and the global economy in general. In addition, the results of the U.S. election, which to a degree increased the level of uncertainty regarding the new government's economic policy.

Trade in government bonds takes place in a number of parallel trading arenas: the Tel Aviv Stock Exchange, MTS (a trading arena in which only primary dealers in Israeli government bonds are active - large and stable financial bodies, that provide buy and sell price quotes for government bonds) as well as over-the-counter (OTC) trading.

Market Making in Government Bonds

In 2016, there were 13 primary dealers in government bonds, six of which were international banks. In August 2016, BNP Paribas Bank was appointed primary dealer, following the appointment of Merrill Lynch the previous year.

Primary dealership in government bonds began in 2006. The activity contributes to the development of an effective and competitive government bond market, increases the level of demand and liquidity in the market and helps decrease financing costs.

Primary dealers must comply with a number of obligations in the primary and secondary markets, including participating in issuance auctions and providing quotes for buying and selling on MTS, a trading platform designated for primary dealers only. To comply with requirements, the primary dealers are entitled to benefits, such as exclusive issuance auctions for primary dealers only, participating in non-competitive auctions ("green-shoe"), and receiving access to the government bonds lending facility.

Trading Volumes in Government Bonds

Trading volumes of government bonds in 2016 decreased compared to volumes in 2015:

an average of approximately NIS 2,945 million per day in 2016, compared to an average of approximately NIS 3,385 million per day in 2015. The trading volumes on the Tel Aviv Stock Exchange decreased over the course of 2016 from NIS 639 billion to NIS 557 billion in total. Volumes on MTS decreased from approximately NIS 87 to 52 billion and in OTC increased from approximately NIS 103 to 111 billion.

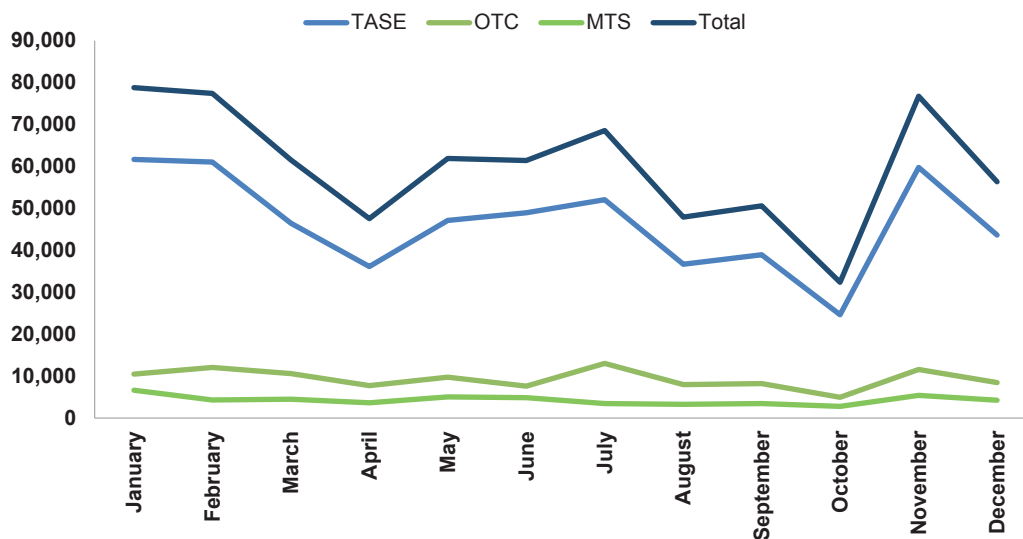
The following is the distribution of trading volumes between the various trading arenas:

TASE: 77.25% of trade (2015 - 77.05%)

MTS³: 7.15% of trade (2015 - 10.52%)

OTC: 15.60% of trade (2015 - 12.43%)

Chart E-1:
Trading Volumes of Government Bonds in 2016 (NIS millions)



Nominal Fixed Coupon Bonds

Primary dealership in government bonds started in September 2006, and was carried out in the nominal fixed-coupon segment only up until December 2010. As of the end of 2016, dealers are required to quote 10 fixed-interest bonds on MTS on a daily basis.

³ Trading on the MTS platform takes place on Monday-Thursday, while trading in the other arenas takes place Sunday-Thursday.

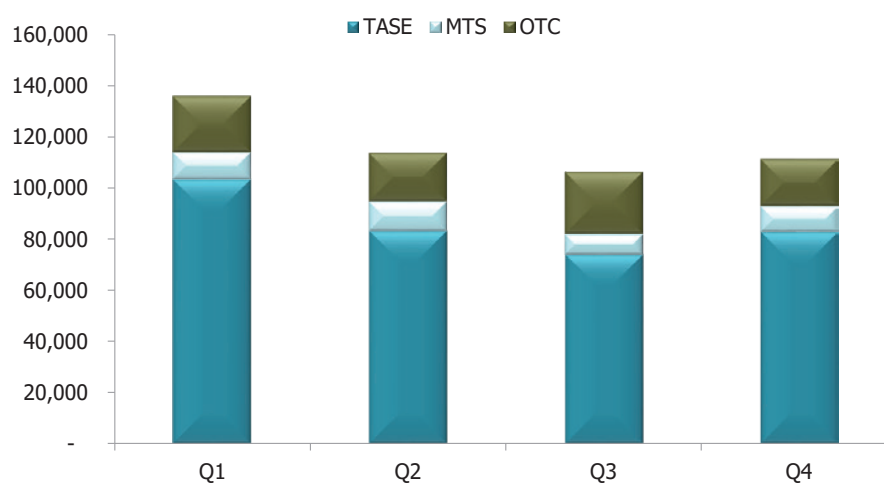
Ratio between different trade arenas:

TASE: 73.42% of trade (2015 - 73.65%)

MTS: 8.64% of trade (2015 - 12.80%)

OTC: 17.94% of trade (2015 - 13.55%)

Chart E-2:
Trading Volumes of Nominal Fixed-Coupon Bonds (NIS millions)



CPI-Linked Bonds

In January 2011, primary dealership in CPI-linked government bonds began. As of the end of 2016, dealers are required to quote 6 CPI-linked bonds on MTS on a daily basis.

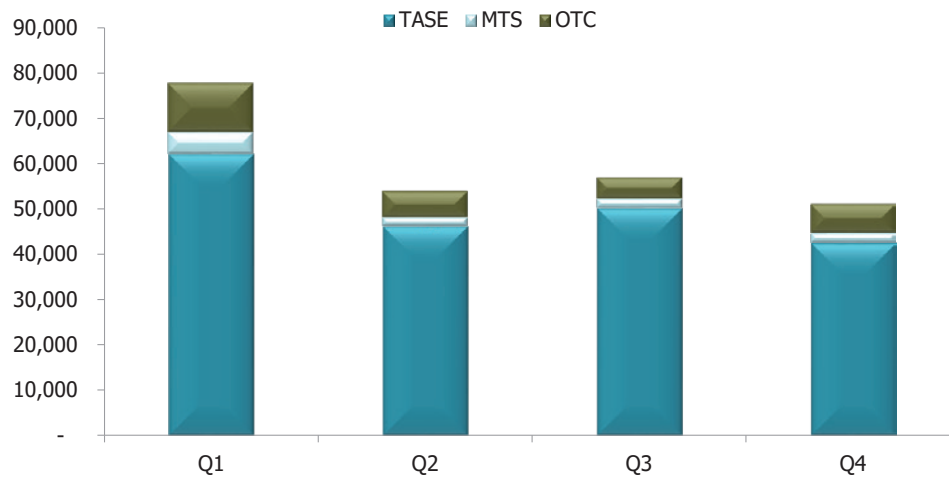
Ratio between different trade arenas:

TASE: 83.81% of trade (2015 - 83.33%)

MTS: 4.64% of trade (2015 - 6.20%)

OTC: 11.55% of trade (2015 - 10.46%)

Chart E-3
Trading Volumes of CPI-Linked Bonds (NIS millions)



Breakdown of Trading by Segments

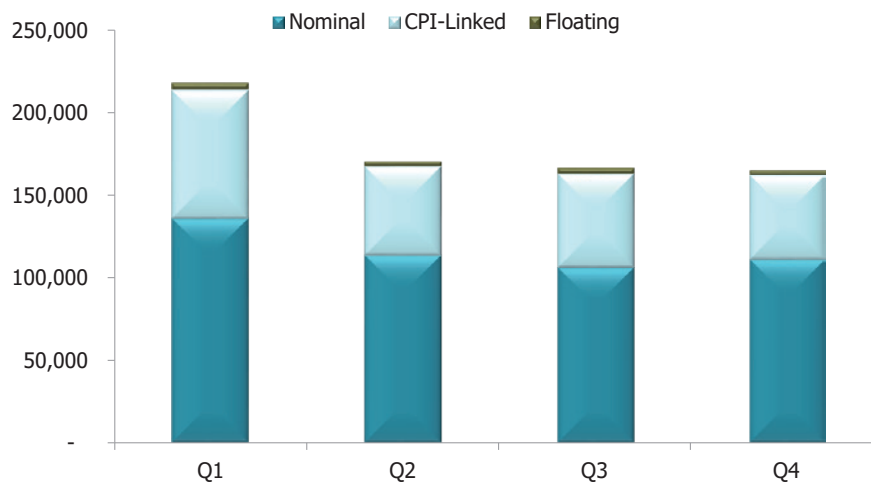
In 2016, as well as in 2015, trading in government bonds was mainly in the nominal fixed-coupon segment. The ratio between the different segments over the course of 2016 was:

