EXPOSURE OF INSTITUTIONAL INVESTORS TO POLLUTING COMPANIES[1]

- In this analysis we examine how climate-related issues are expressed in the financial markets in Israel and globally, and we analyze the exposure of Israel's financial institutions to polluting companies.
- Over the past two years, Israel's financial regulators have stepped up the measures applied in integrating ESG (environmental, social and governance) considerations in the investment and risk-management decision making processes of financial companies. Such action notwithstanding, there is no requirement obligating financial institutions to report their exposure to polluting companies, just as there is still no such requirement in other parts of the world.
- We found that the share of the institutional investors' total investment portfolio exposed to polluting companies dropped in the period under review, from 5.5 percent in January 2009 to 3.8 percent at the end of 2022. However, in the tradable corporate assets portfolio held by these institutions, the exposure rate remained relatively stable at around 12 percent.
- The share of the institutional investors' total equity portfolio exposed to polluting companies is low by international comparison.
- An allocation by investor category shows that at December 2022, mutual funds have the highest rate of exposure to polluting companies at 7.2 percent of their total investment portfolio, while the pension funds have the lowest rate of exposure at 2.4 percent. The different exposure between the two categories of fund is mainly attributable to differences in the mix of the investment instruments, since when comparing this investment from the total tradable corporate portfolio alone, the exposure rates obtained are the same – 12.1 percent in December 2022.

1. Foreword

According to the IPCC (AR6) report issued in February 2022, the effects of climate change are already felt in extreme climate conditions and weather events all over the globe. Evidence of extreme events such as heatwaves, heavy rainfall, drought, tropical cyclones, and particularly their attribution to the impact of mankind, have become more pronounced since the previous IPCC report published in 2014 (AR5). Compared with the pre-industrial revolution period, the changes relative to the pre-industrial revolution period include an increase of 1.07^0C in the average global temperature, retreating icebergs, warming of the upper layer of the sea, higher ocean acidification, rising sea levels of 20 cm. and more.

Climate change and extreme weather events pose risks leading to a growing awareness in Israel and other parts of the world of the importance of managing climate and environmental risks in a range of areas, including the financial system. The financial system is exposed to climate-related risks through two key channels – physical risk and transition risk.

[1] Authors: Meital Graham-Rozen and Shir Davidovitch.

Physical risk derives from the exposure to losses resulting from acute climate phenomena such as heatwaves, floods and wild fires, as well as losses arising from chronic climate phenomena developing over time, such as desertification and rising sea levels. Risks from the transition to a low-carbon economy derive from policy and regulatory changes, changes in technology, as well as changing public tastes and conduct in the process of reducing greenhouse gas emissions (GGE).

The financial system is exposed to the risk of climate change in its various channels. Materialization of these risks could lead to financial loss in different time frames and of different magnitudes, depending on the nature of the economy and the channels of exposure of the various entities within the financial system to those risks. The degree of exposure to the materialization of transition risks and physical risks differs among the different financial companies due to variance in the distribution of their financial exposure and also to a possible variance in the effect of the exposures on the future development of their business.

The most significant climate-related milestone in the past few years is the signing of the Paris Agreement (or Paris Climate Accords) in 2015. This agreement obligates its signatories, Israel included, to submit to the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) every five years, a national goal (or nationally determined contribution (NDC)) for reducing greenhouse gas emissions that is more ambitious than its predecessor. The emission reduction policy relies on technology developments that require considerable finance. Finance is required for the construction of infrastructures to assimilate renewable energy, to adapt the activity of existing companies, for research and development (R&D) of new technologies, and more. These expenses may be covered by government or through private funding by way of equity or debt. According to OECD estimates from 2017[2], meeting the goal of limiting global warming to 2^0 at a probability of 66 percent will require global investment of $6.9 trillion per year for the next ten years.

This analysis focuses on the subject of climate in the Israeli and global financial markets and centers on an attempt to quantify the scope of the exposure of the different institutional investors[3] to polluting companies[4] in Israel, and examines how it has developed over the last 15 years.

2. Environmental investments

Sustainable finance generally refers to investment policies that are about including ESG (Environmental, Social and Governance) considerations at the level of individual securities, portfolios or issuers. Within the framework of sustainable investments, green investments are considered to be those focusing on environmental issues. Green investments include those associated directly with climate change through mitigation[5] or adaptation[6] as well as investments that contribute to the environment but do not contribute directly to climate change. Investments in climate-change mitigation are generally called low-carbon

2 Organization for Economic Cooperation and Development (OECD) (2017). Investing in Climate, Investing in Growth. OECD Publishing. Paris.

3 Insurance companies, pension funds, mutual funds and provident funds.

4 We have defined as polluting companies those companies defined as such by the Index Committee of L&E (Life and Environment) and/or companies associated with the stock exchange energy and oil and gas exploration sectors, and/or companies listed in the Ministry of Environmental Protection's Pollutant Release and Transfer Register. Further information appears later on in this paper.

5 Mitigation of the effects of climate change by reducing greenhouse gas emissions. The financial sector can help in this respect by diverting capital to investments in green technologies.

