

(RE)INVENTING ISRAEL'S CAPITAL MARKETS

Financing the Transition From Startup Nation to Global Nation

FINANCIAL INNOVATIONS LAB® REPORT





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The Milken Institute's signature tool for generating solutions is the Financial Innovations Lab. Each Lab assembles a multidisciplinary group of investors, industry experts, and public officials to tackle a specific financing or policy question. During an intensive daylong workshop, they explore the problem from every angle. It's a roll-up-your-sleeves approach that encourages collaboration and practicality. The results are fully documented in our Financial Innovations Lab reports—and the recommendations are ready to be put to work in the marketplace and the policy arena.

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The Milken Institute Israel Center focuses on developing market-based solutions to the nation's greatest challenges as it transitions from a startup nation to a global nation. Through the Milken Institute Fellows program, we train some of Israel's best and brightest young professionals in creating pragmatic financing and economic policy solutions, and then deploy them as resources to government ministries, nonprofits, and other key organizations. Our applied research and Financial Innovations Labs serve as launching pads for transformative change, using innovative financing mechanisms, programs, and policies to bridge social, regional, economic, and technological and productivity gaps within Israel and between Israel and the world. Our goal is to accelerate Israel's economic growth, build its human capital, and cement its role as a pioneer in addressing global challenges in water, food, education, health, and energy with solutions that others can replicate.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	1
INTRODUCTION.....	5
ISSUES AND PERSPECTIVES.....	7
BUSINESS DEVELOPMENT AND FUNDING.....	7
ECONOMIC AND FINANCIAL LANDSCAPE.....	8
MARKET PERFORMANCE: VOLUME AND ACCESS	10
REGULATORY ENVIRONMENT AND LIQUIDITY	12
MARKET BARRIERS.....	15
BARRIER 1: DECLINING CAPITAL FLOWS	15
BARRIER 2: LOW FREE FLOAT AND HIGH COSTS OF INVESTING.....	18
BARRIER 3: EXCESSIVE ECONOMIC CONCENTRATION RISK.....	20
FINANCIAL AND REGULATORY SOLUTIONS	23
SOLUTION SET 1: THINK GLOBALLY.....	23
SOLUTION SET 2: INCREASE VOLUME AND VALUE	26
SOLUTION SET 3: TASE 2.0: CREATE A NEW TECHNOLOGY PLATFORM	29
CONCLUSION: CREATING A ROADMAP.....	33
APPENDIX	36
ENDNOTES.....	38

Executive Summary

The historic 2010 dual graduation of Israel to developed country status in the OECD and MSCI country indexes should have opened its markets to a large pool of foreign investors. Instead, there has been a real decrease in foreign portfolio investment and an increase in local portfolio outflows. These conditions put the future of local capital investment and overall economic growth at risk.

Participants at this Financial Innovations Lab concluded that the time has come to “reinvent” Israel’s capital markets. Israel needs to put the mechanisms in place to finance the expansion of its high-tech companies and disruptive technologies so that they can become self-sustaining. Their success in commercializing technologies and products for export will strengthen the greater economic security—and will enable Israel to serve as a model for other countries seeking to emulate its rise as the first startup nation.

The lack of late-stage financing, along with human capital constraints, is leading startups to premature exits through mergers and acquisitions. Knowledge-based firms and their exports, the heart of Israel’s competitive advantage, require a longer financial runway for takeoff in transitioning into global companies.

It is time to adopt financial policies that increase liquidity in the capital markets and encourage firms, through regulatory and tax regimes, to pursue more transparent disclosure policies to attract new capital.

Liquidity Crisis and the Challenge to Israel’s Growth Potential

Israel’s capital markets have suffered a decline in liquidity that threatens economic security and growth. Without liquidity, Israel will not be able to transition from a startup to a scale-up nation or become a leader in new technologies whose global contributions also reap domestic rewards.

- From 2008 to 2012, the average daily trading volume on the Tel Aviv Stock Exchange (TASE) declined over 50 percent, from NIS 2 billion to around NIS 800 million. TASE liquidity ranks a low 31st among exchange turnover ratios in international securities exchanges.
- The IPO market has collapsed. In fact, IPOs are no longer an option for most Israeli firms because of the high regulatory costs in the NASDAQ and their very low valuations in the TASE.
- From 2002 to 2012, only 9 percent of exits occurred through IPOs, and those that did had an average IPO size of just \$32 million. This contrasts with over 20 percent of exits through IPOs in United States, and an average U.S. IPO size of \$237 million.
- According to the Israel Securities Authority, 95 percent of startups are sold through mergers or acquisitions to foreign entities.
- Fewer firms are listing in the TASE. Regular delistings are costing the markets billions of shekels in investment opportunities that could drive growth.

In terms of financial and corporate performance:

- Israel's capital markets are chronically underperforming. Earnings per share for the TA-100, for example, have had growth of just 2.0 percent versus 8.4 percent for the S&P 500; and P/E (price-to-earnings) ratios run seriously behind comparable benchmark indexes, and on an aggregate basis as well.
- The capital markets are failing to attract and retain foreign investors. As a result, they lack breadth (a diffusion of foreign investors) and depth (the amount of portfolio and foreign direct investment flows).
- Israeli venture capital and private equity are highly concentrated in the seed and early stages of business development (80 percent versus 52 percent in the United States), but little capital is available for later-stage growth. Late-stage investing constitutes only 20 percent of invested capital, compared to 52 percent in the United States. Yet late stage is when the impact of a company's development is most crucial—when the company should start monetizing its product to ensure sustainability.
- The sold startups also have low value-at-exit. Research on exit ratios, which measure pre-money valuation (prior to financing) divided by the total VC investment price (prior to exit), suggests that Israeli exit ratios are below those in the United States and Europe. Israeli companies are going to market too fast, without the opportunity to accumulate the value that would attract higher valuations.
- To build a global nation, it is not enough to incubate startups. Companies must be able to scale up as well. Israel now captures only a small portion of the global technology value chain, and this is often limited to high-end R&D. While known for their R&D, Israel's startups have not been as successful commercializing the products and discoveries that would build more businesses, new sectors, and secondary markets, and gain for Israel a greater share of the product value chain.

Of the many innovations and the intellectual property created by Israeli research and development, much is expatriated. Despite high levels of patent productivity relative to R&D spending, the transition from patent productivity to long-term value through capital formation and job creation isn't occurring. In short, a company develops an innovative technological product or process, but it can't commercialize that technological product or process and apply it to new sectors. A company that finds success, for example, in information and communication technology cannot repeat that success in new sectors related to food, health, water, education, and energy. Without solving this capital gap, Israel's technological mojo (that combination of chutzpah, creativity, and marketing appeal that has served the country so well in recent years) will emigrate, undermining the base that could sustain a highly productive, high-employment society.

Israel should work to implement the following solutions:

- Increase transparency and accessibility to foreign investors.
- Create new financial products, such as exchange-traded funds and global benchmarks, to enable more exposure to foreign investors.
- Remove regulatory, institutional, legal, tax, and market infrastructure requirements that impede the establishment of a financial services landscape supportive of new technologies.
- Develop fixed-income products that support economic expansion in Israel's regions and new technologies.
- Expand private equity through public markets with venture trusts and business development corporations for underfinanced firms; and, especially, create late-stage technology venture funds.
- Build a “technology bridge” to institutional investors for pre-IPO companies through new trading platforms.
- Modernize regulations for IPOs to lower transaction costs of public offerings.
- Rebrand and relaunch the Tel Aviv Stock Exchange as the Global Technology Securities Exchange through new financial products for global partnerships that solve challenges through technology applications in the emerging and frontier markets.

To build a global nation, it is not enough to incubate startups. Companies must be able to scale up as well.

Introduction

Over the past 60 years, Israel has built a reputation as one of the most innovative and technologically advanced countries in the world. It has been dubbed the startup nation, and enjoys a reputation as a global leader in generating advances in information technology, engineering, health, agriculture, water, and energy. Its vigorous economic growth has stemmed from the ability to leverage core strengths and attract investments that create new markets.

However, while Israel leads the world in research and development, it has proved far less able to monetize these innovations over the medium and long term. Indeed, many of the most promising technologies and inventions are sold to foreign firms that expatriate the intellectual property (as well as industrial training, education, job creation, technology spillovers, network effects, and the other positive externalities that accompany it¹), and effectively reduce Israel's role to that of a cost-plus R&D outsourcer that vets and incubates new ideas but does not enjoy the boost to GDP and employment that the technology precipitates. Cost-plus strategies limit growth in fields of rapidly changing technologies when they don't take into account the price of competing providers, ignore what the product or service might be worth, and fail to respond to changes in the market by excessively focusing on specific low-cost niches that have narrow applications.² Cost-plus success depends on the ability to maintain outsourcing advantages over emerging global competitors, and usually results in fixed-fee payments, but no long-term benefits, such as market capitalization or value creation.

In the wake of the global economic crisis, Israel's capital markets have suffered a decline in liquidity and its IPO market has collapsed. According to the Israel Securities Authority, 95 percent of startups are sold to foreign entities through mergers or acquisitions.³ Fewer firms are listing on the Tel Aviv Stock Exchange (TASE), preferring instead to go public in the United Kingdom or the United States, and refusing to dual-list.

Regular delistings are costing the markets billions of shekels in investment opportunities that could propel growth. More than a hundred companies have delisted from the TASE over the past two years, or are contemplating doing so (e.g., Mellanox, Clal Industries, Radcom, Pointer, Jacada, and Israel Chemicals). Market participants have also highlighted ongoing regulatory deficiencies that may exacerbate these market woes.

In 2010, Israel was promoted to developed country status by the OECD and in both the MSCI and FTSE global indexes. This historic event should have opened its markets to a much larger pool of foreign investment capital.⁴ Instead, there has actually been a significant *decrease*, in real terms, in foreign portfolio investment, and an *increase* in outflows from local portfolios. Both of these trends affect the future of local capital investment, and Israel's overall economic growth.

Companies recently acquired by foreign investors

- 2013:** Google Inc. acquires Waze for \$966 million
- 2013:** IBM acquires Trusteer for \$630 million
- 2013:** NCR Corporation acquires Retalix for \$650 million
- 2013:** Singapore Telecommunications acquires Amobee for \$321 million
- 2013:** Covidien acquires Oridion for \$310 million
- 2013:** Covidien acquires superDimension for \$300 million
- 2011:** EMC Corporation acquires XtremIO for \$430 million

Recent Israeli IPOs on foreign exchanges

- 2013:** NYSE IPO for Evogene Ltd., already listed on TASE
- 2013:** NASDAQ IPO for Wix
- 2013:** NASDAQ IPO for Oramed Pharmaceuticals Inc.
- 2013:** NASDAQ IPO for Caesarstone Sdot-Yam
- 2013:** NASDAQ IPO for BioLineRx, dual-listed on TASE
- 2013:** NASDAQ IPO for SodaStream International

Because so much of its intellectual property, know-how, human capital, and positive externalities from technology are expatriated, Israel has captured only a small share of the global technology value chain, often limited to high-end R&D. This expatriation of IP acts as a drag on long-term economic growth. Israel is known for its R&D, yet its startups and research labs haven't been as successful in gaining a greater share of the product value chain. If they were more successful at commercializing the products and discoveries that their scientists and entrepreneurs develop, Israel would enjoy the benefits of seeing the creation of more businesses and sectors, and hosting secondary securities markets with the high liquidity so favored by global investors.

Economic security rests on being both a startup nation and “scale-up nation,” generating breakthrough solutions relevant to all areas of global innovation.⁵ If Israel can resolve its market-related financing gaps, startups and later-stage growth companies alike will more easily overcome capital constraints locally rather than negotiating less socially and economically favorable transactions elsewhere. Israel could then lead, not only in

innovation and incubation, but also in the commercialization of promising new products, processes, and service-delivery technologies for companies at home and abroad.

With this background, the Milken Institute has sought answers to several foundational questions regarding Israel's future as a global innovation hub:

- How can the capital markets become active partners in the launch of new technologies that increase portfolio and foreign direct investment?
- Can new financial instruments be designed that allow institutional investors access to these technologies without forcing the companies that launch them into premature M&A activity or low IPO valuations?
- What are the regulatory, institutional, legal, tax, and market infrastructure requirements of such a market structure?