Nominal fixed-coupon segment: 64.86% of trade (2015 - 67.69%)

CPI-Linked segment: 33.33% of trade (2015 - 29.91%)

Floating rate segment: 1.81% of trade (2015 - 2.40%)

Chart E-4:
Breakdown of Trading Turnover in Different Segments (NIS millions)



Turnover on the MTS Platform by Bond Type

As of the end of 2016, primary dealers are required to quote 10 nominal fixed-coupon bonds (ILGOV) on MTS and 6 CPI-linked bonds (ILCPI). The quote requirement is five net hours per day, with the size of the quote and the spread they are required to quote varying from bond to bond, according to the period to maturity.

The following are the bonds that have a quote requirement, as of the end of 2016:

Nominal Fixed-Coupon Bonds: ILGOV 1018, ILGOV 0219, ILGOV 0519, ILGOV 0120, ILGOV 0421, ILGOV 0122, ILGOV 0323, ILGOV 0324, ILGOV 0825 and ILGOV 1026.

CPI-Linked Bonds: ILCPI 0418, ILCPI 1019, ILCPI 1020, ILCPI 0922, ILCPI 0923 and ILCPI 1025.

The bond with the highest trading volume listed over the course of 2016 was ILGOV 0825, which over the course of the year served as an on-the-run 10-year benchmark bond, until it was replaced by ILGOV 0327 toward the end of the year.

Chart E-5:

Trading Turnover on the MTS Platform of Nominal Fixed-Coupon Bonds (NIS millions)

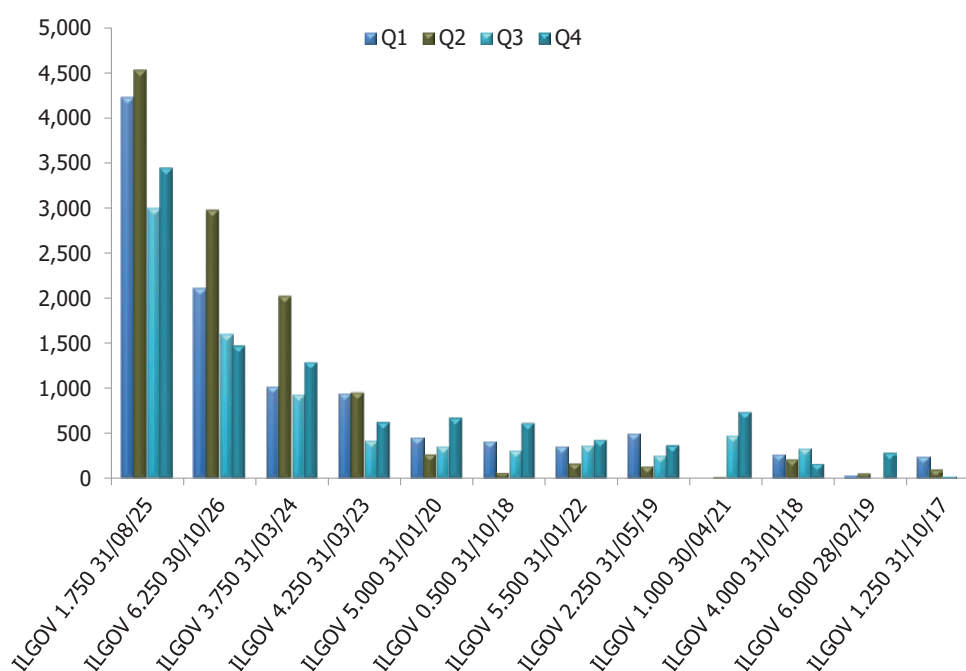
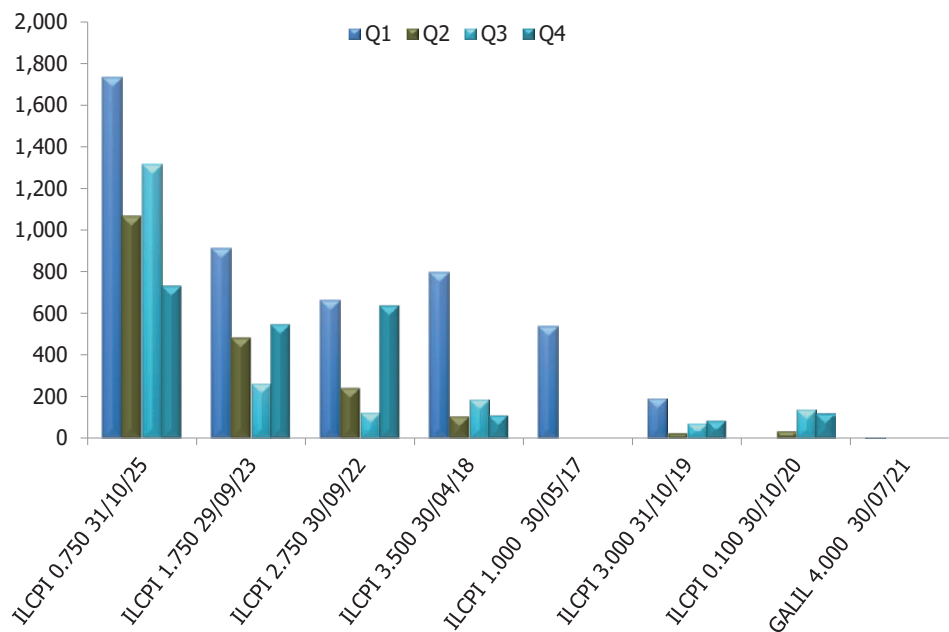


Chart E-6:
Trading Turnover on the MTS Platform of CPI-Linked Bonds (NIS millions)



Yield on 10-Year Nominal Fixed-Coupon Bonds

As in previous years, 2016 was also characterized by low yields. Bank of Israel interest rate remained at an historically low rate of 0.1%, which supported low yields. The following graph presents the 10-year bond yield (ILGOV 1026).



Chart E-7:
10-Year Bond Yield (Percentage Points)

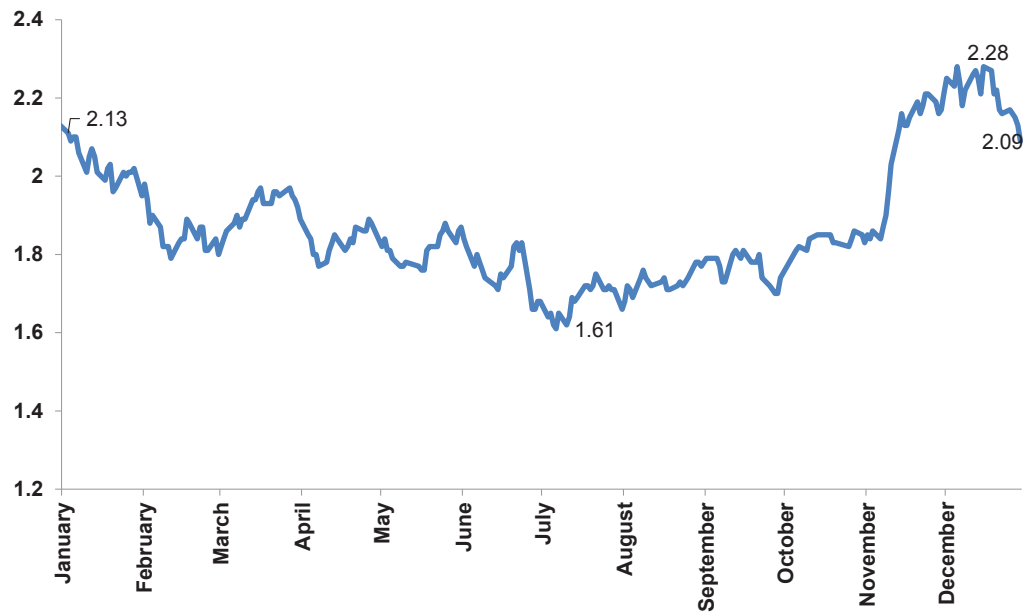
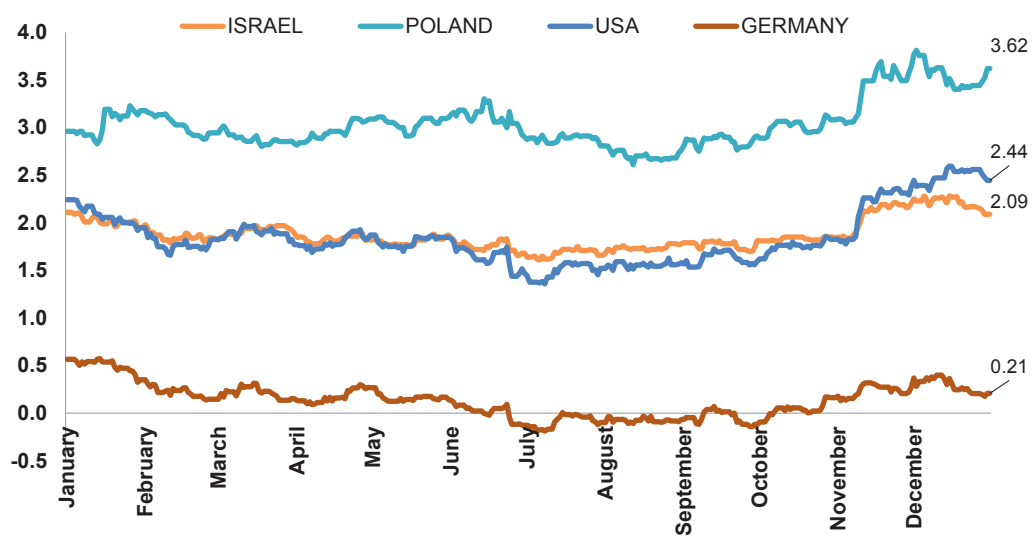