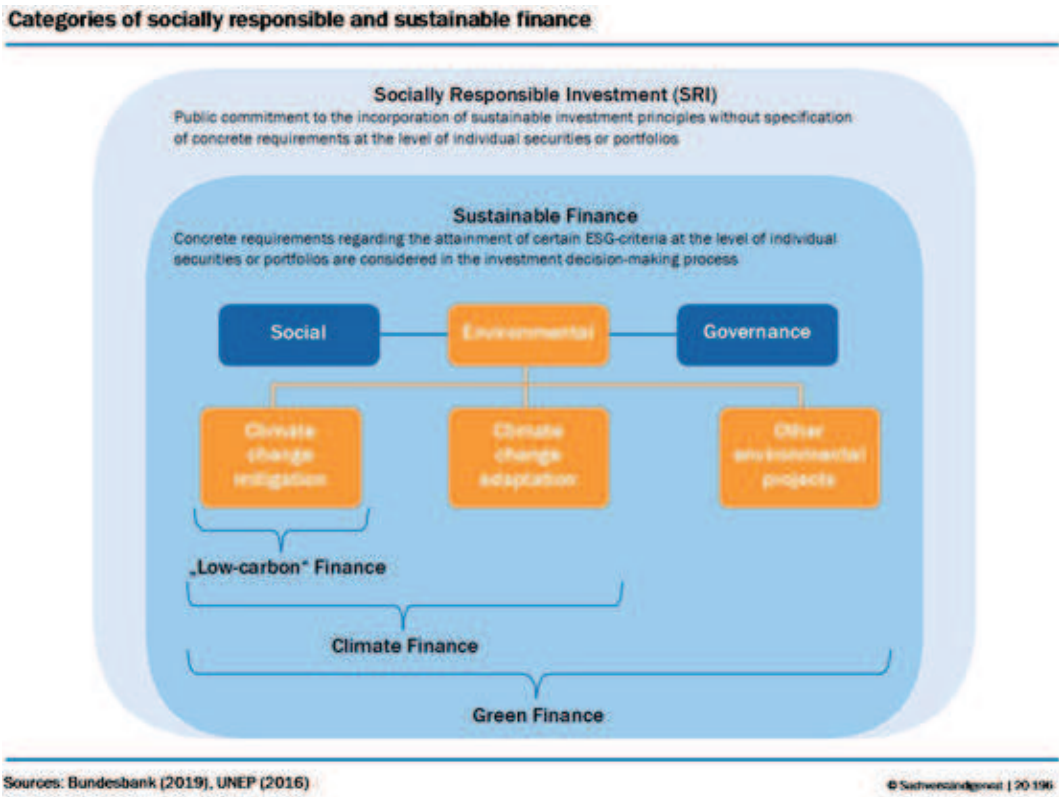
6 The adaptation required of the financial system to the climate crisis incorporates assimilating a policy to manage climate risks by maintaining stability of the financial system. This policy is necessary at the level of companies, financial institutions and supervising entities and it requires the development of models, new stress tests and regulations that will help classify activities by their exposure to climate risks.

investments. Figure 1 presents a schematic description of the social-environmental investments described above, as generally referred to in the world at large.

In addition to classifying investments as socially responsible investments, methods must be developed for classifying and identifying assets that are relevant to these goals. There are several methods for categorizing firms according to "green" criteria aimed at creating competition between the companies regarding greener activity. (See Appendix A for additional information.)

Just as there are different definitions for economic activity that is considered green, there are also numerous possibilities for classifying economic activity that is harmful to the environment. Under the European Union Taxonomy, only economic activity that makes a significant contribution to the environment is currently defined as green, while the conditions of economic activity that significantly harms the environment will be published at a later date. In general terms, threshold data will be defined to form the basis for deciding whether economic activity adversely affects one of the six environmental objectives of the EU.[7] This classification requires a response to two questions—whether it is possible to improve the environmental impact of economic activity through technology developments, and whether the economic activity passes the defined threshold for causing substantial damage to the environment.

Figure 1: Environmental-Social Investment Frameworks



SOURCE: Liebich, Lena; Nöh, Lukas; Rutkowski, Felix; Schwarz, Milena (2020):Current developments in green finance, Arbeitspapier, No. 05/2020, Sachverständigenrat zur Begutachtung der Gesamtwirtschaftlichen Entwicklung, Wiesbaden.

7 Climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, protection and restoration of biodiversity and ecosystems.

Additionally, financial institutions can analyze the extent to which their different portfolios are exposed to climate by means of the CPRS (Climate Policy Relevant Sectors) classification. This method, developed in 2017, is based on a classification of economic activities from the perspective of climate transition risks. (In Europe this classification is known as NACE, and in Israel the Central Bureau of Statistics has corresponding sectors at different levels of detail.) The most general classification is 9 categories of economic activity, including fossil fuel, electricity and utilities, energy intensive, buildings, transportation and agriculture, and each category covers different economic sectors.[8] Another possible classification is based on the intensity of greenhouse gas emissions (GGE), namely—the volume of emissions relative to the volume of the company's economic activity. The emissions are measured in scopes. Scope 1 measures the company's direct emissions (e.g., by the vehicles and industrial plants in its possession); Scope 2 covers indirect emissions, originating in the purchase of polluting raw materials (mainly due to the use of electricity); Scope 3 is indirect emissions that are not part of Scope 2 and occur over the company's supply chain. Scope 3 covers the company's investment portfolios in the case of financial institutions. The first and second categories are fairly simple to evaluate and report, but there are still no clear reporting standards for Scope 3. Furthermore, companies reporting Scope 1 and Scope 2 emissions do not always report Scope 3 emissions. There are methods for assessing the volume of the emissions even if they are not reported by the companies, based on economic sector and their volume of activity, and many institutions are assisted by external consulting companies that specialize in evaluating such data.[9]

As in other parts of the world, in Israel too there is a growing approach that investors should receive more disclosure on climate-related issues and that such disclosure should be enhanced and standardized. To help governments, central banks, and financial regulators improve the way they address the possible impact of climate risks on the financial system, over the past few years international financial and economic organizations (FSB, IMF, BIS, OECD, NGFS, and others) have begun to engage in this field from different perspectives—mainly with respect to financial stability, recommendations to central banks, and recommendations to those responsible for the supervision and regulation of financial institutions. Some of these entities are involved in improving disclosure, transparency and enforcement and work to create uniform standards and frameworks for risk management and the redirection of investments. Appendix B presents the measures taken by Israel's financial regulators in this regard,[10] and it shows that there has been a marked acceleration of the measures introduced in the past two years, meaning that the three financial regulators (Banking Supervision Department; Capital Market, Insurance and Savings Authority; and the Israel Securities Authority) now emphasize the integration of environmental, social, and governance considerations in investment and risk-management decision making processes. Nonetheless, there are no mandatory requirements in Israel that obligate financial companies to report their exposure to polluting companies, a situation similar to that in other parts of the world.