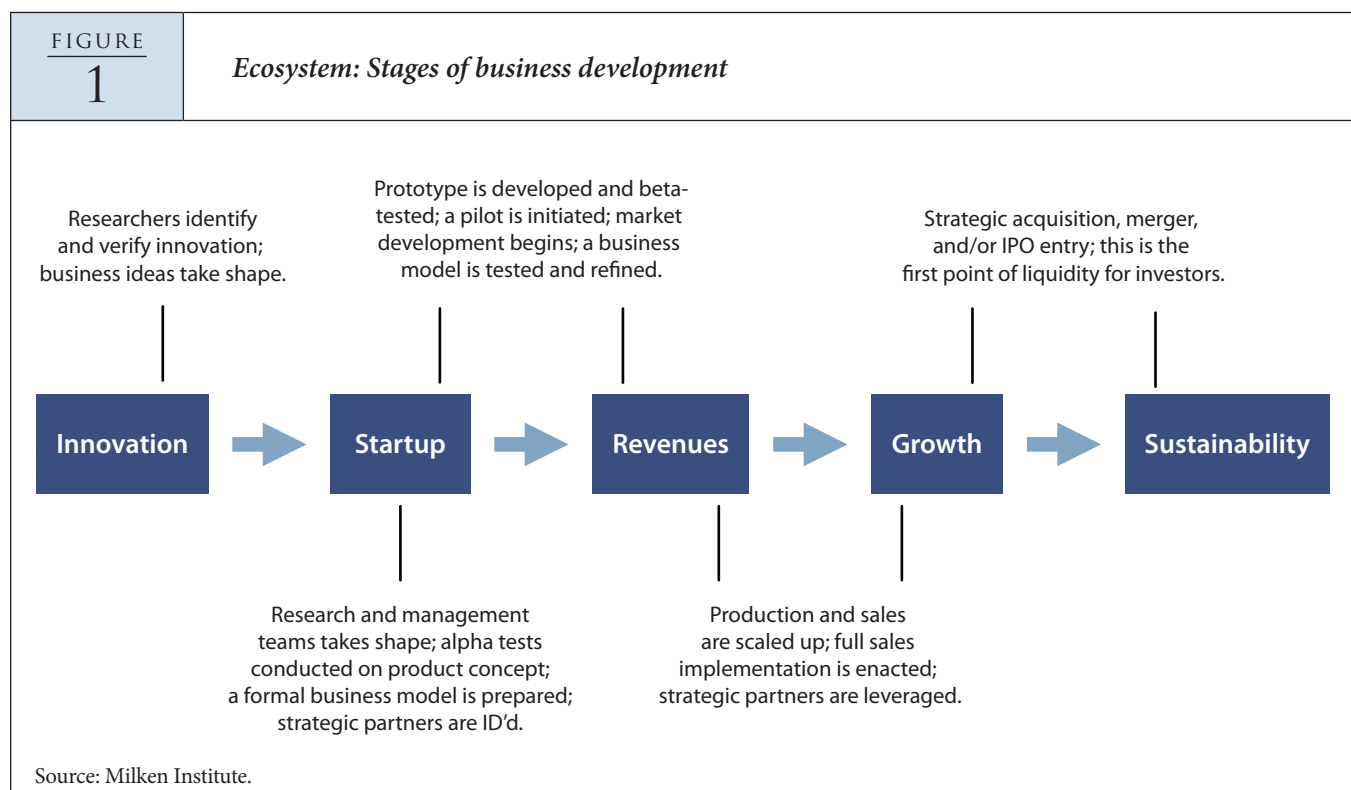
To answer these questions, the Milken Institute convened a Financial Innovations Lab in Los Angeles, California, in May 2013 to focus on *reinventing* Israel's capital markets. Follow-up meetings of Lab participants were held in Israel through the summer and fall. The Lab benefited from the participation of a broad cross section of senior leadership in Israel's public and private sectors, as well as senior delegates from the financial and technology sectors globally. Participants mapped a full range of options and interventions that could encourage financial productivity, attract local and non-Israeli firms, and expand knowledge-based export industries. At the conclusion of the Lab, participants discussed incentives that would encourage domestic and foreign investors to participate in reinventing Israel's financial markets and promote the country's innovation edge.

Issues and Perspectives

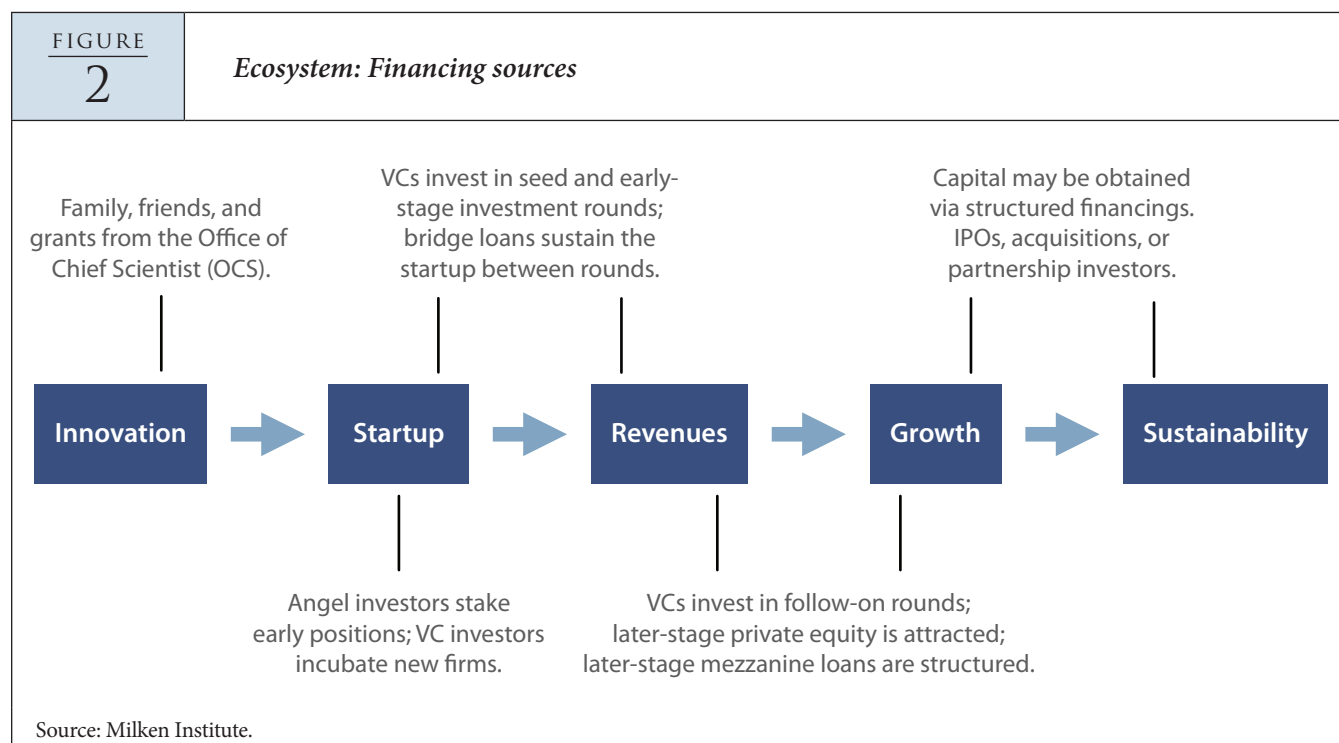
For the past two decades, Israel's economic progress has been fueled by the development and growth of technology-based businesses. These businesses have provided the greatest impacts on GDP, exports, and growth in foreign exchange reserves, even though they employ less than 10 percent of the labor force.⁶ However, Israel is not fully monetizing the value created by its position as a collaborative crucible for game-changing innovation and technological solutions to global challenges in food security, water, health, and energy. These new waves of knowledge-based export technologies are the launchpads for sustainable global growth.

BUSINESS DEVELOPMENT AND FUNDING

The stages of business development typically follow a predictable path, starting with innovation (for which Israel has a global reputation) and culminating in sustainability, as shown in figure 1. The parameters of each stage vary by product and industry, but these development stages are found in most businesses, whether based in technology, production, or services.



At each stage of development, new businesses tap into various sources of capital to acquire the funding necessary to propel them to the next phase. In the earliest stages, as shown in figure 2, those sources are less formal, usually friends and family, but soon transition into sophisticated, well-structured financial products.



The global economic crisis and a mix of local tax and regulatory issues have created barriers to business growth, and the largest of these is a lack of access to capital. To better understand the barriers and challenges specific to Israel's capital markets, Lab participants reviewed current economic conditions and used this insight to develop recommendations to increase and improve the sources of funding for new and developing businesses.

ECONOMIC AND FINANCIAL LANDSCAPE

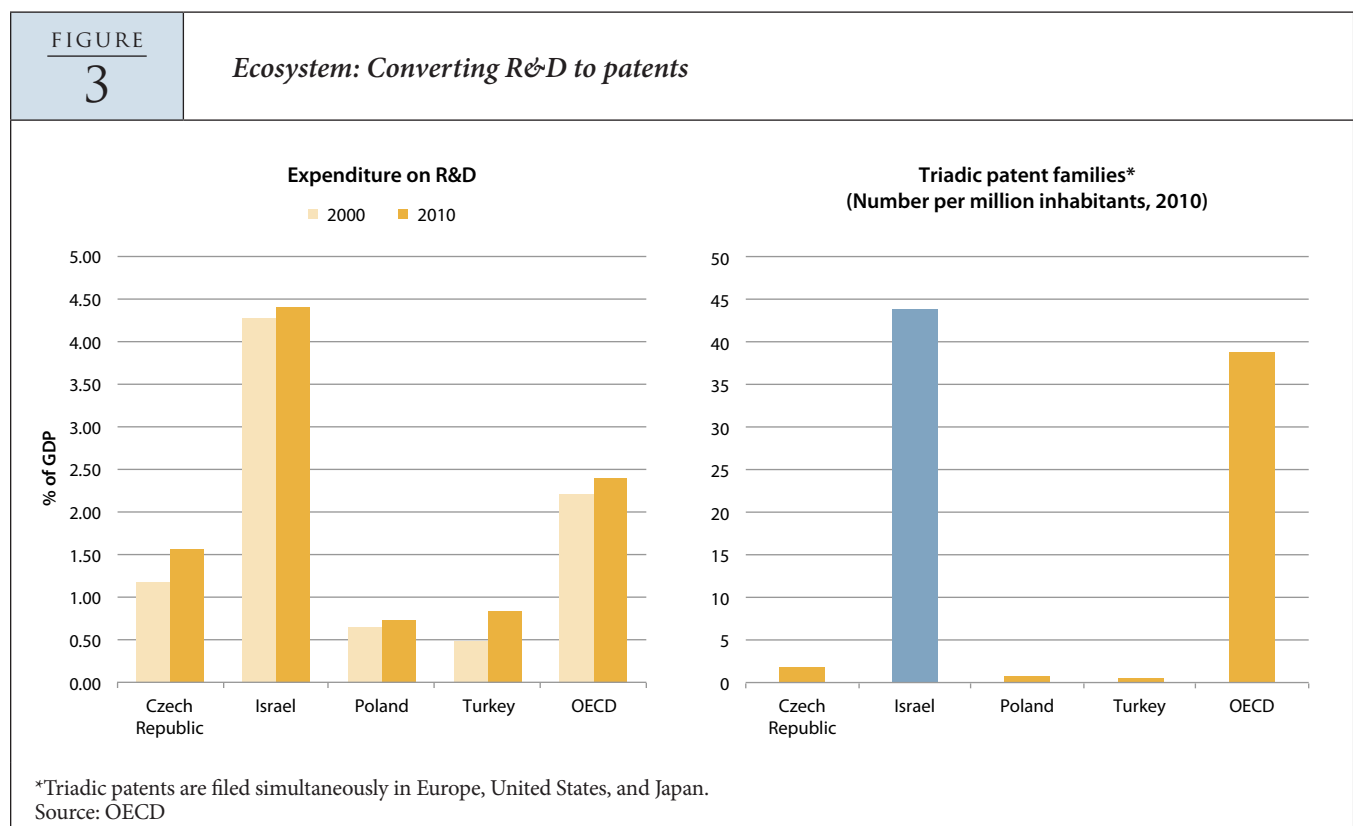
Relative to many countries, Israel's economy appears generally sound. The country has an enviable ability to generate relatively high levels of GDP growth on a per capita basis. High productivity and growth rates over the past few decades have been driven in large part by growth in the financial and service sectors, as well as by high-tech exports. The firms that produce those exports have powered the economy; they have produced 40 percent of the GDP growth and over 50 percent of industrial exports, even though they employ less than 10 percent of the labor force.

However, these same firms and sectors face increased difficulty in accessing finance for the crucial later-stage development and commercialization needed to achieve economic sustainability. In part, this is due to the economic downturn, but it is also due to fundamental systemic issues disrupting the transmission of savings into local investment and growth. The financial system must improve the ways it allocates economic capital, mitigates risk, and attracts human capital. Most important, it must *reinvent platforms* for trading goods, services, and financial products.

Too many of the innovations created by R&D are expatriated. Despite high levels of patent productivity relative to R&D spending (see figure 3), the transition from patent possession to long-term value, through capital formation, isn't occurring. It is typical for a company that develops an innovative product to be unable to commercialize that product and apply it to new sectors. Because of early sales of IP and the prevalence of early-stage acquisitions, the broader economic advantages of commercializing innovation being enjoyed by companies elsewhere in the global value chain (separating research, development, design, production, assembly, and distribution globally), rather than in Israel.

Israel aspires to build a global nation. To do so, it must move beyond solely *incubating* startups. But because so much of Israeli venture capital and private equity is highly concentrated in the seed and early stages of business development (80 percent versus 52 percent in the United States), little funding is available for later-stage growth.⁷ Late-stage investing actually constitutes only 20 percent of invested capital, compared to 52 percent in the United States.⁸ Yet at late stage is when the broader economic impact on a company's development is most crucial—when the company should start monetizing its product to ensure sustainability.

If we disaggregate the numbers in figure 3, the market microstructure's ability to lower capital costs and increase supply comes into question. The startup industry is well developed, with 1,588 companies at the seed stage; 1,437 at the R&D stage of product development and economic feasibility; 1,013 companies at the *early stage* of revenue (up to \$10 million); and only 282 companies at *mid to late stage* (revenues over \$10 million).⁹



Despite a supportive economic infrastructure for startups, new companies are almost all invariably sold to foreign firms. Less than 5 percent of investor exits are through the IPO market, compared to 20 percent in the United States. This also reflects an overall decline in Israeli IPOs after the tech bubble of a decade ago, from which the capital markets never truly recovered.¹⁰

The sold startups also tend to have low value at exit.¹¹ An empirical review of exit ratios, which measure pre-money valuation (prior to financing) divided by the total VC investment price (prior to exit) suggests that Israeli exit ratios are below those in the United States and Europe. Israeli companies are going to market too fast and thus missing the opportunity to accumulate the revenue streams that would attract higher valuations.¹² However, for an Israeli startup, this may be economically rational because these firms can't obtain later-stage venture or private equity capital, and they aren't allowed to access the public markets for growth capital. When companies are forced to make premature exits, they lose the opportunity to realize full potential for economic growth.

"Startups require a longer financial runway for takeoff as they transform into global companies," noted Seth Merrin of Liquidnet at the Lab. In sum, the lack of late-stage financing, along with human capital constraints and other issues, is leading startups to premature exits through mergers and acquisitions. The option of an IPO exit, which often offers the lowest cost to firms, isn't working.¹³ During 2013, there were four initial public offerings on the TASE that raised NIS 320 million; there were no IPOs in 2012. Follow-on bond and stock issues plunged 28 percent and 35 percent, respectively, and were mainly restricted to the largest companies with the highest credit ratings.