Chart E-8:
10-Year Bond Yield Relative to Selected Peer Countries (Percentage Points)

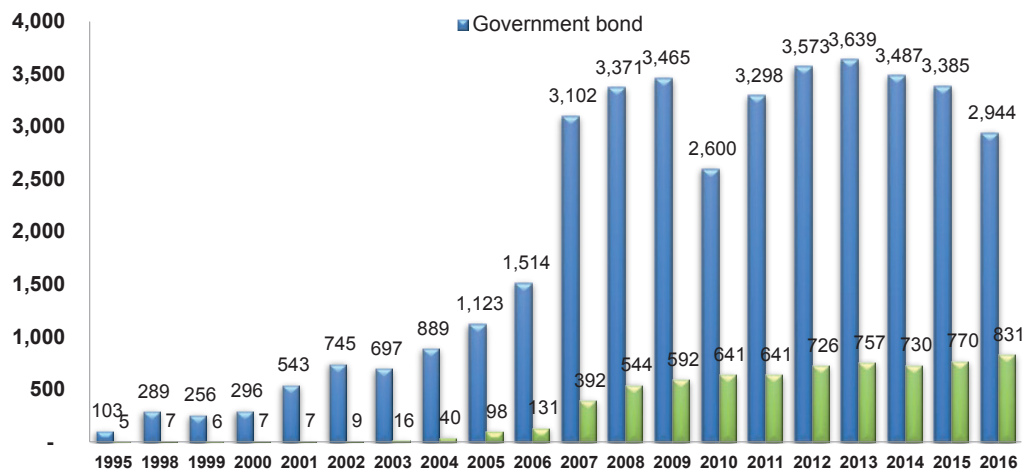


Average Daily Turnover in Historical Perspective

In 2016, the average daily trading volume in government bonds dropped by approximately 13% compared to the previous year, after an approximate 3% decrease between 2014 and 2015. This is the third decrease and the lowest trading volume since 2010. The largest increase was recorded over the course of 2007, after launching the market making reform for government bonds in September 2006.

An increase in trading volumes was recorded in the corporate bond market. In 2016, the average daily trading volume in corporate bonds increased by approximately 8% compared to 2015, in which an approximate 5% increase was listed compared to the previous year.

Chart E-9:
Average Daily Turnover in Historical Perspective (NIS millions)



Remarks

- Trading on the MTS platform takes place on Monday-Thursday, while trading in the other arenas (TASE and OTC) occurs Sunday-Thursday.
- In September 2006, the primary dealership in government bonds reform was launched, in which the MTS system was added, where only primary dealers can trade.

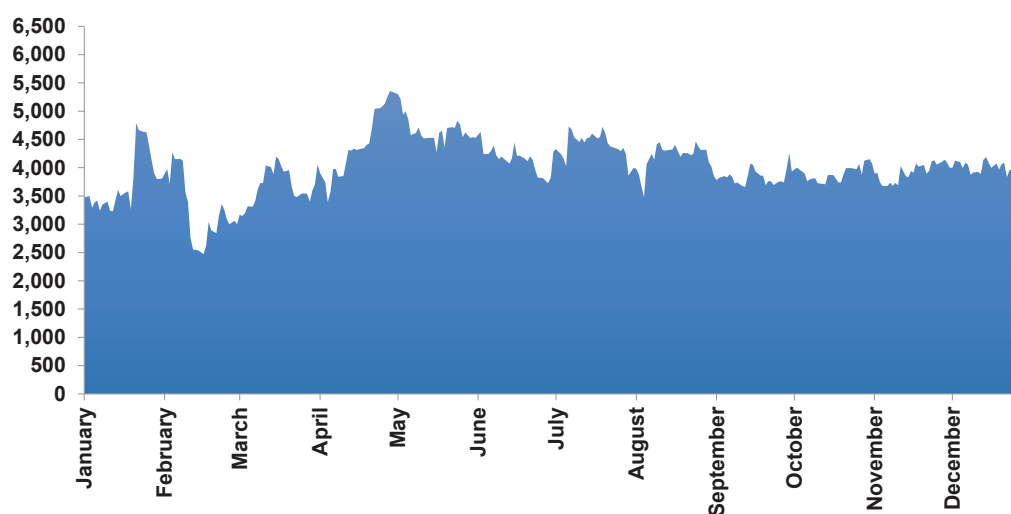
Bond Lending Facility

As part of the reform, the Ministry of Finance established, along with the Tel-Aviv Clearing House, a bond lending facility, which allows primary dealers to borrow government bonds of all types. Those interested in borrowing bonds (under a current restriction of NIS one billion per primary dealer) may contact the TASE Clearing House and borrow the bond, in return for monetary collateral for which interest is received. The bond lending facility began operating in September 2006.

Over the past year, the facility has ranged between NIS 2.5 and 5.4 billion (compared to NIS 2.5-6 billion in 2015).

The breakdown of lending to various segments at the end of 2015 was approximately 65% in the nominal fixed-coupon segment and approximately 35% in the CPI-linked segment.

Chart E-10:
Borrowing from the Bond Lending Facility (NIS millions)



Appendix A: Credit Rating

Main Trends in global Credit Rating in Recent Years

Credit rating is an estimate of the level of risk embodied in the investment and the issuer's ability to meet their obligations.

In the process of setting a country's credit rating, the rating agencies examine many parameters according to a number of categories, including political risk, fiscal stability, fiscal flexibility, monetary stability and external stability. Each parameter is measured in comparison with countries with similar ratings - "the Peer Group". Israel's peer group includes a number of peripheral European countries, such as Poland, Estonia, Czech Republic, Slovakia, Slovenia, Malta and Spain. Additional countries in Israel's peer group are Chile and South Korea.

The years 2011-2012 were characterized by political and economic instability in Europe, and multiple sharp drops in ratings, with the European debt crisis growing fierce and leading to damage to market trust in European governments. The crisis was also evident in the area of credit rating, and led to lowered ratings of many European countries, such as France, Italy, Spain, Austria and Belgium. The United States' rating was also downgraded, with credit rating agency S&P downgrading the US's perfect credit rating to a level of AA+ for the first time in history, in August 2011.

In 2013-2014, the credit ratings of the countries began stabilizing to a degree for the first time and multiple rating downgrades were not noted. It became evident that the developing Eastern European countries, such as Latvia and Lithuania, were recovering, as well as the ratings of countries in Latin America, including Uruguay, Peru, Mexico and Colombia. Recovery was noted in countries whose rating had dropped significantly since the crisis, such as Spain, Ireland and Greece. Notable rating downgrades during these years included downgrades for the UK and France. Furthermore, for the first time since 2008, Russia's credit rating was downgraded by S&P to a level just one level above a non-investment grade. S&P and Fitch downgraded Argentina's credit rating to a level expressing a state of insolvency, as the country had failed to meet its obligations to some of its creditors, for the second time in the past 15 years.

2015 saw an additional upgrade in the credit ratings of Eastern European countries, such as Latvia, Lithuania, Slovakia, Slovenia and Hungary, as well as South American countries, including Bolivia, Paraguay and Uruguay. In addition, the ratings of European countries such as Spain, Portugal and Ireland continued to recover. At the same time, Japan's rating was downgraded by S&P and Fitch in 2015, after being downgraded by Moody's in 2014. An additional downgrade in Russia's credit rating was recorded in 2015, and the country is current listed at a non-investment grade by S&P.