8 Battiston, Stefano, et al. (2022). "The NACE-CPRS-IAM mapping: A tool to support climate risk analysis of financial portfolio using NGFS scenarios". Available at SSRN (2022).

9 From "Mapping climate risk: Main findings from the EU-wide pilot exercise" by the EBA, May 2021.

10 Appendix C presents the measures adopted by supervisory authorities around the world.

3. Exposure of institutional investors to polluting companies

Considerable uncertainty surrounds the pace and intensity of the development of physical climate risks and transition risks, in the form of policy measures to be assimilated as part of the global effort to address climate change. The financial companies' exposure to these risks in the future is liable to increase to the point that it will affect various aspects of their activity. These companies are exposed to environmental risk as part of their investment risk, by way of investment of the assets that they manage. Furthermore, growing public awareness of and the demand for environmentally sustainable conduct is accompanied by an increase in the reputation risk of companies that fail to take action to mitigate climate risks. All companies in the economy, financial institutions included, face such reputation risk. Notably, insurance companies are also exposed to investment risk by way of the investment of their assets: through the credit risks of their borrowers or a decline in the value of collateral that is exposed to environmental risk, or by way of credit risk, if a reinsurer's financial position deteriorates due to investments it is forced to make as a result of environmental regulations.[11]

One of the key risks arising from climate risk lies in the failure to price these risks into the price of the assets. Government action to reduce greenhouse gas emissions, such as carbon tax, could lead to a reduction in the value of the shares and lower the credit rating of industries based on fossil fuels. This could lead, in turn, to an increase in the leverage of the companies and in all probability to an increase in their risk premium, and specifically to a greater risk of bankruptcy.

In this chapter, we attempt to quantify the exposure of the institutional investors (insurance companies[12], mutual funds, provident funds[13] and pension funds) to polluting companies, namely that share of the institutional investors' total investment portfolio that is invested in polluting companies. We have defined these companies in accordance with the L&E (Life and Environment) Index Committee[14] definition of polluting companies and/or companies associated with the stock exchange energy and oil and gas exploration sectors, and/or companies listed in the Ministry of Environmental Protection's Pollutant Release and Transfer Register (PRTR).[15]

11 For further information, see Box 2 in the Bank of Israel's Financial Stability Report for the first half of 2022: "Climate risk and the financial institutions".

12 Profit-sharing portfolio only.

13 The study funds are included in this category.

14 The launching of the fossil-free TA-25 share index in 2020 by the umbrella organization of Israel's environmental organizations included the establishment of an L&E Index Committee, which set guidelines for defining fossil-fuel (polluting) companies: (1) companies engaged in the exploration, production, transmission, storage and refining of fossil fuels (gas, coal, oil, oil shale and its derivatives); (2) companies engaged in the construction and operation of power stations generating electricity on the basis of fossil fuels; (3) companies whose main purpose is to finance a fossil-fuel corporation and/or receive royalties from fossil-fuel companies; (4) companies with a controlling interest (according to the definition of this term in the Securities Law) in a fossil-fuel company. The L&E Index Committee may deviate from these guidelines at its discretion should it find justification for such action.

15 Information from the database is reported to the Ministry of Environmental Protection and published annually under the Environmental Protection Law. This database includes data on the emission of polluting substances into the environment, the flow of sewage from industrial plants to sewage processing plants, and the transfer of waste for treatment or to landfill. According to Ministry of Environmental Protection sources, emissions originating in the industries reported to this database account for more than 60 percent of all emissions by Israel's industries. The report lists the range of emissions that are above the threshold conditions for reporting, but at relatively low volumes.

The Index Committee has defined 48 companies as fossil fuel companies, and 16 of them are listed on the TA-125 share index. 43 of these companies have shares or participation units while the rest are bond companies. The 43 companies that have shares or participation units are associated with six economic sectors: 28 companies are oil and gas exploration companies (of which 19 belong to the oil and gas exploration subsector and 9 belong to the energy subsector), 10 companies belong to the investment and holdings sector, 2 companies to the real-estate and construction sector, one company belongs to the industry sector (chemicals, rubber and plastics subsector), one belongs to the trade and service sector (commerce subsector) and one company belongs to the technology sector (cleantech sub-sector).