MARKET PERFORMANCE: VOLUME AND ACCESS

Israel has developed a sophisticated support infrastructure for business. Its foundation includes ambitious entrepreneurs, cutting-edge science and technology, and significant amounts of early-stage capital supplied by the government, incubators, angel investors, and venture capital. Yet daily trading volumes on the TASE (which has a market capitalization of over \$200 billion in securities) have fallen to half their peak prior to the 2010 reclassification, and benchmark-following investors have moved elsewhere. As trading volumes declined, so did performance relative to other global exchanges. Since the 2010 upgrades, the TASE has performed consistently in the lowest quarter of broad index performances compared to other global exchanges, even while hitting its historically high valuations in 2013.¹⁴

Structural and human capital constraints remain in the form of unfavorable regulatory and tax environments, and short supplies of growth capital and managerial talent. The effects of these constraints are reflected in the lower average earnings per share for large, listed companies. The growth rate for these firms is only 2.0 percent, compared to 8.4 percent for comparable companies in the S&P 500. And the P/E ratios for small- and mid-cap firms also run well behind with respect to comparable benchmark indexes and on an aggregate basis as well.

Portfolio theory suggests that the greater the investment diversification, the easier it is to mitigate risk and eliminate investor demands for higher returns that compensate for the risk they hold. This is true not just for investor portfolios, but also for the broader markets. The best-functioning markets reduce trading costs and increase market liquidity, which in turn will lower the costs of capital and free up funds that would otherwise be committed for use as a firm's collateral.¹⁵

A consensus emerged at the Lab about the need to make the TASE the exchange of choice, especially for technology firms within and outside Israel. This would require parity of regulation between Israel and the United States or Europe without the costly burden of Sarbanes-Oxley regulations upon transaction costs for IPOs, audit, and internal control compliance. Currently, IPOs are not an option for more than perhaps a dozen or so firms because of the NASDAQ's

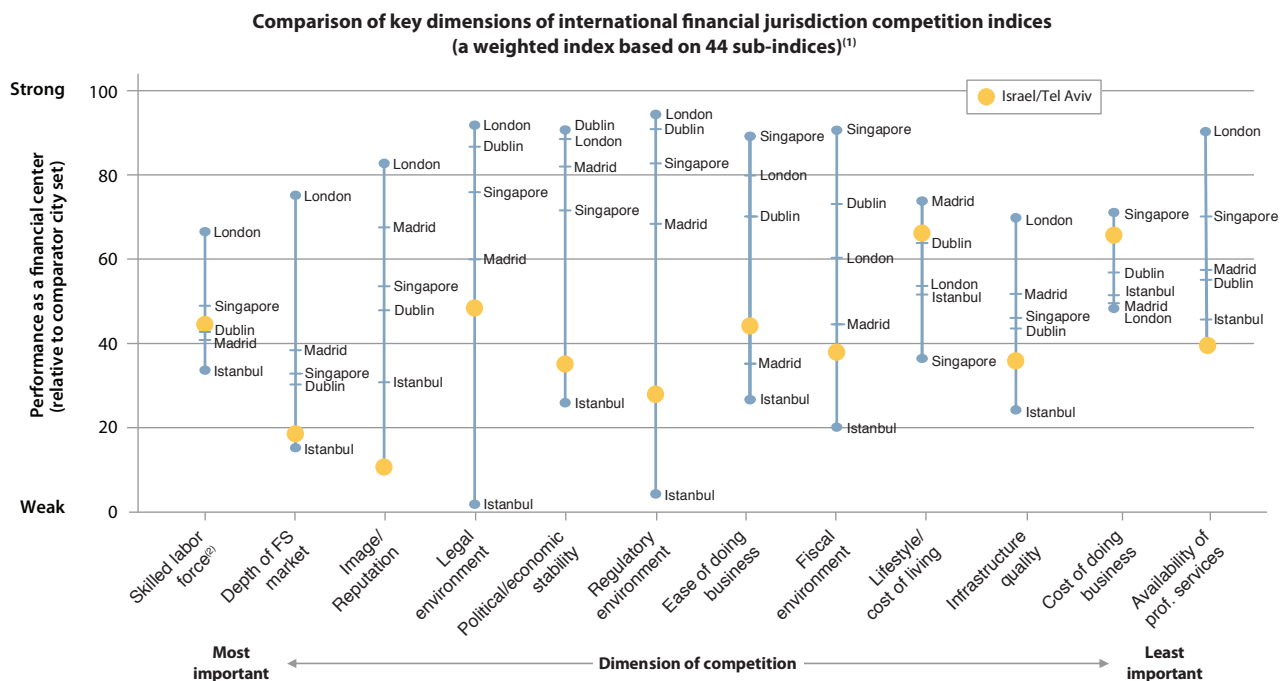
high regulatory costs, on the one hand, and the very low valuations of the firms in the TASE, on the other. From 2002 to 2012, only 9 percent of Israeli exits with an average IPO size of \$32 million occurred through IPOs, versus 20 percent in the United States with an average IPO size of \$237 million.¹⁶

Many investors and CEOs reported that they would not single-list on the TASE. Lab participants reported that current regulations make it too onerous even to dual-list.

The most important driver for increased liquidity and growth is the assurance that foreign investors can participate in IPOs and access the TASE as easily as they can other capital markets. Israel has previously taken steps toward enabling startups to achieve full maturity as global companies, but with no substantial success. Five years ago, for example, a major examination was undertaken of Israel’s competitive ability to provide adequate support for domestic and global financing. That study was performed by Deloitte for the Finance Ministry in 2008 as part of the Ariav Committee¹⁷ but has yielded little impact since its completion. Most Lab participants agreed that an assessment of Israel’s competitive position in providing financial services has changed little since then. As noted in figure 4, Israel’s poor competitive ranking relative to other financial hubs was due to the level of skilled financial workforce, lack of depth of the financial services market, image and reputation, regulatory environment, ease of doing business, infrastructure quality for financial services, the cost of doing business, and availability of professional services.

FIGURE
4

Israel’s global competitive position relative to other financial services centers



(1) Index = 100 if city is the highest scoring city within comparator city set across all underlying index metrics, Index = 0 if city is lowest scoring city within comparator set across all underlying metrics.
 (2) Skilled labor force: numbers slightly adjusted for population size and absolute scale.

Sources: Deloitte, 2009; Ministry of Finance, 2010.

The core operational idea that emerged from the Ariav Committee was to develop a small number of focused financial sectors—key financial products and services—that could help firms expand into global development through improvements in the financial regulatory environment. This could include financial infrastructure of technology firms, global hedge funds, and insurance and associated services for new technologies seeking to bridge capital gaps for expansion through their life cycles. It could also include financial infrastructure and support for Israeli and global technology firms, advanced export trade finance, and insurance and infrastructure funding. Such measures would help the TASE to capture more listings of tech firms globally, particularly in Israel’s trading and entrepreneurial spheres in Eastern Europe, India, Africa, and Asia, and in target technology applications in water, energy, food, health, and education as drivers of global growth for frontier and emerging markets.¹⁸

This component of the strategy—reinvention of the capital market as a capital market for new startup nations in other developing markets and technologies—remains a compelling idea.

REGULATORY ENVIRONMENT AND LIQUIDITY

Despite Israel’s graduation to developed country status, its regulatory environment is far more restrictive than those of other developed countries. The negative impact of stringent regulations on investing is well recognized. As measured by the Milken Institute’s Global Opportunity Index, Israel is notable for its high regulatory barriers and below-average “ease in doing business” levels, despite having unusually strong institutions that protect rule of law and contract enforcement. The regulatory barriers and business environment dampen both foreign and portfolio flows of investment that are critical not just for high-tech growth, but for the revitalization of competitive traditional industries.

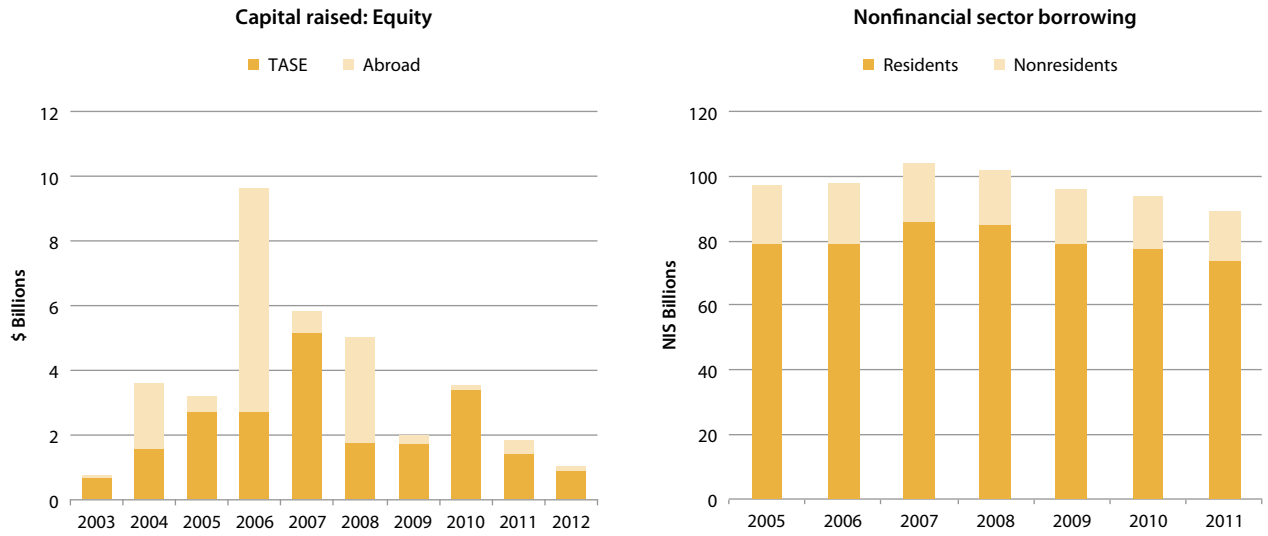
Israel is underperforming. It is failing to attract and retain foreign investors in its capital markets, and as a result its financial markets lack breadth (a diffusion of foreign investors) and depth (the amount of portfolio and foreign direct investment flows). To support much-needed R&D and create incentives for the global diffusion of innovation in production techniques, Israel needs to think in terms of *reinvention*.¹⁹ It needs to attract more international partners for global business development, but instead its capital markets have become more local. Most debt and significant equity are raised locally, as seen in figure 5.

The Lab addressed a number of issues that constrain Israeli financial markets, including high transaction costs, limited price discovery of assets, and reduced trading volumes in the TASE that make it difficult for large foreign investors to enter the market. The high holding costs for foreign investors, i.e., the opportunity costs of purchasing and holding a particular security rather than an alternative—notably the high custodial fees that long-term portfolio holdings incur—create further impediments to great investment.

In particular, the absence of market liquidity necessary to price assets accurately inhibits growth, as shown in figure 6. Since the beginning of 2010, there has been a decline of about 44 percent in trading volume in the TASE, and in the second half of 2012, it reached a six-year low that extended into 2013.²⁰

FIGURE
5

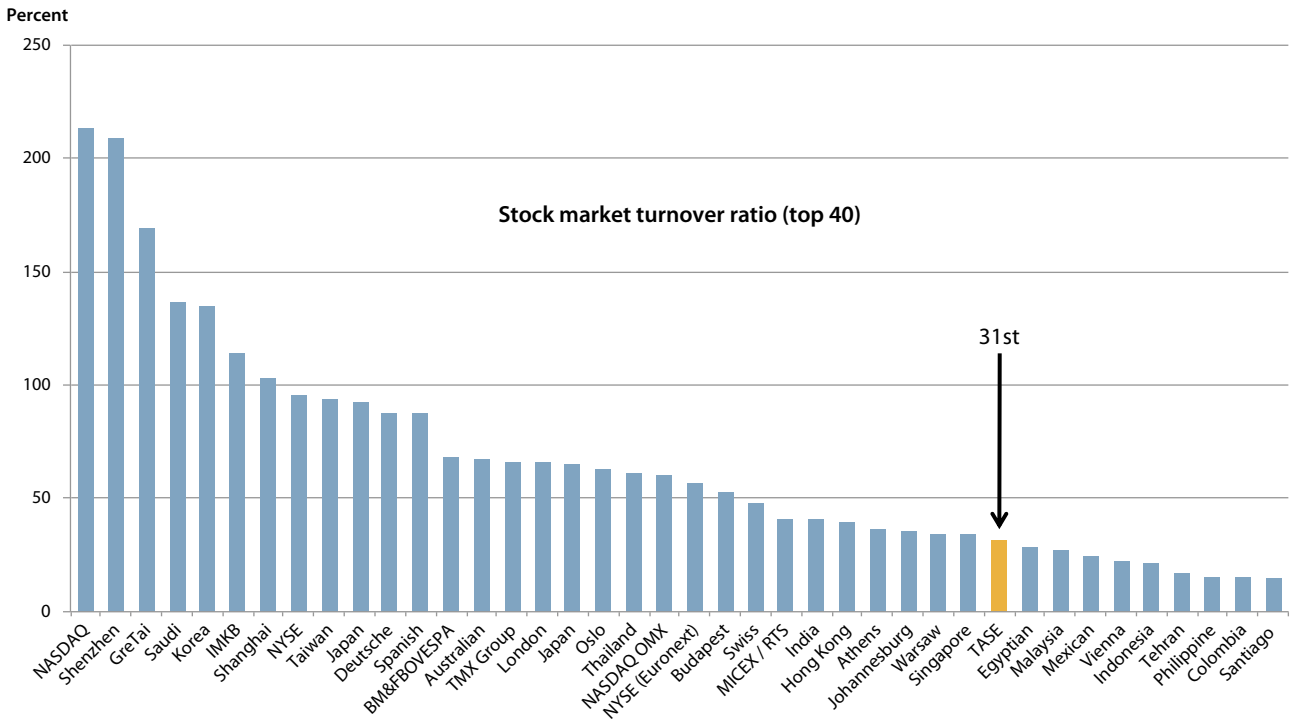
International vs. local fundraising



Sources: TASE, International Monetary Fund.

FIGURE
6

TASE liquidity



Source: Milken Institute.