2016 saw a continuation in the credit rating strengthening trend by Eastern European countries, such as Hungary and Slovenia, but S&P downgraded Poland's credit rating, the first time that

its rating has been downgraded by one of the rating agencies. Rating downgrades were also recorded in leading European countries, such as Austria, Belgium and Finland. To this, one may add the downgrade in the UK's rating by rating companies S&P and Fitch following the results of the referendum for separation from Europe (Brexit) in June.

As of the end of 2016, Israel's situation is good relative to Western European countries such as Italy, Portugal and Spain. The country's success in maintaining its credit rating at a stable A1/A+/A+ is particularly noteworthy in light of external shocks and the geopolitical situation. In addition, Israel's economy appears sound, especially taking into account the uncertainty in the global economy, which impacts Israel's economy.

Government credit ratings also used to serve as a "ceiling" for credit ratings of local companies, which means that local bodies in a certain country could not receive a credit rating higher than that of their governments. In recent years, some of the credit rating companies began rating the "country ceiling", which notes the highest potential credit rating domestic bodies can achieve in a country, separately. In many cases, and in particular in light of globalization processes, the rating ceiling allowed a company is higher than its government credit rating, and the government rating does not constitute an effective barrier in terms of local bodies. At the same time, it is clear that the government credit rating has an impact and a high coefficient with domestic credit ratings, and is very important to the economy as a whole.

Table 1:
Credit Rating of OECD States in 2016 (As Per S&P)

Upgrade:

	Rating at end of year	Rating at beginning of year
Iceland	BBB+	BBB
South Korea	AA	AA-
Hungary	BBB-	BB+
Greece	B-	CCC+
Slovenia	A	A-

No change:

Australia	AAA	Sweden	AAA	France	AA	Slovakia	A+
Germany	AAA	Switzerland	AAA	Estonia	AA-	Latvia	A-
Denmark	AAA	Austria	AA+	Chile	AA-	Mexico	BBB+
The Netherlands	AAA	USA	AA+	Czech Republic	AA-	Spain	BBB+
Luxembourg	AAA	Finland	AA+	Ireland	A+	Italy	BBB-
Norway	AAA	Belgium	AA	Japan	A+	Portugal	BB+

Canada	AAA	New Zealand	AA	Israel	A+
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Downgrade:

	Rating at End of Year	Rating at Beginning of Year
UK	AA	AAA
Turkey	BB	BB+
Poland	BBB+	A-

Highlights of the three credit agency announcements in 2016:**Summary of 2016 Fitch Report**

On November 11, 2016, the rating agency Fitch upgraded the credit rating of the State of Israel to A+ with a Stable outlook as a result of further strengthening of Israel's external accounts and a continued decrease in the ratio between public debt and GDP.

Fitch emphasized in its reports that Israel's external accounts continued to grow stronger. The State of Israel continues to record a surplus in its current account every year since 2003, and the Bank of Israel's foreign currency reserves have continued to climb. Fitch predicts that the surplus in its current account will be preserved in 2017-2018 as well. The agency's representatives noted that additional developments in the gas industry will provide more support to Israel's external balance sheet. Gas production in the Tamar field since 2013 has reduced the need to import natural gas.

The report noted that continued improvements were recorded decreasing the ratio of government debt-to-GDP despite the fact that public financing in Israel still constitutes a weak point relative to A-rated countries. The 2017-2018 two-year budget is expansionary, and the credit agencies predict that the government debt-to-GDP ratio will remain at a similar rate in 2016-2018. The analysts noted that the State of Israel enjoyed high levels of finance flexibility, and that its debt structure was optimal. The country has a deep and liquid local market, good access to international capital markets, an active plan to sell bonds to diaspora Jewry as well as a guarantee program from the U.S. government in the event of market upheavals.

Fitch analysts predict that Israel's credit rating will continue to be limited by geopolitical risks, however, its rating profile has shown an ability to resist periodic conflicts and political upheavals over extended periods of time. The rating agencies estimate that the local political situation may be stormy, with administrations rarely finishing their full term in office. The current coalition was expanded in May 2016, and the government approved the 2017-2018 two-year budget. At the same time, its majority is still narrow and internal political relationships may lead to fractions and to new elections. Frequent random terrorist attacks by young Palestinians and Israeli Arabs since 2015 reflect the lack of progress in the peace process between Israel and the Palestinians.



Analysts note that the growth rate of Israel's GDP is similar to that of its peer countries, but has slowed in recent years. In response, the government seeks to implement structural reforms in order to improve efficiency in certain markets and the business environment in general, as well as to encourage participation in the work force.

The report notes the negative inflation in 2015, which remained negative in 2016 due to low commodity prices, a stronger local currency, a drop in prices and measures employed in order to encourage competition. Fitch predicts that inflation will increase to the lower portion of the target range, which amounts to 1%-3% in 2017.

Analysts made a positive note of Israel's developed institutions and education system, which has led to the creation of a sophisticated and varied economy. At the same time, indicators related to "doing business", as measured by the World Bank, have dropped below Israel's peer countries.

In summation, Fitch estimates that additional significant progress in decreasing the ratio of government debt to GDP, or a continuous de-escalation in political and security risks would improve Israel's rating profile. On the other hand, the country's credit rating may be impacted if an ongoing deterioration occurs in the public debt-to-GDP ratio, a significant downturn occurs in the political and security risk, or if external accounts deteriorate.

Summary of 2016 Moody's Report

On August 11, 2016, the rating agency Moody's ratified the State of Israel's credit rating at a level of A1 and retained its outlook at Stable.

Moody's noted in its announcement that the credit rating was attributed to the State of Israel's economic and institutional strength. In addition, the rating ratification was the result of beneficial government economic policy, despite repeated corrections of fiscal rules. At the same time, the rating was limited due to exposure to geopolitical risks, which require the allocation of significant resources to the defense system.

The company's representatives noted that the A1 rating was supported by a stable and strong economy with sound institutions, which allowed the country to successfully face global and local shocks and geopolitical challenges, which had a very limited impact. In addition, the economy's strength is largely due to the diversity and innovation, which include high-tech industries in areas such as agriculture, pharmaceuticals, electronics and other high-tech GDP and services. The Central Bank's foreign currency reserves are at an all-time peak of USD 100 billion. The strong external accounts constitute additional testimony of the strength of the Israeli economy.

Moody's predicted that the government's budgetary deficit in 2016 would be lower than the target of 2.9% of GDP. It also noted that in the event that the Knesset ratified the current budget proposal for 2017-2018, additional changes will be needed for the fiscal rules defined

last November. The combination of high expenses and decreased taxes in the current budget proposal may risk the broad and extensive political agreement regarding reduction of government debt. Moody's estimated that the deficit goal proposed in the budget proposal may lead to a minor increase in the debt-to-GDP ratio between the end of 2016 and 2018.

The announcement stated that the credit rating was sensitive to geopolitical risks, with the State of Israel succeeding in reducing the impact of these security risks. It was also written that despite the fact that defense expenditures are constantly decreasing in relative terms, they were still the largest portion of the state budget.

Moody's noted that a rating increase may occur in the event that the geopolitical situation will change for the better, the regulation environment will improve significantly, or the debt-to-GDP ratio will drop at a material rate. The credit rating may be impacted in the event of the deterioration of the geopolitical situation, or in the event that the government's commitment to fiscal discipline will fade, particularly the consensus around decreasing the government's debt-to-GDP ratio.

Summary of 2016 S&P Report

On August 5, 2016, the credit rating company S&P announced that it had ratified the credit rating of the State of Israel and kept it intact at A+ Stable outlook.

The rating ratification came in light of analysts' expectations that the government would preserve its stable fiscal policy, and thus keep the government debt burden steady. It was also written that the company estimates that the deficit expected over the coming two years will amount to 2.9% of GDP. The report also notes that the Stable outlook reflects S&P's assessment that the impact of the security risks on the Israeli economy will remain limited.

In their announcement, the representatives of the rating agency emphasized the core strengths of Israel's credit rating, such as a varied and prosperous economy, a decrease in interest expenses on debt, strong external accounts and a flexible monetary framework. The two main rating restrictions remained the high debt burden as well as geopolitical risks and their economic implications.

S&P noted that the 2015 deficit amounted to 2.4% of GDP for a broad government and 2.2% of the GDP for a narrow government, mainly as a result of higher than expected tax revenues. This trend continued through the first half of 2016. The analysts noted that the coalition had reached an agreement regarding a two-year budget for 2017 and 2018 and maintained a deficit goal of 2.9% for the coming two years.