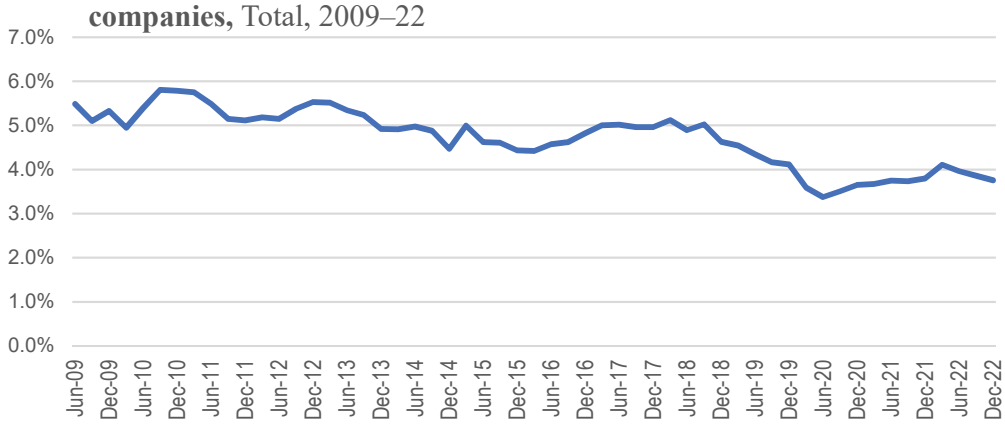
In contrast, the PRTR includes Israel's 575 largest industrial plants and monitors their emissions. The PRTR data refer only to the companies' direct emissions (Scope 1) and do not include the indirect emissions stemming from the company's activity (Scope 2 and Scope 3). These plants belong to companies from different economic sectors, including agriculture, metals, waste and sewage, energy and chemical industries, minerals, and food and beverages. Of these companies, 52 are publicly traded companies (7 are also listed on the L&E Index)—24 of these companies have shares and 28 are bond companies. At the end of 2022, the total market cap of the companies listed on the L&E Index, the companies associated with the oil and gas exploration and energy sectors and the public companies included in the PRTR data, account for 15 percent of the stock market segment and 17 percent of the tradable debt on the TASE.

Figure 2 describes the share of the institutional investors' total asset portfolio that is directly exposed to polluting companies, between 2009 and 2022. The graph shows that in this period, direct exposure declined by just 3.8 percent at the end of 2022 (even though the value of the polluting companies increased over time). An allocation by investor category (Figure 3) shows that at December 2022, the mutual funds have the highest rate of exposure to polluting companies—7.2 percent, and their share has been growing since the end of 2014. Pension funds have the lowest rate of exposure, at 2.4 percent, and it has remained almost unchanged over time. Notably, the difference in the rate of exposure between the mutual funds and pension funds is mainly attributable to differences in the mix of the investment instruments, since if we compare the percentage exposure to polluting companies among the mutual funds and pension funds from the total tradable corporate portfolio, we obtain the same figures—12.1 percent in December 2022. Likewise, the trend and percentage exposure of the insurance companies and provident funds are very similar. It should be emphasized that these percentages are underestimates, for two reasons; first - because the companies in the L&E Index and oil and energy exploration sectors are all public companies, and second because identifying the polluting companies from the PRTR data is mostly textual and does not cover all the companies.

There are several possible explanations for the difference between the decline observed in the percentage exposure of the provident funds and insurance companies and the increase in that of the mutual funds. First, the goals of these investment entities differ with respect to their duration and risk level, and second, they are affected by the regulations applicable to them. Provident funds and insurance companies are generally required to make long-term investments and invest in assets with a higher rating than mutual funds. Consequently, given that the polluting companies' assets are generally in sectors characterized by higher risk, it is reasonable to assume that they will account for a larger share of the mutual funds' investment portfolio than the provident funds, insurance companies, and pension funds. Pension funds, which must maintain a longer but low-risk investment outlook, invest in government bonds more than other institutional investors, which explains their relatively low rate of exposure.

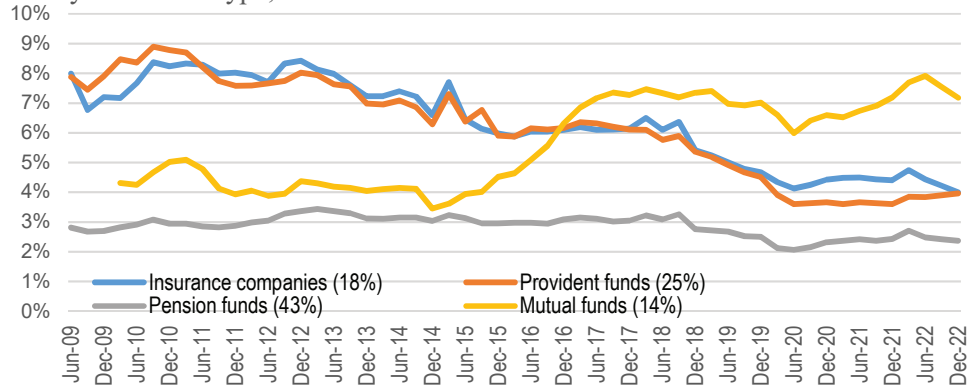
Figure 4 helps us compare the same investment instruments among the categories of institutional investors by showing the exposure of the institutional investors to polluting companies as a percentage of the tradable corporate assets they hold. This comparison shows similar rates of exposure among the institutional investors throughout the period and shows that the rate of exposure during this period is fairly stable at around 12 percent.

Figure 2
Share of institutional investors' exposure to "polluting" companies, Total, 2009–22



SOURCE: Based on PRTR (Pollutant release and transfer registry), TASE, and Praedicta.