Liquidity is a basic indicator of marketability for securities and businesses alike. For stocks and bonds, more is better: The higher the liquidity, the lower the required return and the higher the value (the price-earnings, or P/E, ratio). Israel can exacerbate the value of its capital markets by (1) adopting financial policies that increase liquidity, and (2) encouraging firms, through regulatory and tax regimes, to pursue more transparent disclosure policies and thereby attract the international investor base.

The costs of illiquidity include both direct trading costs (brokerage commissions, exchange fees, and taxes) and price impact costs (the positive correlation between trading volume and price movement).²¹ These costs are depressing the P/E ratios of Israeli firms and increasing their capital costs, which results in still less liquidity. This illiquidity risk significantly increases the problem associated with asymmetric information between buyers and sellers, raising the costs of capital still further²² because the greater the disparity of information between trading parties, the greater the risk taken by the investor initiating a trade, and prudent investors therefore require greater compensation for doing the trade. These price impacts can freeze investment flows because the associated illiquidity creates greater inventory risk for the purchaser who will hold the asset.

In sum, levels of liquidity (how easily securities can be converted to cash or cash equivalents without affecting the asset's price) and measures of illiquidity risk (volatility, transaction costs, and other factors affecting bid-ask spreads and asset pricing), two critical features of capital market competitiveness,²³ are affecting securities prices negatively. By these measures, the TASE is losing serious ground. And what liquidity exists is highly concentrated in the 20 to 30 largest companies, primarily TA-25 index constituents. Both equity and Treasury markets have faced sharp decreases, as noted above, and the IPO market has fallen dramatically. The corporate bond market has grown, but it has been highly concentrated in real estate and plagued by poor underwriting and ongoing restructurings.

The most worrisome observation, however, concerns the rate of change in TASE turnover and market value relative to other markets. TASE turnover rates (both nominally and normalized to market value) and TASE market value rates have declined more than the average rates in both developed and emerging markets, as shown in table 1. This has resulted in a drop of about 20 percent in the number of listed companies over the past seven years, from 660 to 530.

TABLE 1		<i>TASE vs. other markets</i>			
December 2009–December 2012 (%)					
	Tel Aviv Stock Exchange	World average	Developed markets average	Emerging markets average	Average of similar stock markets
Turnover	-44	-18	-12	-33	-1
Turnover normalized to market value	-35	-26	-30	-29	-12
Market value	-14	12	14	5	31

Sources: World Federation of Exchanges, Bank of Israel adaptations.

Market Barriers

In addition to the market dynamics previously discussed, Israel's capital markets have structural limitations that make them less attractive to foreign investment. These structural impediments are acting as a drag on economic growth. Lab participants acknowledged the need for strategic structural change that would enable the markets to reinvent themselves and capture more savings and capital investments.

Three broad structural barriers are impeding the effectiveness of the capital markets. These include:

- Declining capital flows
- Low free float
- Excessive economic concentration risk

BARRIER 1: DECLINING CAPITAL FLOWS

Market capitalization and turnover are key measures of the degree to which market scale is sufficient to attract investments, and of how sensitive inflows of new capital are to changing market conditions.

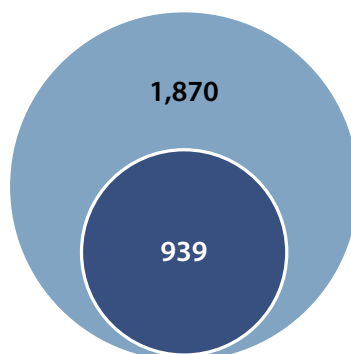
Despite stable macroeconomic conditions, Israel's capital markets have declined disproportionately and enjoyed little of the global recovery that has taken place since the last financial crisis. Moreover, while market capitalization has grown from \$149 billion to \$213 billion since 2008, these investors are chiefly in Europe and the United States. Participation by new investors in Asia and elsewhere in the developing world has actually declined.²⁴

Portfolio investment flows are essential for entrepreneurial growth and competitiveness. Yet both local institutional investors and foreign investment funds have substantially cut their exposure to Israeli firms, and at an accelerated rate, since Israel's graduation to developed country status.

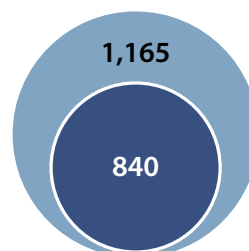
FIGURE
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Bank loans, GDP, and long-term saving (in NIS billions)

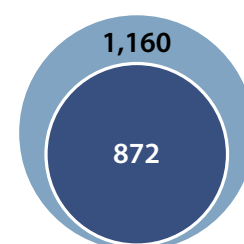
Long-term savings
(insurance, pension and provident funds)



Credit in Israel's banking system



Israel GDP



Source: Milken Institute

Furthermore, forecasters expect that by 2020 the rate of long-term saving through insurance, pension, and provident funds will be 60 percent greater than the rate of borrowing from banks. With an improved capital market structure, Israel could take great advantage of this situation and become both a creditor nation for other startup nations and a launchpad for knowledge-capital exports in health, energy, agricultural, education, and water technology.

The growing savings rate and levels are shifting from bank deposits to institutional investors. Since the capital markets are not attractive to institutional investors, even the more captive domestic institutional investors (pension funds, insurance companies, etc.) are underweighting investments in Israel. A further asymmetry is emerging for institutional investor flows, both because of the relative lack of new investors from Asia and other parts of the emerging market world, and because of the continued dependency upon U. S. and European investors, even as large sovereign wealth funds and wealth accumulation increase elsewhere.

Israel's population is considered young relative to the populations of other developed countries; 28 percent of the population is age 0–14 while only 10.3 percent is 65 and older. The OECD average is 18.5 percent for age 0–14 and 15 percent for 65 and older. These local demographics have enormous and potentially positive socioeconomic implications.

This suggests that even though Israelis are setting aside more money through savings in aggregate (through their increased savings rate and a young age structure that could promise increased labor productivity), the mechanisms of the capital markets and financial services industry are not translating those savings into investments in Israel. Institutional ownership through pension funds, insurance pools, foundations, and sovereign wealth funds will grow rapidly in the years ahead, and it is imperative that this problem be addressed.

The 2010 MSCI Global Index upgrade and other index upgrades to developed market status (and inclusion in the flagship MSCI EAFE and MSCI World Developed Markets indexes) were crucial. These indexes serve as benchmarks for portfolio managers around the world and significantly affect the amount of investment capital allocated to each country, and thus, capital flows globally. Conversely, portfolio capital flows have become increasingly important as a means to obtain external financing and have therefore become a requisite of national economic security.

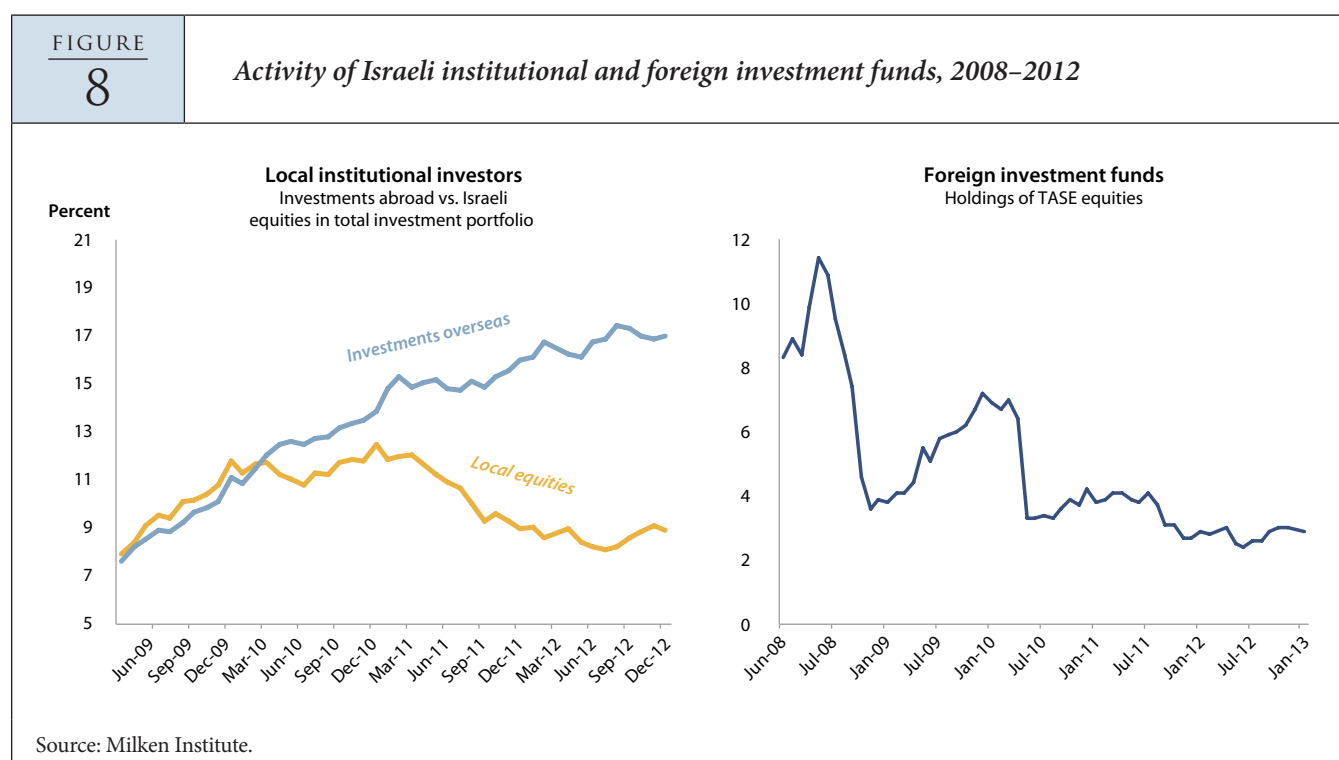
The upgrade to developed country status was a disaster for Israel's capital markets. When it was part of the emerging market index, Israel enjoyed a relatively high portfolio weighting in both active and passive emerging market index funds. But in graduating, Israel is now evaluated on a par with many much-larger nations, and thus accorded much smaller relative and absolute portfolio allocations. Since 2010, its low relative market size (measured by investable market capitalization/GDP ratio) has limited the local capital markets. Israeli investment opportunities couldn't compete effectively after the country moved from being a medium-sized player in the emerging market investment category to a very small player in the developed country category.

Passive investors rebalanced their portfolios accordingly, and active managers followed suit, basing their portfolios on Israel's changing weight in their global benchmarks. Additional competition for global investors has come from the dynamic global equity markets. Russia and China have had an increasing presence in the emerging market asset class, and South Korea and Taiwan were on the watch list for their own "graduations." The potential inclusion of China A shares into the global investor universe and the great weighting assigned to Russian oil and gas companies (given high energy prices) mean still more global competition for portfolio investment.

Israel's greatest weakness in this competition is its low free-float market capitalization—that proportion of a company's issued shares available for trading in the market those that are privately held. Moreover, many of Israel's best-known companies, mostly in the tech space, but not exclusively, are not counted in the global benchmarks for Israel due to their overseas listings, mainly on NASDAQ, NYSE, and LSE.

Free float is important to investors because it provides an indication of the degree to which the votes of holders of public shares can affect the governance of the firms, as well as the attention the firm gets from investment analysts. For these reasons, an over-concentration of closely held shares of a public company serves to limit its liquidity and hinder market efficiency and corporate performance. In Israel, the free float is still too low to make the market attractive as a long-term destination for global capital. Only about 50 percent of listed equity is currently floated, and turnover velocity was extraordinarily low when the status upgrade occurred. (The volume/market capitalization, a common measure of free float, was 33.0 percent versus 106.6 percent on the London Stock Exchange and 280.7 percent for the NASDAQ.) Free float is discussed at greater length in the next section.

An established research stream within the corporate finance literature has long demonstrated the negative impacts that concentration of corporate control have on business competitiveness, efficiency, returns, and employment.²⁵ However, in Israel, the effects of over-concentration and market illiquidity on the *overall economy* and the country's ability to attract foreign portfolio capital have become severe since 2010.²⁶

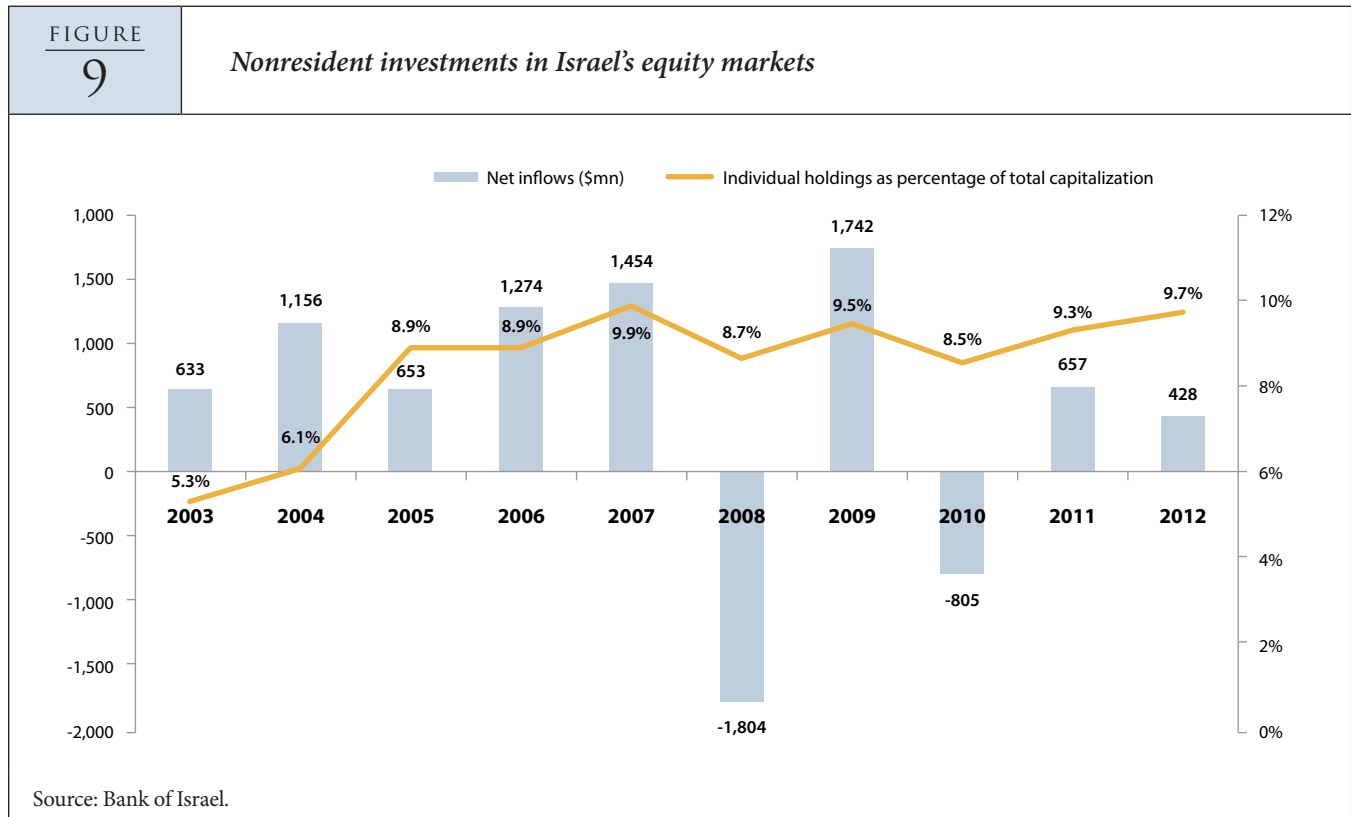


Though total assets held by local institutional investors have more than doubled since 2008, this assertion may be misleading because it fails to capture the disparity between *overseas* and *local* holdings. While *overseas holdings have more than tripled*, increasing from \$51 billion to nearly \$180 billion, (a jump from 7.8 percent to 17.0 percent of total holdings), local institutional investors have dropped their investment levels significantly, as shown in figure 8. According to the Bank of Israel, 20 percent of the current stock (the current quantity) of institutional investor portfolios is invested abroad, and up to 70 percent of the current flow of funds (or monthly rate or speed of new funds entering) into institutional investors is destined abroad.²⁷