The report also noted that strong performance in the field of exports; strong external accounts and the country's monetary flexibility constitute strong points of its credit rating. Housing prices



were noted as one of the central challenges faced by the Israeli economy, and analysts believed that the government had so far implemented a variety of comprehensive steps in order to deal with issue problems, but they expect the impact to be limited in the short term.

S&P noted that a significant improvement in the geopolitical situation and implementation of a responsible fiscal policy, which will exceed analysts' expectations and lead to a significant decrease in the debt burden, may lead to a ratings increase. Alternately, an increase in government deficits and government debt, or a perceived loss of international support, may impact Israel's credit ratings.

Appendix B: Subsidy in the form of Designated Bonds

Background

As part of the 2003 reform in pension funds, and in light of actuary deficits in some of the older pension funds, it was decided to revise the investment ceiling of the old and new pension funds in designated bonds to 30% of the estimated value of the fund's assets. It was also decided, that in the future, Arad designated bonds would be issued to all of the pension funds, bearing an effective coupon of 4.86% per year, instead of Meron bonds, which bear an effective coupon of 5.58% per year. The change in restrictions on investments in pension funds to a level of 30% led to the discontinuation of Arad bond issues in 2004 and lower issue volumes in 2005-2008.

Trend Analysis - Current Issues of Designated Bonds to Pension Funds.

Chart 1 presents the volume of the issue of designated bonds for pension funds each year in 1997-2016. As the chart presents, in 2004-2008, after changing the restriction on pension fund investments, the volume of designated bond issues was very low compared to previous years. 2009-2011 saw a slight increase in the volume of designated bond issues.

Beginning in 2012, there was a significant increase in the volume of designated bond issues, which reached a peak in 2013 and 2014. One reason for this increase was the entitlement of the old pension funds to the issue of designated bonds after dropping below a level of 30% of the estimated value of their assets. The new pension funds also contributed to this increase in the value of assets, which is largely due to the net accumulation of the new funds from the implementation of mandatory pension in Israel.

Chart 1 - Volume of Designated Bond Issues in 1996-2016

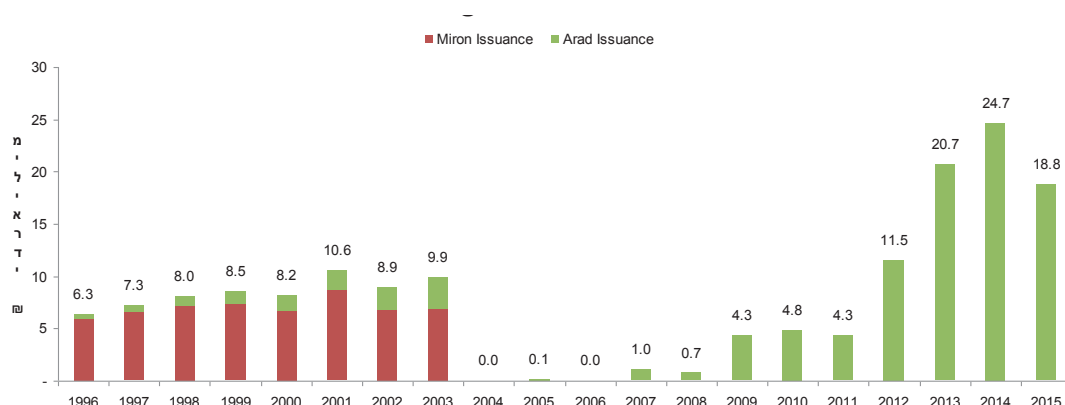


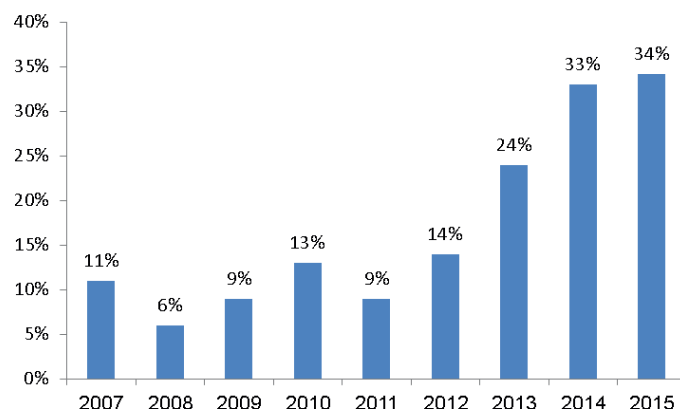
Table 1 presents the funding volumes in the domestic market, divided into tradable and non-tradable recruitment. The table presents the sharp increase in the funding rate of non-tradable debt from total funding in the domestic market in recent years. In 2016, we saw a slowdown in the growth level, particularly in light of the drop in yields of pension assets portfolios.

Table 1 - Domestic Funding by Tradable and Non-Tradable Debt

NIS billions	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total non-tradable bonds	4.5	4.1	8.5	8.9	8.1	15.9	25.3	31.0	24.1	23.8
Pension (Arad and Meron)	1.0	0.7	4.3	4.8	4.3	11.5	20.7	24.7	18.8	17.7
Insurance (Life, CPI-linked)	3.2	3.1	3.7	3.6	3.4	3.8	4.0	5.7	4.8	5.7
Emissions	0.3	0.3	0.5	0.5	0.4	0.6	0.6	0.6	0.6	0.5
Tradable bonds in domestic market	37.0	65.8	82.0	61.1	78.5	97.0	82.0	64.0	46.5	64.0
Total domestic funding	41.5	69.9	90.5	70.0	86.6	112.9	107.3	95.0	70.6	87.8
Non-tradable bonds as % of domestic funding	11%	6%	9%	13%	9%	14%	24%	33%	34%	27%

Chart 2 presents the funding rate of non-tradable domestic debt relative to the total amount of domestic debt funding in 2007-2016. We can see that 2016 saw a drop in the rate of non-tradable domestic debt raised out of total domestic debt raised, in light of the increase in debt raised in 2016 relative to 2015.

Chart 2 - Non-Tradable Domestic Debt as % of Total Domestic Debt in 2007-2016



Trend Analysis - Balance of Designated Bonds for Pension Funds

Chart 3 presents the development of non-tradable debt, which includes the designated bonds for pension funds, the designated bonds for insurance companies and emissions, as well as the development of non-tradable debt for the pension funds.

The chart shows that in 2007-2011, the inventory of non-tradable debt (mainly debt to pension funds and insurance companies) remains stable and amounts to an average of approximately NIS 144 billion, with the debt to pension funds in this period dropping by approximately 8% from NIS 102 billion to NIS 94 billion. It can be seen that starting in 2011, the volume of non-tradable debt increased significantly, particularly in light of the sharp 51% increase in non-tradable debt to pension funds, from a level of NIS 94 billion in 2011 to a level of NIS 141.7 billion in 2016.

Chart 3 - Development of Non-Tradable Domestic Debt in 2007-2016

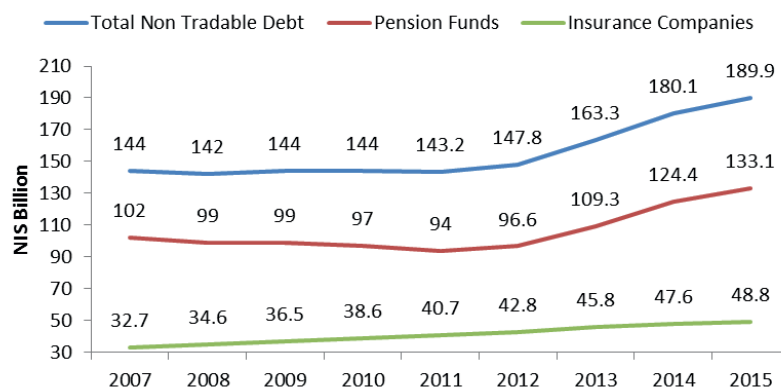
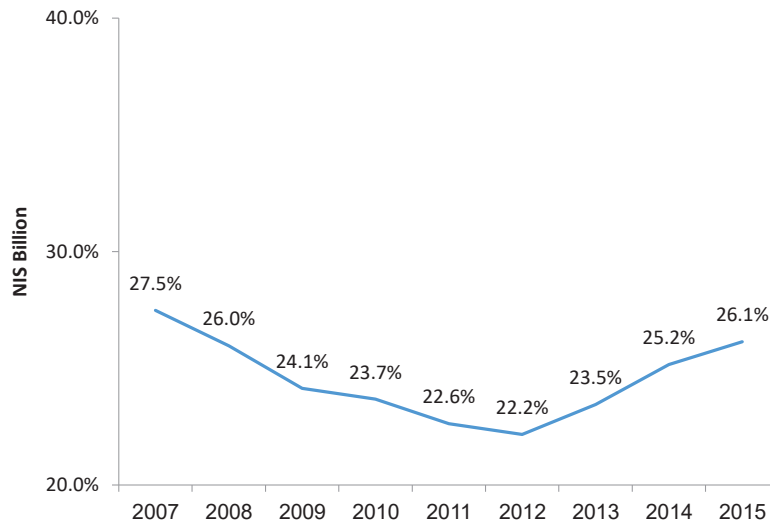


Chart 4 presents the trend reversal in the rate of non-tradable debt from total debt. 2007-2012 saw a significant 5% decrease, while in the past three years alone this ratio increased by 4%.