Figure 3
Share of institutional investors' exposure to polluting companies, by institution type, 2009–22

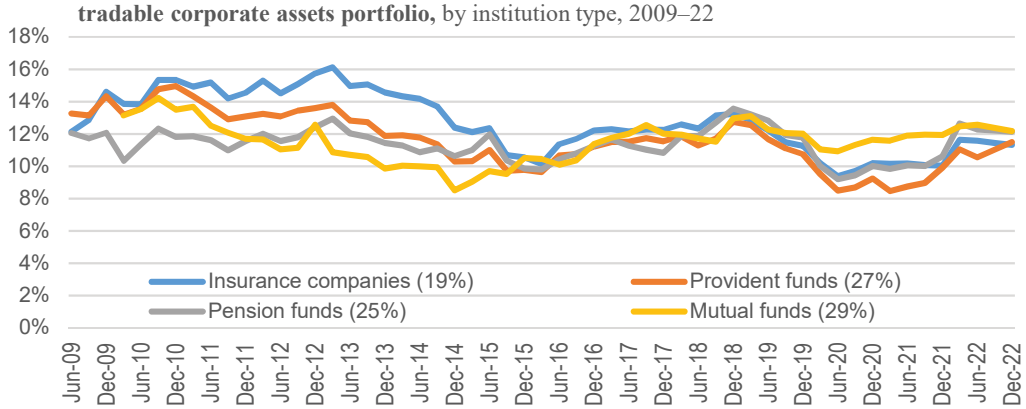


In parentheses are the shares of the insitution's assets out of total institutional investors' assets.
SOURCE: Based on PRTR (Pollutant release and transfer registry), TASE, and Praedicta.

For several reasons, it is difficult to compare the share of the financial institutions' holdings in Israel with that of their peers in other countries; these include regulatory differences[16], the structure of the financial markets, and principally the different methods of classifying companies as polluting companies. Drawing such comparisons might become simpler as the issue of the impact of climate change on the financial system becomes more firmly established from both the research and oversight perspectives, as disclosure improves and as the European Taxonomy also becomes applicable to polluting economic activity.

16 The different investment rules might lead to different decisions being made regarding the allocation of the investments.

Figure 4
Share of institutional investors' exposure to polluting companies, out of the tradable corporate assets portfolio, by institution type, 2009–22



SOURCE: Based on PRTR (Pollutant release and transfer registry), TASE, and Praedicta.
In parentheses are the shares of the insitution's tradable corporate assets out of total tradable corporate assets of institutional investors.

Benz et al. (2020)[17] estimated the extent of the exposure of different investors[18] around the world[19] to companies with high carbon emissions intensity[20] (ratio of CO_2 emissions to volume of economic activity) between 2000 and 2015, and the key results of their assessment appear in Figure 5. Notably, their study shows that this exposure is measured only as a percentage of the investors' equity portfolio. The graph shows that the rate of exposure increased to 27 percent among the institutional investors and mutual funds until 2007, it was stable until 2011, and thereafter trended downward up to the end of the period under review—like the asset portfolio of Israel's institutional investors in the same period. According to the data, the exposure reached 19.7 percent in 2015. For the sake of comparison, at the end of that year, the institutional investors in Israel had exposure of 18.1 percent to polluting companies in the equity portfolio alone, based on the classification in this paper. Benz et al. examined whether different categories of investors prefer companies with high carbon emissions intensity and they found that governments actually prefer such companies, whereas individuals, investment consultants, and mutual funds have an aversion to them.

The banking system's exposure to climate transition risk is discussed in the Banking Supervision Department's Annual Review for 2021, Box 1.2. Box 1.2 contains an analysis of the banking system's exposure to climate transition risk, where, for example, the bank might sustain such negative impact due to financing the activity of companies affected by the repercussions of an economic shift to goals that are consistent with a low CO_2 emissions policy ("CO_2 emissions"). This vulnerability could affect a company's loan repayment capability and accordingly, the bank's sensitivity and degree of exposure to borrowers affected by it. The analysis indicates that the total gross credit balance risk for large borrowers with a high level of CO_2-equivalent emissions (polluting borrowers) was about NIS 19.1 billion at the end of 2020

17 Benz, L., Paulus, S., Scherer, J., Syryca, J., & Trück, S. (2021). Investors' carbon risk exposure and their potential for shareholder engagement. Business Strategy and the Environment, 30(1), 282–301.

18 Governments, institutional investors, hedge funds, private equity, investment consultants and mutual funds.

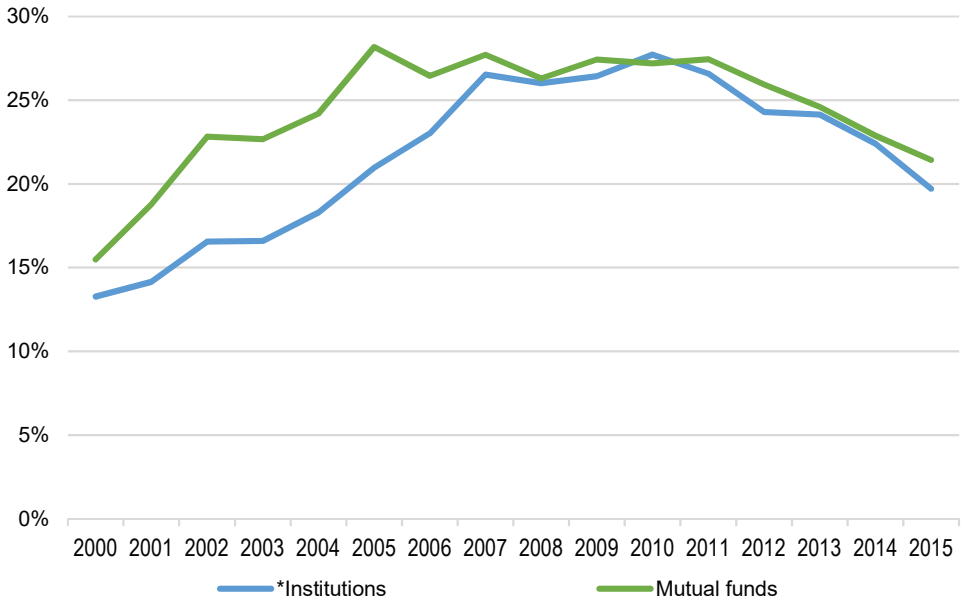
19 The data on holdings include some 12,700 investors based on the Thomson Reuters database which includes holdings valued at $31 trillion in more than 70 markets worldwide – approximately one third of the global market capitalization of listed domestic companies according to World Bank data in 2020 (https://data.worldbank.org/indicator/CM.MKT.LCAP.CD).