Countries compete to host capital markets. “Local wealth and local investment opportunities support local capital markets, but only when those markets provide low-cost, high-quality investment services,” said Prof. Larry Harris

of the University of Southern California, former chief economist of the U.S. Securities and Exchange Commission. “Otherwise, local capital flows to foreign markets, and local companies raise capital abroad.”

Not only are Israeli capital markets declining in value, they’re becoming isolated. Net inflows of nonresident investments are down over the past 10 years.



This trend appears to be a general trend that spans a variety of overseas investment channels. For example, they are consistent across both nonresident investments through TASE and the trading of American depository receipts in the U.S. financial markets.

The share of foreign investments in Israeli equities is exceedingly low, compared to other countries. The figure stands at only about 24 percent, while the benchmark average across other domiciles has risen considerably, to about 50 percent.

BARRIER 2: LOW FREE FLOAT AND HIGH COSTS OF INVESTING

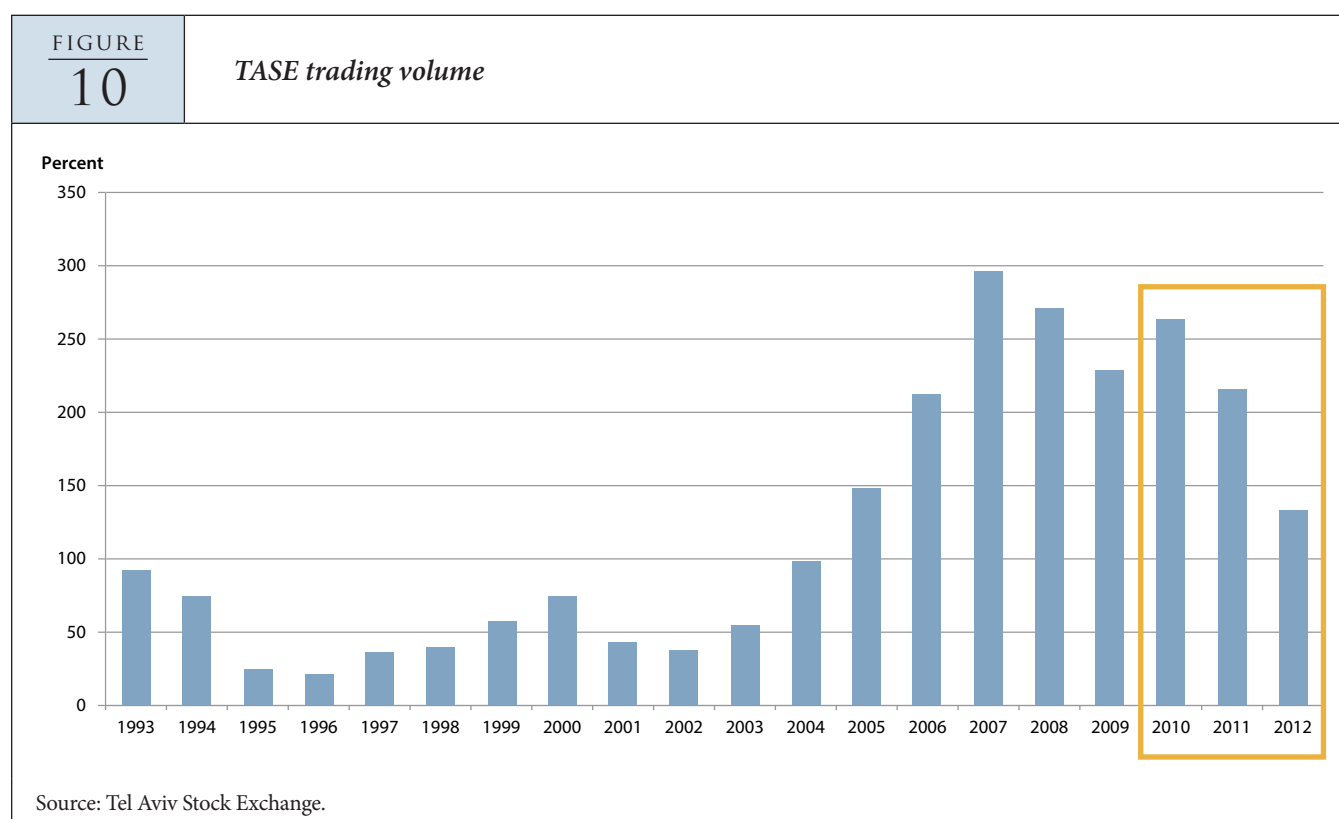
Free float is the amount of stock in the capital market that isn't owned by the company being traded. It's the stock that is available for trading in the exchange and represents an important component of liquidity (recall that liquidity is a basic indicator of the access to Israeli securities and businesses, especially for foreign capital investors and large capital market investors, such as pensions and insurance funds).

As noted earlier, market capitalization has grown markedly over the past six years, from \$149 billion to \$213 billion, predominantly through inflows from European and U.S. investors. Israel must somehow carve a channel of broader, long-term foreign portfolio investment to develop its overall economy. Even though the primary source of growth has been through overseas investment, the overall growth rate in foreign investment in Israel's markets is still slow relative to peers and from a relative value perspective.

Israel's free float hasn't kept pace with the growth in market capitalization. There are too few outstanding shares in the marketplace. The results severely constrain the ability to provide growth capital to firms in the later stages of startup growth.

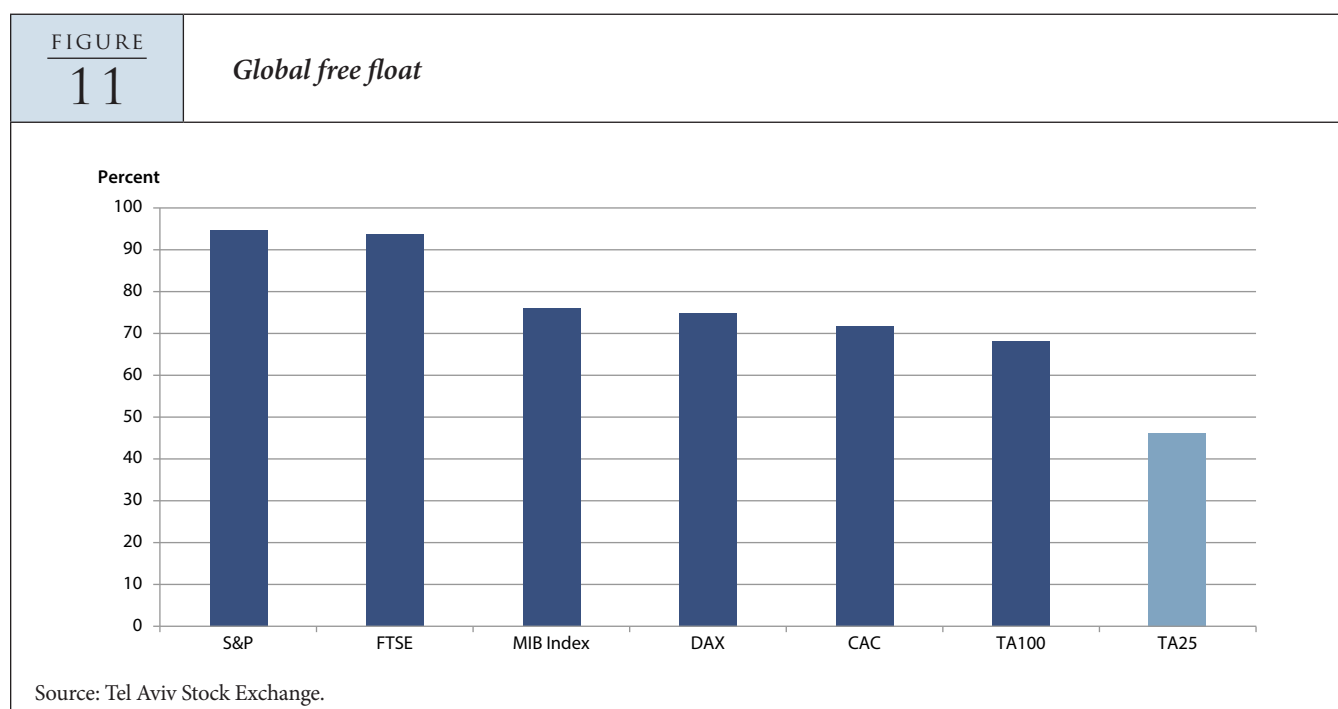
As noted earlier, free float only takes into account available public shares, i.e., shares not held privately or locked in. As such, it provides a good measure of market depth, or the number of securities that traders and market makers are willing to trade at the posted offer prices. But low free float means there isn't much depth or liquidity, and this raises price-impact costs for investors.

Figure 10 shows how the declines in trade volume are associated with the flight from Israeli equities by foreign investors, both passive/index-based investors and actively managed funds that are benchmarked to MSCI and FTSE global equity market benchmarks. Foreign portfolio flows to public equities have dropped since 2008. The absence of corrective action prior to reclassification has been negative for the Israeli capital markets.²⁸ Israel's neutral weight in developed market equity benchmarks has fallen dramatically, from a range of 3.0 percent to 3.5 percent in emerging-market benchmarks down to 0.6 percent in the MSCI, EAFE, and FTSE World, excluding North America. Israel's weight in integrated international equity benchmarks (e.g., ACWI, excluding United States, and FTSE All-World, excluding the U.S.) dropped to approximately 0.4 percent.²⁹



The low volume of available shares reflected in the persistently low free float limits opportunities for foreign portfolio inflows. As figure 11 illustrates, this leaves the Israeli markets at a disadvantage.

Furthermore, foreign investors face high “deadweight” costs³⁰ to trade and hold Israeli equities, which leads to economic inefficiencies and reduced trading. Notable among these costs are high custody costs,³¹ more in line with smaller emerging markets than advanced developed markets. This acts as an impediment both to end-investors like pension funds and endowments, and to institutional fund managers, who have been disappointed to see that Israel’s custody costs compare so unfavorably to those in developed markets.



BARRIER 3: EXCESSIVE ECONOMIC CONCENTRATION RISK

The third structural limitation is the persistence of concentrated risk in a number of forms:

- *concentration of shares* held by pyramid holding companies (business groups structured in tiers of subsidiary companies controlled by one at the top);
- *concentration of the largest firms* in the TASE indexes, and share of market capitalization;
- *concentration of closely held firms* in TASE listings, and absence of diffuse public shareholding.

Economic Concentration and Conglomeration Through Pyramid Business Groups

Issues of excessive concentration and industrial conglomeration are not new to Israel, where 24 major business groups control about 136 out of 596 listed companies (23 percent) and approximately 68 percent of total stock market capitalization. The market capitalization of the 10 largest business groups amounts to 41.3 percent of total stock market capitalization. The biggest business group holds assets equal to approximately 19.4 percent of GDP; the five largest

business groups hold assets equal to approximately 62.8 percent of GDP.³² Indeed, concerns about concentration risk have led to regulatory and legislative actions that separate real (e.g., industry) holdings from financial holdings. Thus, for example, a holding company or private equity firm would be prohibited from owning controlling shares of a large bank or non-bank company.³³

Also, new measures will soon limit the number of tiers of ownership in pyramid structures and result in de-conglomeration and long-needed restructuring that has not occurred in the absence of a market for corporate control and corporate governance with activist investors. While public companies and bond companies will still be permitted to structure more than two layers, existing pyramids will be constrained to consist of no more than three layers of chain ownership. Enhanced corporate governance provisions will also be imposed on companies in the lower layers.³⁴ The results of this recently passed Business Concentration Law (73–0 in the Knesset in December 2013) when enforced will create restructuring opportunities for overseas and local institutional investors.