Chart 4 - Rate of Non-Tradable Debt from Total Government Debt



[NIS billions]

Trend Analysis - Interest Payments on the balance of Designated bonds for Pension Funds

Chart 5 presents the interest payments divided by the following sectors:

- Government - interest expenses on tradable domestic debt and on foreign debt
- Non-tradable - interest expenses on non-designated non-tradable bonds for pension funds, insurance companies and emissions
- National insurance - National Insurance interest expenses

This graph presents the ongoing increase in interest expenses on non-tradable debt starting in 2012, from a level of approximately NIS 7.5 billion to a level of approximately NIS 9.4 billion (an approximate 25% increase), while the interest payments on the tradable debt decreased from a level of approximately NIS 23.2 billion to a level of approximately NIS 20.6 billion (an approximate 11% decrease).

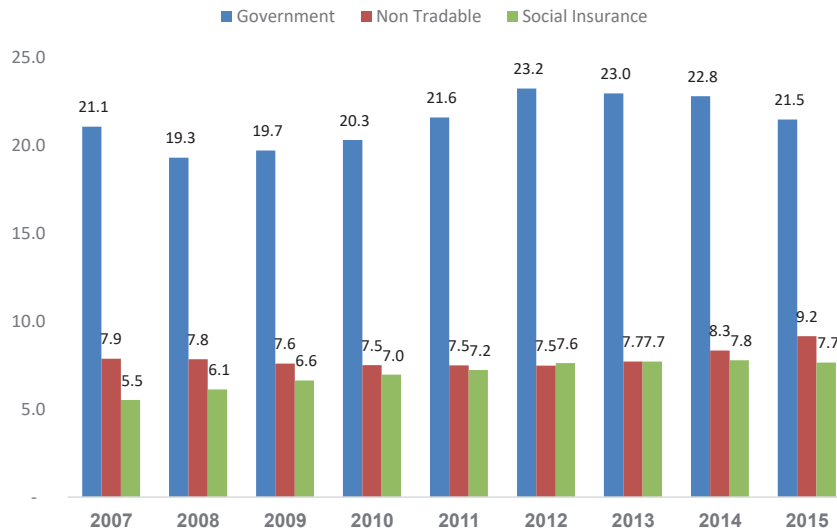
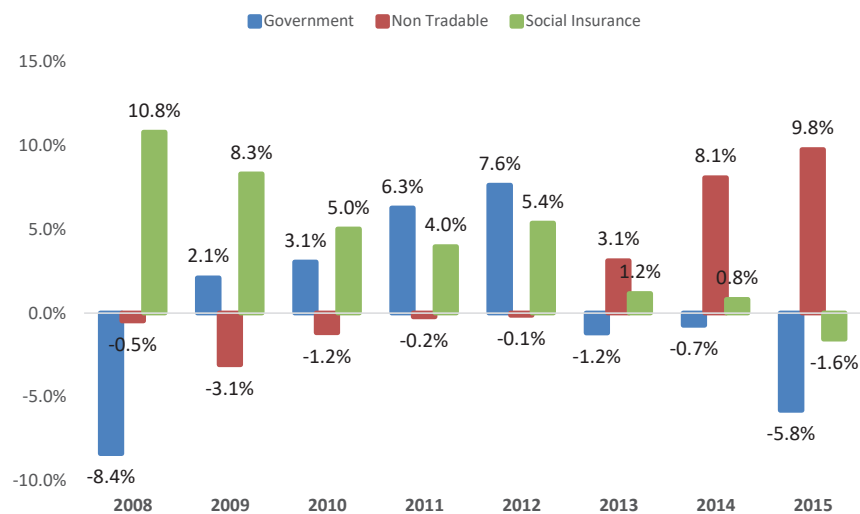
Chart 5 - Interest Expenses Divided by Sectors

Chart 6 presents the yearly rate of change divide by sectors. Over the past two years, we can see the increase in interest expenses due to non-tradable government debt in light of the large amount of money raised. On the other hand, we can see the decrease in interest expenses due to government debt and National Insurance, particularly in light of market factors, a low and even negative CPI and the strengthening of the NIS.

Chart 6 - Yearly Rate of Change in Interest Expenses Divided by Sectors

Estimated Subsidy in Designated bonds issued to Pension Funds as of the End of 2016

In light of the above, it is important to estimate the subsidy included in the issue of designated bonds for pension funds and insurance companies.

Methodology

Main scenario - assessment of the subsidy included in the issue of designated bonds for pension funds was performed using the Bottom Up method. This estimate is the result of the volume of issues each year multiplied by the margin of yields between designated bonds for pension funds (bearing a coupon of 5.58% and a coupon of 4.86%) and the yield of CPI-linked government bonds with an identical average life span.

For 2006-2016, use was made of the volume of issues at a monthly level (120 issues) on the basis of the Ministry of Finance operational systems. For 1995-2005, use was made of a yearly volume of issues for both Meron bonds and for Arad bonds, in accordance with issue data received from the Bank of Israel. The database for calculating the market yields was taken from the Bank of Israel database, which presents the yields of CPI-linked government bonds for various maturity periods.

In addition, a feasibility test was carried out for the results of the estimate, which determined the estimated subsidy from the multiple of the yield margin (the gap between the designated bonds for the pension funds and the average market yield) in the inventory of designated bonds. The average market yield was calculated as a weighted average in the yearly volume of funding for each year of yields from 1996-2016.

In addition, for the central estimate, a number of sensitivity analyses were performed for the estimate, including the testing of various average life spans, adding a “floor” as well as comparison to the zero curve yield, as published by the Bank of Israel to the public in 2008.⁴

⁴ We note that this methodology has several disadvantages with regard to the use of the yields of government bonds traded on the market. First, this is a theoretical curve, reflecting yields on zero coupon bonds, which do not pay coupons. In practice, the state's real alternative for raising replacement debt for designated bonds is government bonds traded on the market. Second, use of this curve creates a lack of consistency in calculating the estimated subsidy for a number of reasons: the curve has only been made public by the Bank of Israel since 2008, and the methodologies for determining this curve have changed over the years, creating a number of methodologies for determining this curve. Despite this and in order to test the estimate's sensitivity, a calculation is presented for the subsidy as if we had been using zero curve published by the Bank of Israel starting 2008.

Results of Main Scenario

Table 2 presents the subsidy included in the issue of designated bonds for pension funds in accordance with the main estimate as of the end of 2016.

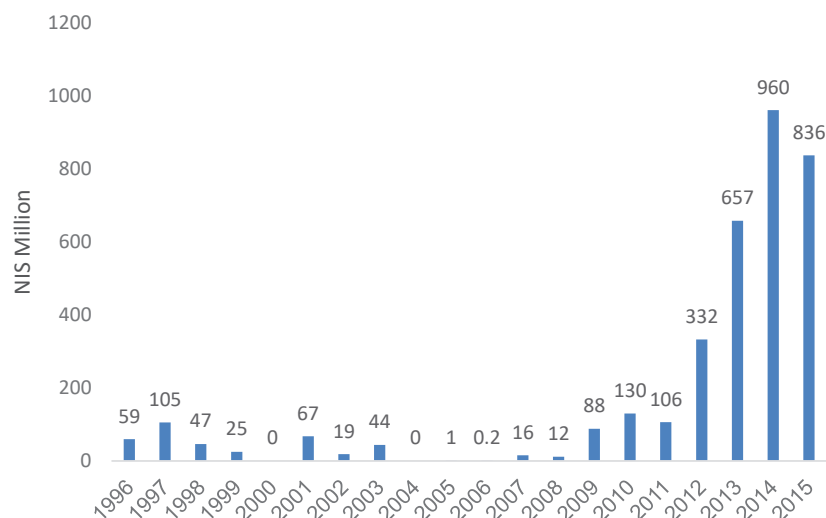
Table 2 - Subsidy Included in the Issue of Designated bonds to Pension Funds as of the End of 2016

NIS millions	Main Scenario
Total subsidy	4,260

The total interest expense for non-tradable debt in 2016 amounted to NIS 9.4 billion, of which NIS 6.6 billion is designated bonds for pension funds. The subsidy for pension funds as of the end of 2016 amounts to approximately NIS 4.2 billion, and therefore the subsidy constitutes approximately 63% of the interest payments on these bonds, compared to the subsidy of approximately 55% the previous year.