20 We add that the figures we chose to present in this paper classify companies as polluting companies by industrial sector using the Thomson Reuters Business Classification (TRBC)—energy (coal, electricity, oil and gas, etc.), the energy intensive industrial sector (chemicals, construction materials and metals) and the energy intensive products sector (such as transportation and aviation).

(according to PRTR data). This represents an increase of about 57 percent relative to the end of 2019, when total credit risk in this category was about NIS 12.2 billion. The level at the end of 2020 also accounts for about 6 percent of the total credit risk due to large borrowers in the banking system and 2.3 percent of the banking business credit balance. Notably, the analysis in this box only shows a partial picture of the volume of credit that the banking system allocates to borrowers who are exposed to environmental climate change risks.[21]

In conclusion, in the period under review, we find a downward trend in the share of institutional investors' exposure to polluting companies from their total investment, so that at the end of 2022 it was just 3.8 percent (despite the fact that the value of the polluting companies rose over time). Nonetheless, the portfolio of tradable corporate assets held by the institutional investors maintained a relatively stable rate of exposure at around 12 percent. An allocation by investment category shows that in December 2022, the mutual funds have the highest rate of exposure to polluting companies (as a percentage of their total investment portfolio) at 7.2 percent, while the pension funds have the lowest rate of exposure at 2.4 percent. The difference in exposure between the two types of funds is mainly attributable to differences in the mix of the investment instruments, since when comparing this investment from the tradable corporate portfolio only, we obtain the same rates of exposure—12.1 percent in December 2022. The exposure of the institutional investors to polluting companies as a percentage of their total share portfolio is low by international standards.

Figure 5: Aggregate exposure to CO_2 in various institutions' investment portfolios, annual data, 2000–15



*Banks, pension funds, insurance companies, and provident funds.
SOURCE: Benz, et al. (2020)

21 See explanation inside the box.

APPENDIX A – METHODS FOR CLASSIFYING FIRMS BY "GREEN" CRITERIA

1. ESG ranking
2. Green classification by private organizations or countries—such as the EU Taxonomy[22], which the Ministry of Environmental Protection is working to assimilate in Israel.
3. "Best in class" criterion, namely – the greenest firms in a particular sector.
4. "Best in progress" criteria, namely – those firms that have made the most progress in reducing their environmental impact.
5. "Negative criterion"—withholding investment possibilities relating to countries, industries or companies that do not comply with fundamental environmental standards. This criterion can be modified by setting a quota for the share of profit from economic activity that adversely affects the environment. Such modification is important to provide insurance companies and banks with room for maneuver given that they are invested in all sectors of the economy and an overly broad restriction might harm their loan options.

[22] The EU Taxonomy is a framework for classifying economic activity with a positive (green) or negative (brown) impact on the environment. The Taxonomy attempts to encourage sustainable investments, to allow for risk management, determine the degree of exposure to "brown" economic activity, assimilate the European Green Deal and the objectives set by the European Commission towards 2030.

Appendix B – Regulatory measures introduced by Israel's financial regulators on climate-related issues

Supervising entity	Date	Regulation
Banking Supervision Department	June 2009	Letter containing a requirement for banking corporations to identify and assess environmental risks as part of their risk assessment process and to take action to assimilate management of the exposure to environmental risk within the context of risk managmeent.
	October 2011	Publication of a Corporate Social Responsibility Report addressing environmental perspectives.
	December 2020	A letter on "Environmental Risk Management" stating that in preparation for implementation of the accounting treatment of environmental risks, the Supervisor of Banks intends to conduct a round of discussions to launch the preliminary process required to formulate and characterize the purpose and management of environmental risks in the banking system. In this context, and in preparation for the process, the Banks were asked to monitor the recommendations and guidelines published by leading international agencies dealing with the matter, including a response to supervisory expectations with respect to risk management and disclosure.
	February 2021	Letter on "Environmental and Climate Risks Management" containing a requirement from the banks to complete a questionnaire on the management of environmental risks, which reflects some of the practices, standards and recommendations of international entities and regulators in various countries.
	December 2021	Circular on "Disclosure to the Public of Environmental, Social, and Governance (ESG) perspectives", according to which, from 2021, the banks are required to provide detailed disclosure in their financial reports of their exposure to environmental risks, including climate-related risks, and they are also required to specify in the disclosure the international standards they apply and how the environmental perspectives form an integral part of their business goals and strategy.

	December 2022	Circular on "Disclosure to the Public of Environmental, Social and Governance (ESG) perspectives", which sets out the topics on which it is recommended that qualitative and quantitative disclosure should be provided with respect to management of a banking corporation's environmental risks and opportunities, including climate-related risks. Additionally, more information must be provided on the degree of involvement by the board of directors and management on material ESG issues and the manner in which the banking corporation defines its impact strategy. The circular also states that the possibility is being examined of obligating the external verification of certain data included in the ESG report.[1]
	June 2023	Management directive on "Principles for effective management of climate-related financial risks" according to which banking corporations are required to operate on the basis of a document published by the Basel Committee in June 2022.[2]
Capital Market, Insurance and Savings Authority	2017	Directive on corporate social responsibility at the "adopt or disclose" level.[3]
	November 2021	Directive on the integration of ESG considerations in the investment policies of financial institutions. Accordingly, the investment policy published by a financial institution on or after July 2022 should include information about the investment considerations pertaining to ESG risks and also to developing risks such as cyber and technology risks that could affect investment portfolio performance.
	January 2022	Publication of the principles of Own Risk and Solvency Assessment (ORSA). Within ORSA, insurance companies must take into account ESG risks if they have the potential to materially affect the ORSA.