Concentration and Competitiveness: The Problem of Pyramids

AGENCY COST PROBLEMS

- Tunneling and extraction of private benefits
- Problems of expansion and management entrenchment
- The significance of the gap between cash-flow rights and voting rights
- Minority shareholders

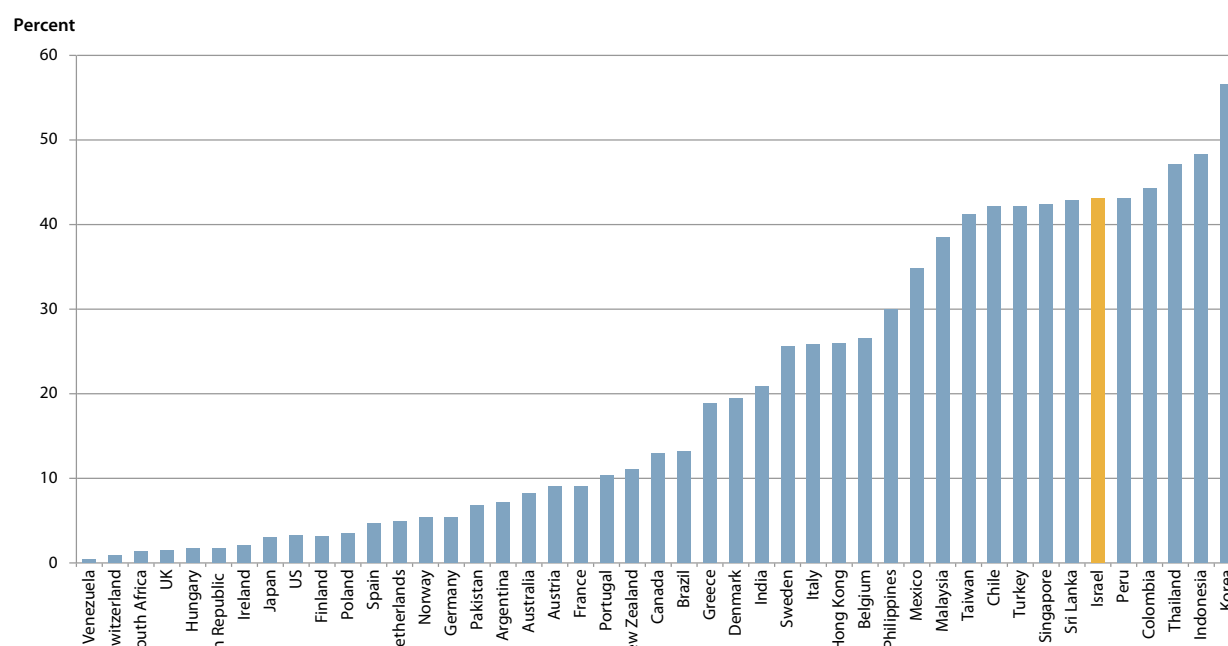
CORPORATE GOVERNANCE

- High levels of control premiums

Source: Lucian A. Bebchuk, “Concentration of Investments and Systemic Risks in Israel’s Long-Term Savings Funds: Problems and Policies,” 2012.

FIGURE
12

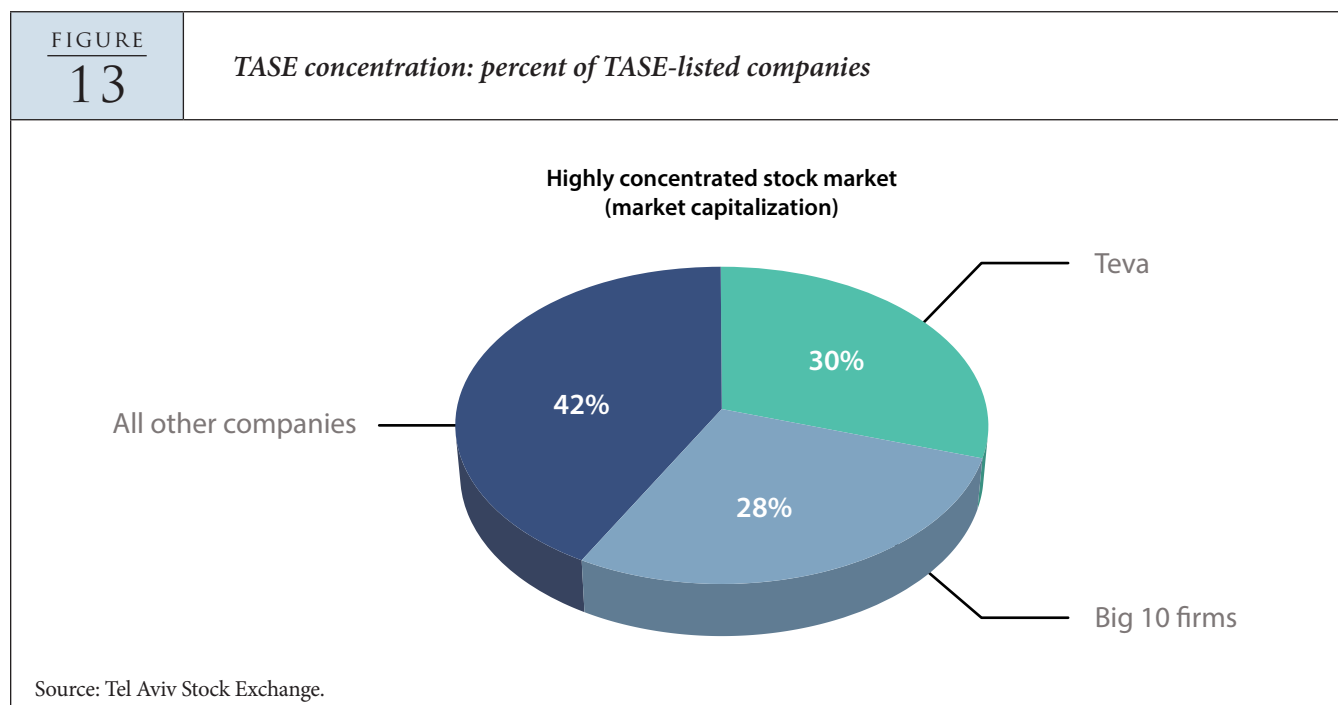
Business groups’ share of stock market capitalization, by country



Source: Stanislaw Sokolinski, 2012.

Firm Concentration by the Largest Firms in the Tel Aviv Stock Exchange

These pyramid concentrations are among the highest in the world. The 10 largest Israeli pyramids constitute nearly 60 percent of the local market. And market holdings are concentrated among insiders, i.e., the directors or other senior officers.



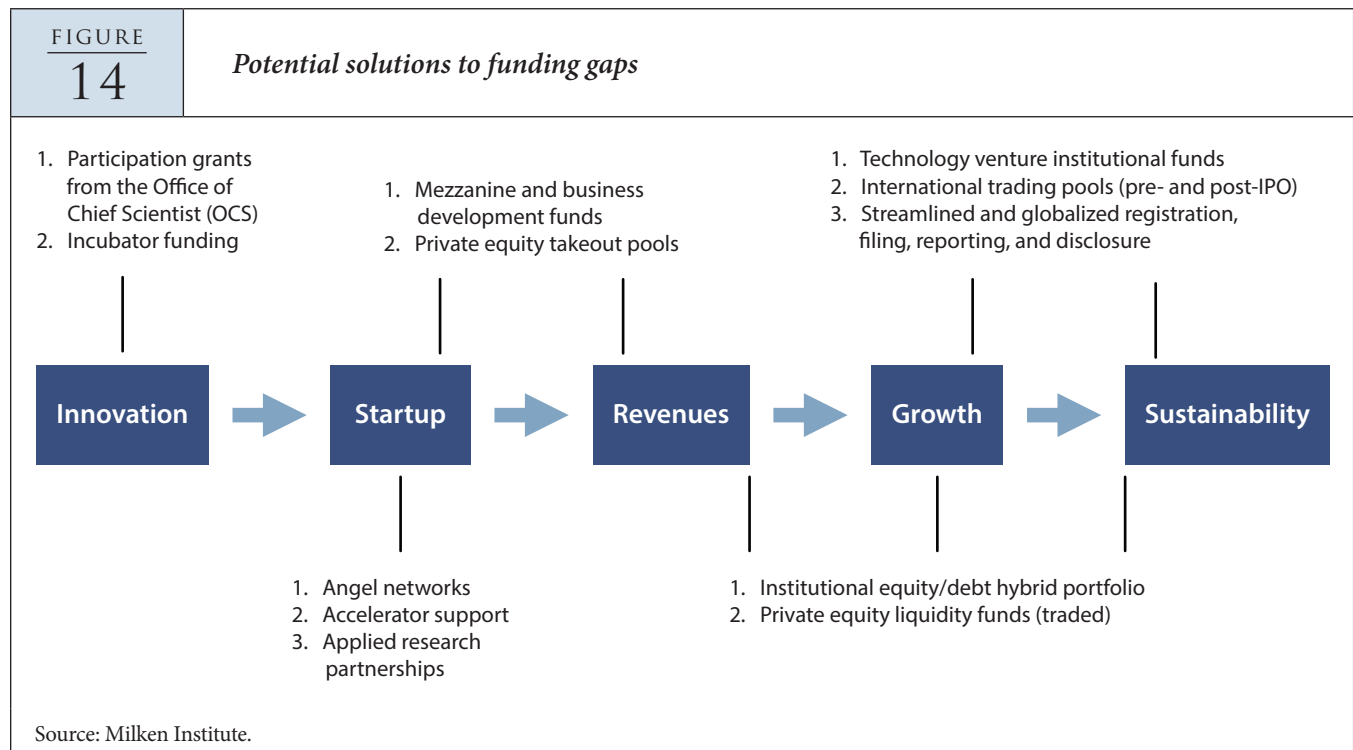
Firm Concentration by Closely Held Firms in the Tel Aviv Stock Exchange

The largest firms also reflect the disproportionate share of TASE market capitalization. As a result, public holdings of Israeli equity by non-Israelis have dropped to 16 percent since 2009. Despite measures to counterbalance this, there has been no material shift in the percentage concentration of closely held firms and insider groups among Israeli investors.

This may be a missed opportunity, as earlier efforts appear to have met with success in reducing concentration. For example, by 2007, the TASE had increased the free float threshold for inclusion in the TA-25 Index from 7.5 percent to 25.0 percent (it was lowered back to 20.0 percent in 2008 in the wake of the financial crisis).³⁵ Despite the early success of those upward moves in the free float threshold, there has been little effort to increase the threshold again. The introduction of a broader global benchmark will also contribute to a reduction in the free float, and is discussed in the next section.

Financial and Regulatory Solutions

While they appear to be daunting, these problems also represent real opportunities for both Israel and the global investment community. For example, figure 14 outlines a variety of financing solutions that would enable startups and companies with global partners to capitalize later-stage development through private equity, IPOs, and secondary offerings, and expand into broader markets. This would address a number of concerns relating to poor market performance and to Barrier 2 (reduced capital flows due to low free float and high costs of investing). Lab members discussed new financial structures and products that could address existing funding gaps.



SOLUTION SET 1: THINK GLOBALLY

Reinventing the Israeli capital markets requires *internationalizing* them along all dimensions. Each of the Lab's proposed initiatives is intended to reach out to domestic and international institutional asset managers, and to individual investors who invest internationally.

Increase Transparency and Accessibility

Israel can open up its capital markets by introducing and institutionalizing global best practices and standards through:

- requiring that firms issue annual reports in English and, for all listed companies, mandating that they comply with international accounting standards, such as the Financial Accounting Standards Board (FASB) and the International Financial Reporting Standards (IFRS);

- introducing regulatory reform that incorporates the requirements of global institutional capital within domestic regulatory frameworks. By recognizing and incorporating these requirements, publicly listed companies will increase their visibility and permit investors to use established financial metrics to compare Israeli firms with similar companies listed on other major international exchanges;
- creating a mechanism for firms to issue *shelf offerings*, i.e., equity issuance in which the shares of an issue are released over time rather than through a single offering; this would increase the free float to attract foreign institutional investors;
- providing better research on securities that take advantage of broader distribution platforms to reach international investors;
- instituting exemptions and adjustments to disclosure requirements for current reporting and prospectuses;
- pursuing R&D partnerships to be listed.³⁶

Design a Better Benchmark for Israeli Equities, and Launch a U.S.-Listed Exchange-Traded Fund

Foreign investors have limited exposure to Israel, which may indicate a lack of appropriate investment vehicles and a lack of awareness about specific equities, noted Steven Schoenfeld of BlueStar Global Investors.

In the presence of existing structural barriers, and as a complement to ongoing structural reform, pooled investment vehicles could offer one approach to increasing the inflow of investment capital. Other pooled investment vehicles, such as Israeli equity-linked mutual funds, bank deposit products (index-linked CDs), and other structured products, could be constructed to facilitate efficient investment into Israeli equities.

One particularly interesting approach would involve the creation of exchange-traded funds focused on the Israeli market. Low-cost exchange trading has replaced mutual fund distribution channels as a mechanism for investors to gain exposure to cross sections of specific regions or sectors. Lab participants noted that a U.S.-listed exchange-traded fund could be constructed to mirror a comprehensive portfolio of Israeli equities. Given the complexities of the Israeli capital market, the fund's benchmark index would be constructed to adjust for free float, concentrated ownership, and complex cross-holdings.

The U.S.-listed Israel ETF ISRA is a first step for such products, which would include Israeli and cross-registered companies, meaning those listed outside Israel, such as CheckPoint Software Technologies, Amdocs, SodaStream, Caesarstone, and others.

The adoption of a more complete benchmark index by both local institutional investors and foreign investors has the potential to dramatically reduce the concentration problem and simultaneously add back substantial missing market capitalization that the TA-25, TA-100, and MSCI Israel exclude.

A global approach to benchmarking Israeli equities would mean that the robust technology sector is properly weighted. Ironically, the benchmarks used for Israel by the vast majority of its domestic asset managers and global investors dramatically *under-weight* the tech sector. Many of its world-renowned technology companies list exclusively on the NASDAQ or the NYSE, and are therefore rendered ineligible for inclusion in most currently used indexes, such as the TA-25 and MSCI-Israel. The contrast between the Mellanox delisting in the summer of 2013 and the

Wix.com IPO on the NASDAQ in November 2013 dramatically highlight the need for a truly *global* approach for benchmarking Israeli stocks and/or implementing an index-based Israel equity allocation

The BlueStar Israel Global Index (BIGI), the underlying benchmark for the Israel ETF ISRA launched in June 2013 on the NYSE, resolves the fundamental flaws in preexisting Israeli equity indexes by focusing on two key attributes that are vital for sophisticated institutional investors: diversification and completeness. BIGI's diversification parameters cap the highest-weighted constituent at 12.5 percent, and the combined weight of all components with a weight of 5 percent or more does not constitute more than 50 percent of the index. More important, BIGI includes all eligible Israeli companies, regardless of their listing venue. The combined market capitalization of Israeli companies excluded from other Israel indexes due to their listing venue totals over \$30 billion in the top 10 constituents of BIGI alone.