Chart 7 presents the subsidy each year for designated bonds, issued from 1997 to 2016. As can be seen, most of the subsidy was created over the past five years, both in light of the decrease in the yields of CPI-linked tradable government bonds and in light of the increase in the volume of non-tradable issues.

Chart 7 - Current Subsidy Each Year From 1997 to 2016



[NIS millions]

Results of Feasibility Tests and Sensitivity Analyses

1. Feasibility Test

The following are the results of a feasibility test for the results of the estimate, which determined the estimated subsidy from the multiple of the yield margin (the gap between the designated bonds for the pension funds and the average market yield) and the inventory of designated bonds. The average market yield was calculated as weighted average in the yearly volume of funding for each year of yields from 1997-2016.

Table 3 - Feasibility Test

NIS millions	Main scenario	Feasibility test	Gap
Total subsidy	4,260	4,088	172

2. Sensitivity Analysis for Average Life Span

Arad bonds are issued for a maturity term of 15 years. In light of the high coupon of the bonds, the average life span of "Arad" bonds in the estimated period was between 10.5 and 11.5 years. Meron bonds are issued for a maturity term of 20 years, and the average life span of Meron bonds in the estimated period is between 10 and 11.5 years. In light of this, the estimated subsidy was calculated for an average life span of 10, 11 and 12 years.

Table 4 - Sensitivity Analysis for the Estimated Subsidy for Different Average Life Spans

NIS millions	Main scenario	Average life span of 10	Average life span of 11	Average life span of 12	Maximum gap (primary estimate for an average life span of 10)
Total subsidy	4,260	4,376	4,301	4,237	116

Charts 8 and 9 present the market yield with regard to Arad and Meron bonds in 1997-2016.

Chart 8 - Market Yield with Regard to Meron Bond Coupon in 1996-2003

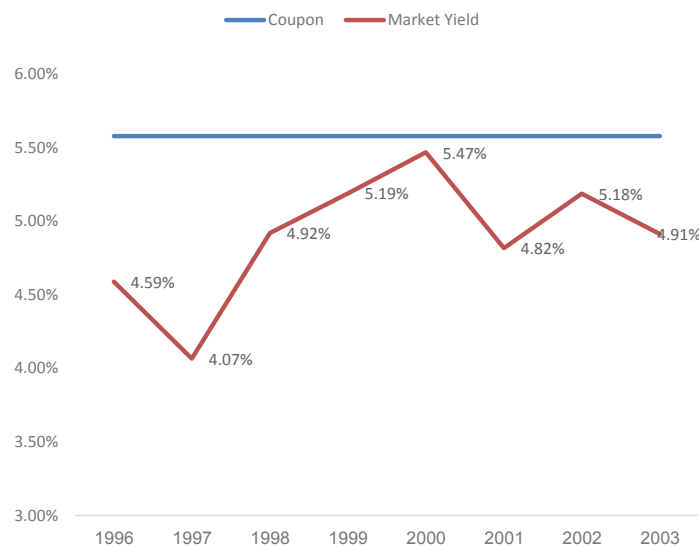
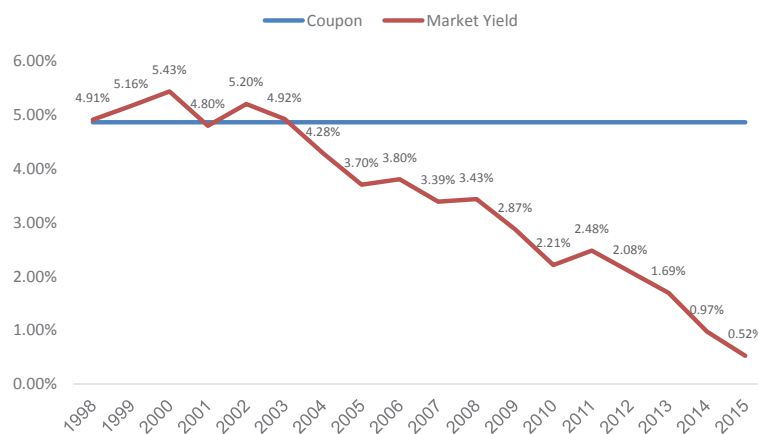


Chart 9 - Market Yield with Regard to Arad Bond Coupon in 1998-2016

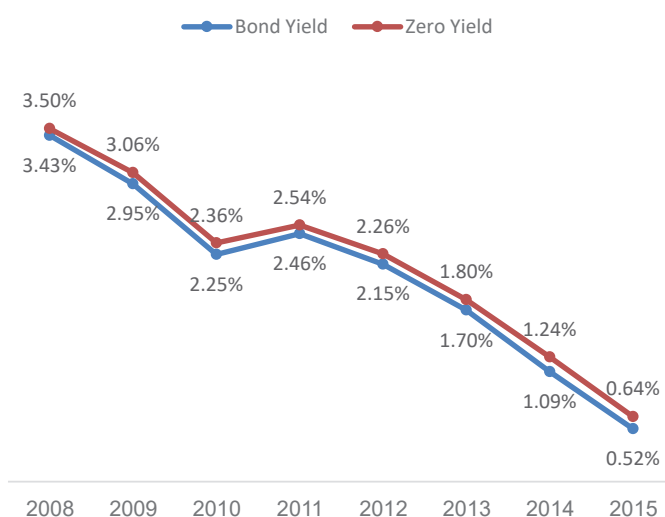


3. Sensitivity Analysis for Zero Coupon Yields

The estimated subsidy can be calculated when the market yields are determined from a theoretical curve, reflecting the yields of zero coupon bonds, which do not pay coupons. When using the zero curve published by the Bank of Israel starting in 2008 for the main scenario, the result of the estimate is NIS 319 million lower.

The following chart compares the average yields each year according to the theoretical zero curve and the bond yields:

Chart 10 - Comparison Between Bond Yields and the Yields of a Theoretical Zero Curve in 2008-2016



Subsidy for Insurance Companies

Designated bonds for Insurance Companies

The State of Israel issues bonds in accordance with the Lender Law (Insurance Companies) 1962. The primary purpose of the bonds is to allow insurance companies to maintain insurance coverage for life insurance policies issued in 1962-1991. There are ten types of loans (Fund A to J) with interest rates of between 4% and 6.2%, and issue terms ranging between ten and 25 years. There are currently seven insurance companies left who manage the funds.

Estimated Subsidy in Designated bonds for Insurance Companies, as of the End of 2016

Methodology

The methodology is similar to that used in the calculation of designated bonds for pension funds - a main scenario in which the subsidy in the issue of designated bonds for the insurance companies is estimated using the Bottom Up method. This estimate is a result of the volume of issues each year multiplied by the margin of yields between designated bonds for insurance companies (bearing coupons of between 4% and 6.2%) and the yield of CPI-linked government bonds with an identical average life span.

Results of Main Scenario

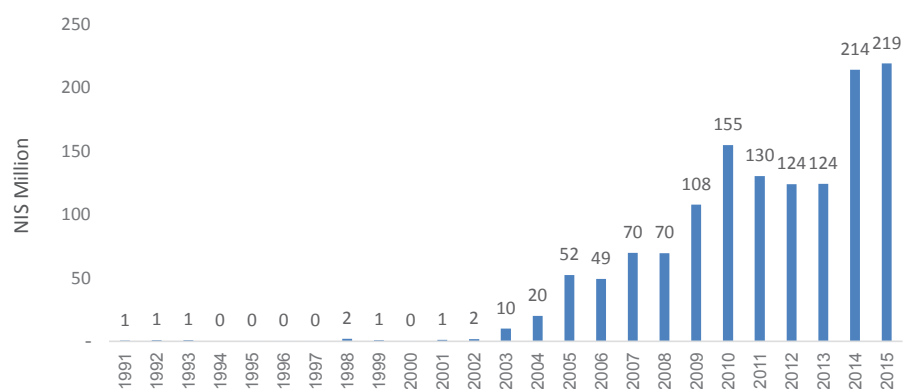
Table 5 presents the subsidy included in the issue of designated bonds for insurance companies in accordance with the main estimate as of the end of 2016.

Table 5 - Subsidy in the Issue of Designated Bonds for Insurance Companies as of the End of 2015

NIS millions	Main scenario
Total subsidy	1,561

Chart 11 presents a distribution of subsidy by years. It can be seen that when issuing designated bonds for insurance companies, there has also been an increase in the subsidy in recent years, particularly in light of the drop in yields of tradable government bonds.

Chart 11 - Current Subsidy of Insurance Companies Each Year from 1991 to 2016



[NIS billions]

summary of results

Table 6 summarizes the results of estimates in 2016, and includes a comparison for 2014 and 2015. We can see an increase in the estimated subsidy of NIS one billion each year since 2014.