	May 2022	The Authority opened up the possibility of launching a sustainability track in all products, to be administered in line with the UN's Sustainable Development Goals (SDGs). The third tier of savings (study funds, investment provident funds, etc.) will also allow for the establishment of an environmental investment track, which will focus on investments making a positive contribution to the environment and mitigating damage to the environment, including damage resulting from climate change.
Israel Securities Authority (ISA)	April 2021	Review and recommendations on the issue of disclosure regarding CSG and ESG risks. The document was published after a broad response to an appeal published by the ISA for consultation with the public and discussions on this subject with the representatives of publicly traded companies, institutional investors, regulators, academics, etc. The recommendations emerging from this process included a call by the ISA to all reporting corporations to voluntarily report ESG risks. It was also recommended that: (1) the report would be published on the company's website or on a special webpage on the ISA's website; (2) the report will be based on generally accepted international criteria such as the GRI (Global Reporting Initiative) or SASB (Sustainability Accounting Standards Board); (3) the report will be published in English to facilitate accessibility by international investors and rating companies who prepare rating reports based on ESG data; (4) as noted, the report will be published close to the date of publication of the periodic report for the relevant reporting year. The document also stipulates that the ISA intends to help reporting corporations publishing such a report by providing professional training and workshops for their representatives.

	December 2022	Directive to fund managers and major license holders on integrating ESG considerations in investment decision making and risk management. Accordingly, the relevant entities must examine whether, as part of their work, there is room for ESG considerations in risk management, in choosing investments, in analyzing the impact on yield, investigating customers' needs, voting policy at general meetings, and other perspectives. The directive also stipulates that major license holders and fund managers must include in an immediate report whether ESG considerations are an integral part of their policies and if so, how, and they must also detail their considerations in determining their policy on the subject.[4]

1 https://home.treasury.gov/news/press-releases/jy0426

2 https://www.sec.gov/news/press-release/2022-46

3 https://www.federalreserve.gov/publications/climate-scenario-analysis-exercise-instructions.htm

4 https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220704_annex~cb39c2dcbb.en.pdf

Appendix C – Climate-change related action taken by global market supervisory entities and international institutions

The US

In March 2021, the US Federal Reserve ("the Fed") published a document explaining how risks arising from climate change could affect financial stability. The principal conclusions set out in the document are: (1) The Federal Reserve's financial stability monitoring framework must be flexible enough to incorporate key elements of climate-related risks; (2) more research and analysis should be undertaken in this field to incorporate these risks into financial stability monitoring, including substantial improvements in data and models; (3) efforts at transparency around climate-related financial exposures may help clarify the nature and scope of financial stability risks relating to climate change.

The FSOC (Financial Stability Oversight Council) addressed the subject in a 2021 report[23] on Climate-related Financial Risk which highlighted climate change as a threat to the financial stability of the US. The recommendations accompanying the report include preparing an assessment of climate-related risks to financial stability by analyzing scenarios, assessing the need for new regulations, enhancing climate-related disclosures, improving the availability of climate-related data and building capacity and expertise on the subject.

In March 2022, the US Securities and Exchange Commission (SEC) proposed laws[24] to enhance and standardize climate-related disclosures for investors. These include the collection of information about climate-related risks that could affect their business and financial position, including greenhouse gas emissions, as an index for measuring exposure to transition risks. The proposed requirement regarding GGE is mandatory for Scope 1 and Scope 2 emissions, but for Scope 3 emissions it is only mandatory is there is a real risk relating to them, or if the business has set targets for such emissions. The proposal is in its final stages, after completion of the comments period, but it is unclear precisely when it will actually become legislation.

In January 2023, the Federal Reserve published instructions for a pilot exercise in climate-related scenario analysis[25] for the six largest banking corporations in the US. The exercise will include an analysis of the effect of physical risks and transition risks, as well as reporting on the possible impact of climate change on activity. Unlike stress tests, the exercise will not affect the capital requirements, based on the Fed's approach that climate-related risks are already part of the monitoring of financial stability.

In Europe

In October 2020, the European Banking Authority (EBA) published a discussion paper identifying and explaining environmental risk factors and outlining ongoing initiatives undertaken by supervising institutions and corporations. The discussion paper emphasized the EBA's belief in the need to improve the incorporation of ESG risk management policy in business strategy by: assessing the business model's resilience in the long-term, setting ESG targets, and reviewing the possibility of developing sustainable products while engaging with customers. The EBA also proposed improving existing supervisory review

23 https://home.treasury.gov/news/press-releases/jy0426
24 https://www.sec.gov/news/press-release/2022-46
25 https://www.federalreserve.gov/publications/climate-scenario-analysis-exercise-instructions.htm

processes while integrating ESG entities and developing this field among supervisory entities. In May 2021, the EBA published findings from a pilot exercise on a climate-related stress test that was conducted by 29 banks in 10 different countries, representing 50 percent of all the sector's assets within the EU.

In November 2020, the European Central Bank (ECB) circulated a document titled "ECB Guide on Climate Related and Environmental risks" setting out its expectations from the commercial banks on climate and environment-related topics. This document forms the basis for a supervisory process in which the banks will be required to provide a self-assessment of their exposure to climate and environment-related risk based on the guidelines and to prepare plans on that basis to resolve the gaps between their exposure and the ECB's expectations from them.