TABLE 2	<i>The Israeli equity universe: 10 largest stocks in the BIGI by market capitalization</i>	
Equities	Market cap US\$ Billions (1/14/12)	
Teva Pharmaceutical	\$35.9	
Israel Chemical Corp.	\$16.2	
Check Point Software*	\$10.0	
Perrigo*	\$9.8	
Amdocs*	\$5.7	
Bank Hapoalim	\$5.7	
Israel Corp.	\$5.3	
Bank Leumi	\$5.2	
VeriFone Systems*	\$3.5	
Mellanox Technologies	\$2.1	
Total not included in FTSE or MSCI Israel*	\$29.0	
* Of top 10 holdings Source: BlueStar Global Investors LLC.		

More than 50 companies are cross-listed abroad, and numerous subsidiaries (e.g., Ormat Technologies, Delek US, Alon USA) are ignored by international indexes. Around \$30 billion in market cap is missing from the MSCI and FTSE indexes for Israeli companies listed abroad without dual listings.

As of the end of November 2013, after just five months of trading, the ETF ISRA mobilized more than \$29 million in new investment for Israeli equities, including substantial commitments from large Jewish community endowments and foundations. The ISRA fund and BIGI benchmark are now under consideration by dozens more large institutional investors, with the potential to mobilize new investment worth hundreds of millions of dollars in the coming months and years. It is imperative that the TASE, regulators and government offices, and the Tel Aviv financial community support the growth of ETFs and other vehicles to facilitate more efficient foreign investment in Israeli equities. Israeli equity-linked mutual funds, bank deposit products (index-linked CDs), and other structured products that track this broader index could be constructed to facilitate efficient investment into Israeli equities.

Furthermore, just as a U.S.-listed ETF can offer a comprehensive portfolio of Israeli equities, so could a U.S.-listed ETF represent a comprehensive portfolio of sector-specific equities. Israel's technology sector is under represented in global benchmarks, despite the tremendous growth opportunity it offers.

In October 2013, BlueStar Global Investors launched a technology index for Israel that encompasses the broad Israeli tech sector, from agri-technology to defense technology, and includes companies irrespective of their listing venue. This index, the BlueStar Israel Global Technology Index (nicknamed BIGTech), has strong potential to be a benchmark for local investors, as well as foreign investors interested in Israel's dynamic tech sector. In particular, Israeli pension funds and mutual funds are substantially underweight in Israeli tech companies, as they are mostly not included in the TA-100 benchmark. Thus the promotion and adoption of a global tech index should be a priority for the local financial community, and the TASE should consider adopting it as a way to raise the visibility of Israel's global tech companies.

SOLUTION SET 2: INCREASE VOLUME AND VALUE

Innovative local companies that undergo restructuring or launch new technology platforms tend to be attractive to global investment partners, according to a growing body of research. These companies are characterized by high levels of R&D and ownership of more patents; they are also more likely to go through initial and secondary securities offerings and stock splits.

It is somewhat ironic, then, that new Israeli firms are not listed more often on the TASE, despite enjoying an undisputed global reputation for innovation.

Being listed locally offers three advantages to the greater economy:

- Listed companies provide more information, which attracts more investment interest.
- Israeli financial markets are likely to enjoy higher liquidity, higher trading volume, and lower bid-ask spreads.
- By listing publicly, Israeli firms can maintain ownership and control of their technology and the financial benefits that accrue, leading to realization of higher valuations for the firms and higher economic growth for the country.³⁷

Startup firms that grow into mature corporations while remaining part of the economy are the self-sustaining firms Israel needs. They not only bring strength to the capital markets, they also attract global development partners and launch new technologies that spur growth.

Liquidity increases in the securities market will mean increases in capital expenditures. The positive impacts will spill out into the real economy in the production of goods and services. In achieving increases in stock liquidity and reducing the costs of capital that cripple these innovative firms, it is likely that the companies will reduce their "hurdle rates," as the minimum acceptable rate of return for a firm's investment project is known, for new capital expenditures.³⁸ This will in turn increase investment rates and ultimately increase corporate values and market capitalization.³⁹ The current effort to reduce pyramid structures and cross-holdings will improve corporate governance and disclosure. Offering unlisted trading privileges to Israeli stocks in well-regulated markets will also streamline regulations and improve liquidity.⁴⁰

Design Technology Firm Investment Pools

In addition to creating ETFs and other pooled investment vehicles for listed firms, Israel could build on U.S. and U.K. examples by developing financial products that pool investments in portfolios of smaller and mid-market firms in technology or tech-application industries.

In 1995 the U.K. instituted two forms of venture capital trusts. These are funds that offer private equity in unlisted companies through public trades in the capital markets. The first was an open-ended investment vehicle pooling investors to make long-term investments in startup and later-stage companies. The second was a lower-risk, planned-exit venture capital trust, focused on proven-revenue firms. Investors were granted tax rebates on up to 30 percent of their invested funds.⁴¹

Business development companies (BDCs) are an important part of the solution. These are regulated, closed-end investment funds that invest exclusively in startups and small businesses. In the United States, BDCs were created by Congress in 1980 as a modification to the 1940 Investment Company Act and in response to a sharp decline in bank lending to small-cap and middle-market businesses. BDCs have been both debt and equity investors for companies that would otherwise find it difficult to obtain financing.⁴² They provide an attractive opportunity for investors to access private-equity-like investments, and give asset managers the advantage of access to permanent capital. Under recent U.S. legislation, BDC provisions are serving both to streamline the registration process and reduce the costs to new filers.

No similar funds exist in Israel. These types of funds would be appropriate in both primary and secondary markets by venture capital and private equity firms. Buyout, growth equity, venture capital, and mezzanine debt could also be supported by these types of funds, thus leveraging both the equity and debt markets as sources of capital.

A transaction could occur through securitization in several ways; for example, an investor could contribute its limited partnership interests to a newly leveraged vehicle (including a collateralized loan obligation, or CLO) that was sector-specific in key areas of technological competitive advantages; it could also sell its direct interests, either to other funds or a structured vehicle.⁴³

A CLO is a special purpose vehicle or entity (SPE) created to issue debt and equity for a set period of time. Proceeds are used to purchase a portfolio of investments—in this case, loans. Cash flow from the portfolio is then used to pay interest on the debt, as well as expenses and equity dividends. This would require the implementation of long-considered securitization reform.⁴⁴

There is clear evidence that securitization by CLOs was a key source for corporate lending in the United States and Europe. Recent research has demonstrated that securitized loans performed through the financial crisis no worse, and under some criteria even better, than unsecuritized loans of comparable credit quality. Incentives have been aligned in these capital structures that reduce adverse selection.⁴⁵

As noted earlier, small firms are often challenged in attracting large institutional investors, and thus receive low valuations. At the same time, institutions increasingly prefer more liquid solutions than those offered by VC or private equity funds. A structured portfolio fund (similar to a closed-end mutual fund or business development corporation) could offer an alternative: private equity available through public markets for later-stage technology companies within Israel and abroad.

One proposed investment vehicle examined at the Lab was the traded late-stage venture fund (TLVF). This type of vehicle would be structured as a mutual fund with an investment mandate that focuses on a particular technology niche (e.g., cyber security, biomed, agri-technology, water, or energy). The fund would invest the majority of its portfolio in listed securities within the niche, while the significant minority would be invested in substantial equity stakes (20 percent to 30 percent) in late-stage unlisted tech companies with market caps of roughly \$30 million to \$200 million. Disclosure requirements would be similar to those of mutual funds, with one exception: the private equity would be priced at its historic book value rather than at market value. With their low costs, these funds would be useful intermediaries between institutions worldwide, as well as worldwide tech opportunities.

These funds could be closed-end venture capital/private equity funds tailored to later-stage company needs, with an investment horizon of up to 15 years. Reductions in the costs of regulatory compliance and managerial incentives for proven management would be an important feature of these funds. For example, tax incentives could enable investors to pay long-term capital gains taxes only upon the sale of their participating units.

Israel's institutional investors might be encouraged to participate in such funds through favorable tax treatment that would cast ownership of fund shares as an investment in the companies, not related to current restrictions on their tax treatment in funds. Additionally, the government might provide some form of co-investment to the fund or participation, either through direct investment or guarantees. Regulatory relief or fast-tracking for regulatory processes could also provide a way to ease introduction of new products emerging from the fund.

Lab members envisioned the potential for many such funds focusing on different niches. The funds, which could be expected to be sized up to \$1 billion, would allow institutional investors to invest in the specific technology areas they consider to be most promising.⁴⁶

Traded portfolios within structured funds would provide sufficient scale, liquidity, and exposure to a variety of funds and management, market, and technological synergies.

Bridge Institutional Investments to Pre-IPO Companies

Lab members also discussed ways to address the needs of pre-IPO companies and increase liquidity to prevent premature IPO offerings.

The first step in creating the value chain of new capital would be to bring pre-IPO companies into an institutional investor asset class. This could be done through a non-exchange-traded, private-shares market, where the most promising companies would have access to a global community of asset managers and to additional capital, beyond the traditional venture capital and private equity markets. They would benefit from a longer runway before launching an IPO or being forced into an early merger or acquisition.

They would also be blessed with an institutional stamp of approval that provides them with potential buyers through and post-IPO, as well as access to a broad group of largely passive investors. This would bring tremendous credibility to Israel and its global technology partner firms along the path to an IPO, while enabling them to decide on price, timing, and possible dilution.

The platform would provide global institutional asset managers with a potential source of excess risk-adjusted return (alpha) by targeting late-stage companies with reasonable transaction size and proper disclosures (audited financials, key operating metrics, for example), and access to company management. This approach provides a seamless investing platform that spans the entire process, from the time the company initiates a transaction and continuing

through the various steps in the process: aggregation of potential institutional buyers, due diligence of the approved buyers, negotiations, the approval of buyers by the company, the aggregation of sellers, and finally the settlement.

Non-exchange trading venues have become popular as ways to match buyers and sellers. According to the consultancy TABB Group, 54 percent of the value traded by European institutional investors in 2012 was electronic, compared with 25 percent in 2009. In the United States, 53 percent of buy-side trades (by number of shares) were executed electronically.⁴⁷

These alternative trading systems (ATS) are useful for intermarket trading; stocks listed on another exchange can be traded through the electronic networks. Share-trading platforms that match orders were originally created to allow for large block trades without adversely impacting share prices (trading data are not reported back to the markets). With the emergence of high-speed algorithmic trading, stock orders are sliced into smaller pieces so traders can access multiple sources of liquidity to achieve the best price results.

The primary advantages of new platforms alongside the existing exchange would be both *size discovery*, by which large institutional orders are revealed to the broad market, thereby moving prices, and *price discovery*, which would improve as order flow become more informed.⁴⁸ This evolution of the equity market has resulted in shrinking the average order size in the market.

The introduction of multiple trading platforms could have a large impact on trading volumes, turnover, market valuations, and reducing trade concentration.⁴⁹ As Seth Merrin of Liquidnet noted at the Lab, this platform could “bring together large asset managers and public companies through network technology connecting traders, asset managers, analysts, and corporate issuers for Israeli companies throughout their entire life cycle and the institutional investment cycle.”

SOLUTION SET 3: TASE 2.0: CREATE A NEW TECHNOLOGY PLATFORM

Historically, new tech companies have used the NASDAQ to float an IPO as a way to finance expansion. Since the 2002 Sarbanes-Oxley Act, however, the regulatory costs of going public have risen to such an extent that an IPO generally doesn't make sense unless a firm's valuation is above \$200 million.

But even if a firm goes public, a typical “entry-level” \$200 million firm is unlikely to attract the attention of large institutional investors; indeed, until a firm begins to exceed a \$750 million valuation, it is difficult to get on the radar of large institutional investors. To attain this valuation and remain independent, companies typically rely on private equity, which is expensive and getting scarcer. Tech companies that can't obtain private equity financing are forced to turn to M&As as a last resort, and in many cases, they do so prematurely.

This problem is particularly acute in Israel due to the large share of high-tech companies in the traded economy. In the United States, companies involved in M&As tend to stay local, and when a large U.S. company buys a new U.S. company, the economy-wide implications are small, as the entire business stays in the country. But Israeli startups are most likely to be acquired by foreign companies, which means that the cost-plus R&D center remains in Israel while all the supporting jobs are created elsewhere, yielding a limiting impact on the Israeli economy.⁵⁰

In a worst-case scenario, startups skip the TASE entirely because the low levels of liquidity, sparse analyst coverage of listed firms, and the resulting shortage of large sophisticated investors translate into low valuations for their stocks. Initial low valuations are likely to reduce the likelihood of a high-value exit (via M&A or IPO) later on.

In consideration of these conditions, Lab participants recommended these possible steps:

- The TASE should facilitate stock offerings at an earlier stage of capital development than is permitted on the NASDAQ and other exchanges. This would make the TASE an attractive first stop for both Israeli and non-Israeli startups, and could be accomplished in conjunction with recommendations from the April 2013 Israeli Securities Authority report and the Authority's presentations at the Lab.⁵¹ This would include creating a vibrant high-tech segment across technology fields.
- Lower the costs of the IPO by reducing the regulatory requirements, especially targeting most relevant mid-to large-cap privately held companies.⁵²
- Initiate subsidized analyst coverage for newly listed TASE firms.
- Develop and launch products on the Israel Global Technology Index and Benchmark to highlight the true size/"footprint" of Israeli technology companies.