Table 6 - Subsidy in Issue of Designated Bonds in 2014-2016

NIS millions	2014	2015	2016
Pension funds	2,732	3,503	4,260
Insurance companies	1,136	1,324	1,561
Total subsidy	3,868	4,827	5,821

Appendix C: Bond Characteristics

Characteristics of Tradable Bonds in the Domestic Market

Bonds	First issue date	Interest	Interest payment
CPI-Linked			
"Galil" *	December 31, 1984	Fixed - as set by the Ministry of Finance	Once per year
CPI-linked government bonds	June 26, 2006	Fixed - as set by the Ministry of Finance	Once per year
Nominal			
Floating-rate government bonds	January 8, 2008	Variable - according to 12-month to short-term loan yields	Every 3 months
"Shahar" *	August 24, 1995	Fixed - as set by the Ministry of Finance	Once per year
ILGOV bonds	November 6, 2006	Fixed - as set by the Ministry of Finance	Once per year
Short-term government bonds	August 13, 2007	Zero coupon	-

* The bond is no longer issued.

Characteristics of Non-Tradable Bonds in the Domestic Market

Bonds	First issue date	Interest	Interest payment
CPI-Linked			
"Meron"*	November 30, 1983	5.5% fixed	Once every 6 months
Arad	July 2, 1995	4.8% fixed	Once every 6 months
Hetz	May 1, 1962	Fixed between 4%-6.2%	Once every 6 months

* The bond is no longer issued.

Appendix D: Details of external debt Issues

Issues Guaranteed by the US Government, 2003-2004⁽¹⁾

Date of issue	Amount in USD millions	Original Time to Maturity (in Years)	Coupon (In percentage points)	Underwriter	Yield (In percentage points) / price	Spread from 30-year U.S. Government Bonds on the date of issue (base points)	Fee to USAID on the face value of the guarantee
October 2004	750\$	20	5.125	Merrill Lynch	5.16%	29	3.90%
					-99.5789		
April 2004	1000\$	20	5.5	Lehman Brothers	5.53%	31	5.10%
					-99.6025		
December 2003	750\$	20	5.5	Lehman Brothers	5.52%	36	4.96%
					-99.7608		
September 2003	450\$	30	5.5	Barclays Capital	5.58%	38	8.27%
					-98.8557		
September 2003	1150\$	20	5.5	Merrill Lynch	5.53%	33	7.00%
					-99.6409		

(1) All of the issues are of fixed-coupon bonds.

Public Sovereign Issuances in Global Financial Markets in 1995-2017⁽¹⁾

Year	Market	Amount in millions in original currency	Yield to redemption on date of issue (in percentage points)	Original time to maturity (in years)	Coupon (in percentage points)	Reference interest - government bonds ⁽²⁾	Spread from reference interest rate on date of issue (base points) ⁽³⁾	Spread above swap curve in relevant currency on date of issue (base points) ⁽³⁾
2017	European	1,500 €	1.552	10	1.5	Germany	129	87
		750 €	2.456	20	2.375		168	125
2016	Global	1,000\$	2.942	10	2.875	United States	105	122.7
		500\$	4.181	30	4.5		150	203
2014	European	1,500 €	2.932	10	2.875	Germany	117	90
2013	Global	\$1,000	3.213	10.5	3.15	United States	125	115
		\$1,000	4.588	30	4.5		145	157
2012	Global	\$1,500	4.115	10.5	4	United States	205	194
2010	European	1,500 €	4.682	10	4.625	Germany	149.2	130
2009	Global	1,500\$	5.19	10	5.125	United States	262.5	237
2006⁽⁴⁾	Global	1,000\$	5.58	10	5.5	United States	98	45
2005⁽⁴⁾	European	750 €	3.78	10	3.75	Germany	64	53
2004⁽⁴⁾	Global	500\$	5.2	10	5.125	United States	115	75
2003⁽⁴⁾	Global	750\$	4.731	10	4.625	United States	153	120
2002⁽⁴⁾	European	400 €	5.983	7	5.875	Germany	122	100
2000⁽⁴⁾	Global	500\$	7.82	10	7.75	United States	144	40
1999⁽⁴⁾	European	400 €	4.91	7	4.75	France	97	65
1998	Yankee	250\$	7.313	30	7.25	United States	225	162
1997⁽⁴⁾	Samurai	20,000¥	3.017	10	3	Japan	48	25
1996⁽⁴⁾	European	200\$	6.469	5	6.375	United States	50	25
1995⁽⁴⁾	Yankee	250\$	6.491	10	6.375	United States	76	38

(1) All of the issues are of fixed-coupon bonds.

(2) Government bonds used as reference point for calculating the spread.

(3) Base point = one hundredth of one percent.

(4) Redeemed bonds.

Appendix E: 2016 Ranking of Primary Dealers In the Government Bond Market

Primary Market (Issuances on Bloomberg platform)*

The rankings are listed from the highest to the lowest volume of purchases:

1. Bank Leumi
2. First International Bank of Israel
3. Discount Bank
4. Bank Hapoalim
5. Citibank
6. Bank Mizrahi Tefahot
7. Barclays
8. BNP Paribas
9. Goldman Sachs
10. Merrill Lynch
11. Deutsche Bank
12. Bank of Jerusalem
13. Union Bank

Secondary Market (Trading on the MTS platform) - Nominal Segment*

The rankings are listed from the highest to the lowest volume of activity:

1. Bank Leumi
2. Barclays
3. Discount Bank
4. Bank Hapoalim
5. Bank Mizrahi Tefahot
6. Citibank
7. Deutsche Bank
8. First International Bank of Israel
9. Goldman Sachs

10. Union Bank
11. Merrill Lynch
12. BNP Paribas
13. Bank of Jerusalem

(*) BNP Paribas was appointed primary dealer in government bonds during August.

Secondary Market (Trading on the MTS Platform) - Cpi-Linked Segment*

The rankings are listed from the highest to the lowest volume of activity:

1. Bank Leumi
2. Barclays
3. Discount Bank
4. Bank Hapoalim
5. Bank Mizrahi Tefahot
6. Deutsche Bank
7. Citibank
8. Goldman Sachs
9. First International Bank of Israel
10. Union Bank
11. Merrill Lynch
12. BNP Paribas
13. Bank of Jerusalem

(*) BNP Paribas was appointed primary dealer in government bonds in August.

Appendix F: Debt Management Unit Department of the Accountant General

Offices in Jerusalem: 1 Kaplan St., Jerusalem Tel: +972-2-5317555 Fax: +972-2-5669827	Offices at Airport City: Arava St., Airport City Tel: +972-3-9778777 Fax: +972-3-9795370 Email: gdmu@mof.gov.il
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Name	Position	Telephone no.	Email
Yali Rotenberg	Senior Deputy to Accountant General Debt Unit Manager Financing Division, Credit and Administrative Information Manager	02-5317555	yaliro@mof.gov.il
Gil Cohen	Head of Government Debt Office	02-5317536	gilco@mof.gov.il
Lior David-Pur	Head of Risk Management Department	02-5317077	liorda@mof.gov.il
Edi Terner	Head of Receipts and Payments Department	03-9778785	edit@inbal.co.il
Yuval Lieber	Head of Middle Office and Secondary Market Compliance Department	03-9778761	yuvall@inbal.co.il
Erez Golan	Head of Domestic Debt and Issuances Department	03-9778128	erezg@inbal.co.il
David Erdfarb	Debt Unit Referent	03-9778072	davide@inbal.co.il
Hana Sela	Deputy Head of Receipts and Payments Department	03-9778784	hanas@inbal.co.il
Adi Goldstein	Domestic Debt and Issuances Department Referent	03-9778795	adig@inbal.co.il
Alex Goldin	Domestic Debt and Issuances Department Referent	03-9779277	alexgo@inbal.co.il
Yaron Pecht	Foreign Currency and External Debt Department Referent	02-5317580	yaronp@mof.gov.il
Or Moses	Risk Management Department Referent	03-9778133	orm@inbal.co.il
Hali Golan	Risk Management Department Referent	03-9778774	halig@inbal.co.il
Reut Uliel	Risk Management Department Referent	03-9778740	reutu@inbal.co.il
Orna Arad	Receipts and Payments Department Referent	03-9778786	ornaa@inbal.co.il
Gennady Naiman	Internal Loans Area Coordinator, Receipts and Payments Department	03-9778781	genadin@inbal.co.il
Miri Cohen	External Loans Area Coordinator, Receipts and Payments Department	03-9778102	miric@inbal.co.il

Name	Position	Telephone no.	Email
Ariel Kimhi	Middle Office and Secondary Market compliance Department Referent	03-9778790	arielk@inbal.co.il
Esther Embau	Receipts and Payments Department Referent	03-9778783	estera@inbal.co.il
Mercy Alkunin	Receipts and Payments Department Referent	03-9778737	mercy@inbal.co.il
Anna Ostrovsky	Receipts and Payments Department Referent	03-9778788	annao@inbal.co.il



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