In September 2021, the European Commission published a proposal to amend the Solvency II Directive (after a five-year trial) which included comments on a range of topics, including environmental risks, in an effort to fall into line with the European Green Deal in addressing the impact of climate change on the risks. The proposal includes a general requirement for insurance companies to make environmental risks an integral part of their risk management with respect to their investment and underwriting strategies.

In July 2022, the ECB published a climate agenda,[26] setting out the objectives and the action to be taken to achieve them. The three core objectives defined are managing and mitigating the financial risks associated with climate change and assessing their economic impact, promoting sustainable finance to support an orderly transition to a low-carbon economy, and sharing their expertise to foster wider changes in behavior. Six key areas of activity were defined to help put these objectives into practice: (1) Assess the macroeconomic impact of climate change and mitigation policies on inflation and the real economy; (2) Improve the availability and quality of climate data to better identify and manage climate-related risks and opportunities; (3) Enhance climate change-related financial risk assessments; (4) Consider options for monetary policy and operations and assess the impact of climate change monetary policy; (5) Analyze and contribute to policy discussions to scale up green finance; (6) Increase transparency and promote best practices to reduce the environmental impact. Some of the measures that have already been adopted include evaluating the impact of climate-change mitigation policies on the ECB's macroeconomic and fiscal projections, including climate-change considerations in macroeconomic modeling for the purpose of policy simulations, developing and conducting climate stress tests of the European financial system (including the ECB and National Commercial Banks – NCBs), evaluating the integration of financial climate-related risks in the credit rating process of individuals and companies, etc.

In Norway – ESG reporting and due diligence is voluntary for the majority of Norwegian companies. In December 2021, a law entered into force applying European Sustainable Financial Disclosure regulations based on the EU Taxonomy.

In Switzerland – New disclosure regulations are due to enter into force at the beginning of 2024. Supervised financial corporations and large companies will be obligated to publish an annual ESG report, including the financial risks to which the company is exposed and the volume of its greenhouse gas emissions (based on standards similar to the European directive). An additional obligation imposed on Swiss companies (unrelated to their size) relates to human rights. Companies engaged in heavy metals, activity in high-risk regions or giving rise to reasonable suspicion of the exploitation of minors must perform due diligence

[26] https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220704_annex~cb39c2dcbb.en.pdf

tests and report their results annually. The date on which these new regulations will enter into force remains uncertain but in preparation, some Swiss companies have already published ESG reports based on the European directive.

International institutions

In May 2020, the Network for Greening the Financial System (NGFS)[27] published a Guide for Supervisors[28] which forms the basis for establishing professional norms in the supervision of financial institutions. The Guide contains five core recommendations for Supervisors: (1) To examine how climate-related and environmental risks transmit to the economies and financial sectors and how these risks are likely to be material for the supervised entities; (2) Develop a clear strategy, establish an internal organization and allocate adequate resources to address climate-related and environmental risks; (3) Identify the exposures of supervised entities that are vulnerable to climate-related and environmental risks and assess the potential losses should these risks materialize; (4) Set supervisory expectations to create transparency for financial institutions in relation to the supervisors' understanding of a prudent approach to climate-related and environmental risks; (5) Ensure adequate management of climate-related and environmental risks by financial institutions and take mitigating action where appropriate. In June 2021, the International Monetary Fund (IMF) published a document[29] recommending that an international carbon price floor should be set to prevent a situation in which countries refrain from imposing a carbon tax so as not to harm their competitiveness.

In October of that year, the IMF published a paper that discusses fostering the transition to a green economy. The document emphasized that the sustainable investment fund sector can be an important driver of the global transition to a green economy. The document notes that this sector remains relatively small and that fund managers face major hurdles (e.g., data gaps, challenges related to greenwashing, multiple disclosure requirements and the lack of standard, globally accepted classifications). To simplify assessment of the risks and opportunities for business sector portfolio managers to make the transition to a green economy and prevent greenwashing, the document notes that policymakers should urgently strengthen the global climate information architecture, comprising: (1) A series of consistent climate-related disclosure standards (IFRS 2021); (2) High-quality, reliable and comparable data on climate-related metrics, including forward-looking metrics; (3) Globally agreed-upon principles for sustainable finance classifications that must be well defined and dynamic requiring a global effort for progress to be made. The key conclusion emerging from the IMF document is that additional research is needed to provide a better understanding of the optimum fiscal incentives. To help increase awareness about climate-focused funds and attract investors to ESG oriented channels of investment, investment managers should emphasize the distinction between the broad concept of sustainability and purely climate considerations.

27 An organization established in 2017 comprising central banks and financial supervisors from all over the world aimed at reinforcing the global response required to comply with the targets of the Paris Agreement and to strengthen the role of the financial system in climate-related risk management and to mobilize finance to support the transition toward green investments and sustainable development.

28 Guide for Supervisors: Integrating Climate Related Risks into Prudential Supervision.

29 https://www.imf.org/en/Publications/staff-climate-notes/Issues/2021/06/15/Proposal-for-an-International-Carbon-Price-Floor-Among-Large-Emitters-460468

Prior to the Glasgow climate summit (COP26), the International Association of Insurance Supervisors (IAIS), which sets the international standards for insurance supervision, published a statement regarding its commitment to strengthening its response to climate change. The statement sets out the organization's approach to its role in addressing climate change and the risks to which it is exposed as a consequence of climate change.

In June 2022, the Basel Committee on Bank Supervision (BCBS) published "Principles for the Effective Management and Supervision of Climate-related Financial Risks".[30] This paper is a first effort to regulate the banks' treatment of climate-related financial risks, and it sets a uniform international standard for financial supervisors and regulators in this field.

[30] "Principles for the Effective Management and Supervision of Climate-related Financial Risks", BCBS, June 2022.