Go Public and Globalize Israel's Securities Exchange

Most of the world's stock exchanges have demutualized over the past two decades, meaning they've undergone conversion from private, nonprofit, member-owned organizations to public, for-profit, shareholder-owned corporations. This process has greatly increased incentives to provide innovative and low-cost services. Examples include the NASDAQ, the NYSE, the Chicago Mercantile Exchange, and the London Stock Exchange. By self-listing and demutualizing, which separates trading rights from ownership rights, the exchange shareholder base is diversified. The change of ownership structure greatly improves managerial incentives for exchanges to compete.⁵³

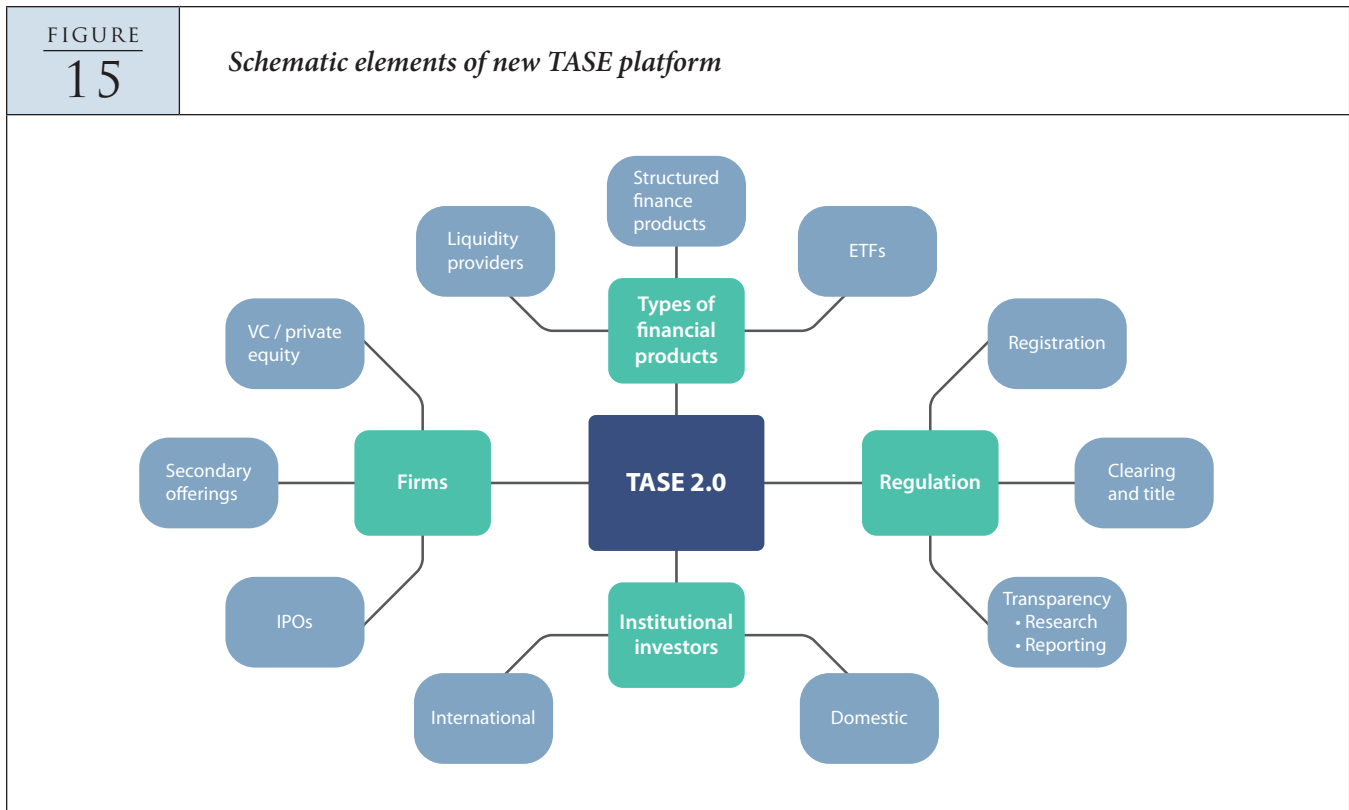
A TASE that is publicly owned, with membership open to new investors, could pursue new business opportunities—including potential joint ventures and cross-listing opportunities with foreign exchanges—not restricted by the vested interests of existing members. In particular, there is substantial opportunity for listing/trading of major index derivative products locally (in NIS) that could be facilitated by partnerships with exchanges in the United States, Europe, and Asia.

The resulting openness would similarly increase the openness of portfolio flows, create more investor participation, and bring incentives for innovations by TASE management and resources for capital investment. Under regulatory conditions of greater market transparency and competition, it is likely that the market price, P/E ratios, and rate of equity listings would increase. By going public and globalizing, there is an increased ability to raise funds, stimulate competition and achieve lower costs of capital.⁵⁴ The overwhelming empirical evidence suggests that demutualization boosts an exchange's financial performance, size, and liquidity.⁵⁵

Figure 15 shows all the components that a newly configured Tel Aviv Stock Exchange, a TASE 2.0, could encompass. TASE 2.0 would provide a responsive infrastructure for companies raising money and for institutional investors looking for value and growth.

FIGURE
15

Schematic elements of new TASE platform



Address Regulatory and Tax Reforms

The TASE is stringently regulated, and Lab members discussed key regulatory reforms that would lower the transaction costs of listing, buying, and selling securities, and introduce new products and services.

- Create regulatory arbitrage by creating an investing and listing environment similar to investing and listing in the United States, but without the burdens of Sarbanes–Oxley on transaction costs for IPOs, audit, and internal control compliance.
- Create tax incentives for short-term investors to sell to longer-term investors by reducing, eliminating, or deferring capital gains tax on the sale of stock to another investor—while taxing the gains on a sale to another company or to a company headquartered outside Israel. Create tax incentives that would enable investors to pay long-term capital gains taxes only upon the sale of their participating units.
- Implement regulatory and tax regime changes to create more transparent disclosure policies.
- Lower taxes on trades to reduce agency cost and increase liquidity.
- Create tax incentives, including tax rebates and credits for participation in targeted investment vehicles, such as BDCs.
- Create favorable tax treatment that would cast ownership of fund shares as an investment in the companies, not related to current restrictions on their tax treatment in funds.
- Implement regulatory relief or fast-tracking for regulatory processes as a way to ease the introduction of new financial products.

Israel must take immediate,
bold steps to support business
development.

Conclusion: Creating a Roadmap

Israel can become an important financial hub for technology and development globally, especially in frontier and emerging markets. But it must first join the ranks of modern, transparent financial markets by providing low-cost, quality investment services to local and foreign investors. This will require the launch of new securities and products, such as those outlined in this Lab report.

The path forward will be complex, with many features and safeguards added to leverage the strengths of the Israeli marketplace of ideas, entrepreneurs, and capital. Table 3 provides an outline to chart the course; it summarizes the Lab recommendations and provides suggestions on how to evaluate and prioritize them.

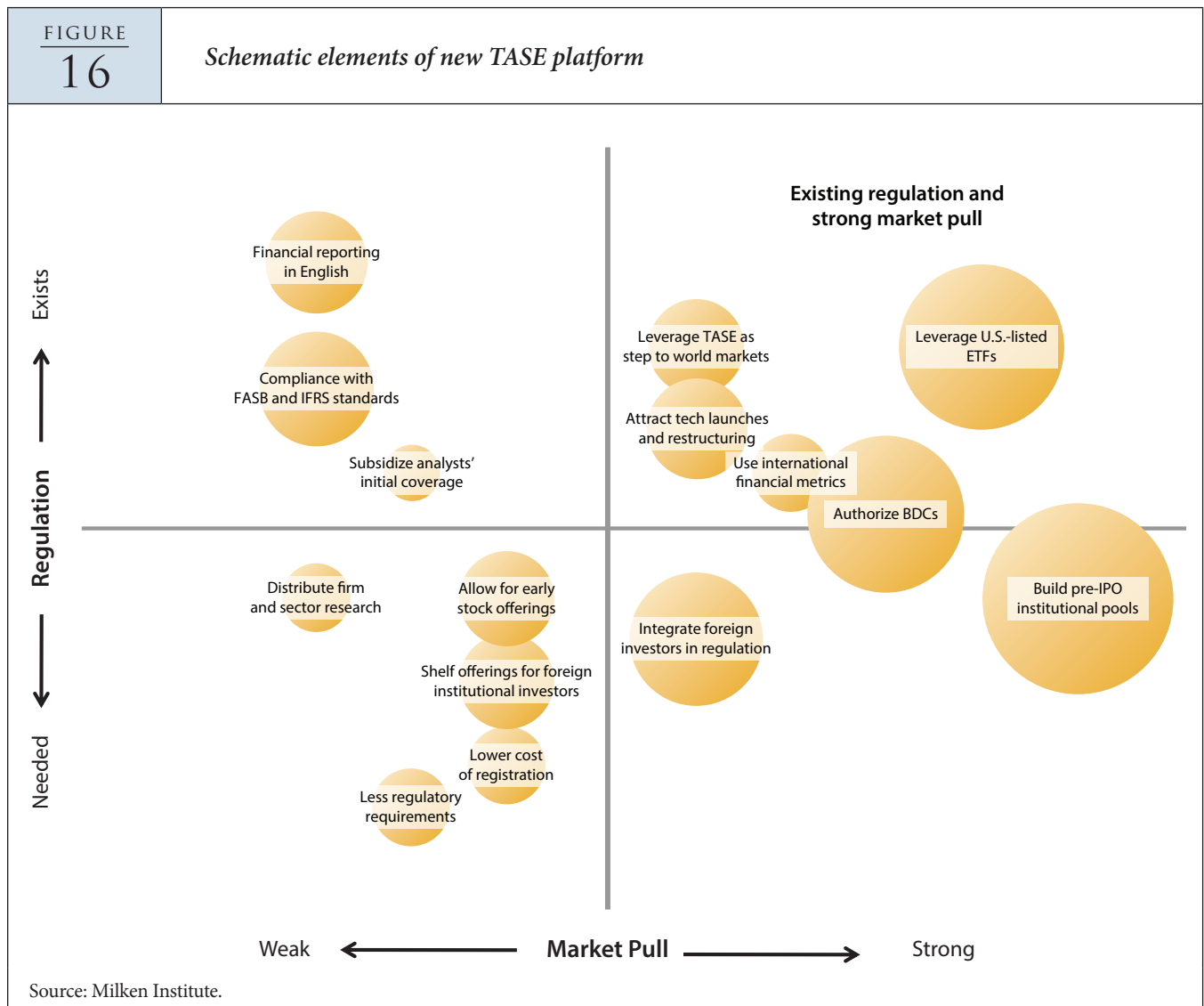
TABLE 3		<i>Lab goals and proposed implementations</i>
	Goals	Proposed implementations
1.	Think globally	Provide financial reporting in English.
2.	Think globally	Comply with FASB and IFRS accounting standards.
3.	Think globally	Integrate, incentivize, and favor foreign investors in regulation.
4.	Think globally	Use international financial metrics.
5.	Think globally	Provide shelf offerings for foreign institutional investors.
6.	Think globally	Distribute complete and transparent firm and sector research.
7.	Think globally	Support U.S.-listed ETFs for the broad market.
8.	Think globally	Build pre-IPO institutional pools.
9.	Increase volume and value	Attract tech launches and restructurings through structured finance funds (traded late-stage venture funds, BDCs, CLOs, etc.).
10.	Increase volume and value	Authorize business development corporations that make loans to and/or invest in later-stage development and expansion of VC-backed firms.
11.	Create a new technology platform	Allow for early stock offerings.
12.	Create a new technology platform	Leverage TASE as an interim step to world markets.
13.	Create a new technology platform	Lower the cost of registration.
14.	Create a new technology platform	Employ fewer regulatory requirements.
15.	Create a new technology platform	Subsidize analysts' initial coverage.

Criteria for evaluation and prioritization would include:

1. *Impact and scalability*: the relative size of the initiative's impact on the barriers facing the capital markets, including the ability to increase that impact with small marginal costs.
2. *Ease and cost of implementation*: the relative level of regulatory change needed to implement the solution
3. *Market pull versus regulatory push*: the relative attractiveness in the market and the willingness of the market to demand and therefore "pull" the initiative forward.

Using these criteria, we show the illustrative rankings of the recommendations in figure 16. Each quadrant captures the relationship between the change in regulations and the strength of the market “pull” for the recommendation. The size of the bubble illustrates our estimate of the relative impact on Israel’s capital markets.

Each quadrant suggests the steps, focus, and participants for the next steps, such as working with regulators to draft new regulations and rules, or working with market actors (companies, traders, funds, etc.) to change business practices. The quadrant in the lower left, for example, requires both regulatory and market changes. Conversely, the upper-right quadrant demonstrates relatively quick regulatory changes (those currently allowed or with little or no opposition expected from regulators) and strong market “pull” for the recommendation (already being done by the market at some level or very little opposition by the market actors).



Israel has achieved a remarkable goal for a country so young: global recognition as a high-tech startup nation. National pride soared anew with its entry into the club of developed nations. Yet in the wake of that designation came growing awareness that its capital markets were ill equipped to support growing business and technology sectors, attract and retain major foreign institutional investment, or compete with other financial centers.

All the issues that are impeding growth in Israel's capital markets, and thus jeopardizing its economic security, have solutions that this report addresses. Some of them are already on the work plans of various agencies. Others may seem revolutionary. But they are all backed by international precedent, standards of best practices, and transparency safeguards.

When we say we want to reinvent Israel's capital markets, we don't just mean that we want to upgrade regulatory, institutional, and operational standards to more closely resemble those of the markets with which Israel must now compete—we also mean that Israel must take immediate, bold steps to support business development, especially technological applications that build upon its knowledge and human capital. Otherwise it will continue losing its most promising startups to foreign acquisition and undervalued IPOs.

The time has come to reap the full benefits of status as a developed nation and aim for the stature of a mature and self-sustaining scale-up nation. That strength will allow Israel to become a major player in the global value chain and an example to other nations on the path to full development.

APPENDIX

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ENDNOTES

1. Positive externalities are external benefits that may be under valued by the markets. They exist when the marginal social benefit of production and consumption (which is equal to the private marginal benefit a good provides plus any external benefits it creates) exceeds the marginal private benefit (the increase in private benefit resulting from the consumption of one more unit or the production of one more unit of a good or service).
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