January 2010
IMF Country Report No. 10/23

Israel: Staff Report for the 2009 Article IV Consultation

The following documents have been released and are included in this package:

- The staff report, prepared by a staff team of the IMF, following discussions that ended on December 15, 2009, with the officials of Israel on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on December 30, 2009. The views expressed in the staff report are those of the staff team and do not necessarily reflect the views of the Executive Board of the IMF.

- A Public Information Notice (PIN).

- A statement by the Executive Director for Israel.

The policy of publication of staff reports and other documents allows for the deletion of market-sensitive information.

Copies of this report are available to the public from

International Monetary Fund • Publication Services
700 19th Street, N.W. • Washington, D.C. 20431
Telephone: (202) 623-7430 • Telefax: (202) 623-7201
E-mail: publications@imf.org Internet: http://www.imf.org

International Monetary Fund
Washington, D.C.

INTERNATIONAL MONETARY FUND

ISRAEL[1]

Staff Report for the 2009 Article IV Consultation

Prepared by the European Department

Approved by Adam Bennett and Martin Mühleisen

December 30, 2009

Content Page

[1] For purposes of Fund relations, the West Bank, Gaza and the Golan Heights are considered to be under the authority of Israel within the terms of Article XXXI, Section 2(g) of the Articles of Agreement. Information regarding economic developments in West Bank and Gaza may be found in *Macroeconomic and Fiscal Framework for West Bank and Gaza—Fourth Review of Progress*, FO/DIS/09/155, 9/14/2009. The discussions with the Israeli authorities and the analysis in this staff report took into account the economic developments in these territories to the extent they are relevant for purposes of completing the Article IV consultation with Israel.

I. Staff Appraisal

Israel has had a good "great recession"

1. In the face of global crisis, Israeli output growth was amongst the last to fall below trend, among the mildest hit, and one of the earliest to stage a recovery. Output is projected to have been no worse than flat overall in 2009, and was up in both Q2 and Q3 2009. Though bonds and equities fell sharply in late 2008, there was no melt down in local markets, even without the full swathe of emergency financial stabilization measures typical elsewhere. Indeed, since early 2008 Israel appeared to acquire safe haven status, experiencing sharp increases in net capital inflows and real exchange rate appreciation, despite sustained foreign reserve accumulation. And in September 2009, the Bank of Israel (BoI) was the first central bank globally to raise policy rates for over a year, one of several steps it took to begin the exit from the monetary measures that had been adopted in response to the global crisis.

2. The economy was shielded from the global downturn by the absence of prior housing or bank credit booms, high household savings rates, and the fact that investment goods and consumer durables—demand for which contracted sharply—are mostly imported from abroad. But the strength of output also owes much to the public debt reduction and structural reforms of the past decade, as well as the specific policy responses to the crisis. In particular, the decisive relaxation in the monetary stance including "unconventional" measures, the accommodation of the automatic stabilizers in 2009 and its expression in the adoption of a two year budget for 2009–10, and suitably focused measures to stabilize credit flows were all both timely and appropriately strong.

But the economy has not been unscathed

3. While output, consumption, and confidence are close to their Fall 2008 levels, exports, imports, and fixed investment are far from fully recovered. Unemployment has edged up to some 8 percent, the stock of bank credit to corporates has fallen through much of the year, and inflation has been above target for much of that time. And though safe haven factors that earlier put upward pressure on the currency appear to have eased along with global financial sector stabilization, concerns about the excessive strength of the shekel have not entirely been put to rest.

4. On the policy side, automatic stabilizers eroded the hitherto steady progress of deficit reduction, taking the deficit close to 5 percent of GDP in 2009. The earlier well-established framework of fiscal rules—comprising ceilings on deficits and on the growth of real spending—was abandoned (appropriately) to accommodate this, but it is unclear if the credibility of the new deficit ceilings which replaced them has been fully established. And the BoI's programmed foreign exchange purchases have been replaced on a transitional basis by a regime of discretionary intervention. This will shift the IMF de facto classification of the exchange rate regime from "free floating" to "floating".

So although Israel is a global exit frontrunner, it is not yet out of the woods

5. Public debt is back on an upward track, heading towards 80 percent of GDP by end-2010. And external uncertainties remain elevated: though the WEO central projection shows global growth of 3 percent in 2010, this is subject to 90 percent confidence margins ranging from ½ to 5½ percent. The corresponding range for projected growth in Israel in 2010 is 0 to 4 percent. Further ahead, significant reductions in the growth of potential output of the major economies will likely lower Israel's medium-term potential growth rate by some half a percentage point annually to 3–3½ percent.

Accordingly, the challenge ahead is to implement an effective exit strategy

6. Our core advice is to strengthen the policy frameworks to anchor long run expectations and reinforce policy credibility. This strategy should help secure greater flexibility to address short run shocks and support long-term growth. It has implications for the fiscal, monetary, and the financial stability areas.

The authorities have already moved in this direction

7. The anchoring of long run expectations should be helped by the combination of a declining path for target ceilings on fiscal deficits supported by annual caps on real spending growth, by the renewal of the program of US guarantees on public debt, and by steps toward early entry to the OECD. These steps are reflected in the "two year budget" which anticipates automatic stabilizers—thereby lowering the deficit in 2010 if growth picks up and providing some fiscal support if it does not. On the foreign exchange regime, the shift from preprogrammed to discretionary intervention is a transitional step anticipating a free float. Progress has been made toward the adoption of the BoI Law which should strengthen the outlook for the long-run monetary framework. The recent policy rate rises represent measured and balanced steps to tighten the stance of monetary policy as the recovery takes hold. And though the various emergency financial sector support initiatives remain in place, take up has been limited and is expected to remain so. Various actions to strengthen the content of supervision are in process, including the establishment of a financial stability unit in the BoI, and proposals by the Hodak committee and regulators to strengthen due diligence practices, bond structures, remuneration arrangements, and investment portfolio guidelines.

Given global uncertainties, these actions could be significantly strengthened

8. A key message that needs to be underscored to the public is that the global environment places a high premium on avoiding actions which might compound downside risks. This concern precludes early commitments to sizeable permanent remuneration increases, notwithstanding the encouraging economic performance so far. In particular, wage settlements for public sector employees due in 2010 should be tightly restrained. This would send an appropriate signal to private sector wage setters, help keep inflation and

interest rates low as output strengthens, and thus promote continued good economic performance.

9. A further key concern is that high Israeli public debt represents an enduring vulnerability. And far from being eased, this problem is likely aggravated by the recent sharp increase in public deficits and debt across the developed world and by the associated pressures on global savings. In periods of international market stress, financing costs for high debt countries like Israel tend to rise particularly sharply, curbing scope to allow fiscal support to cushion shocks—a concern reflected in Israel's decision in 2009 to raise the VAT rate to cap the headline deficit. And high debt attenuates—and may even more than completely negate—the stabilizing impact on output of fiscal support in downturns. Given Israel's particular exposure to global and geopolitical shocks, these are primary concerns. Public debt needs to come down decisively.

10. These concerns are compounded by the likely decline in potential output growth globally—and therefore in Israel—in the wake of the global crisis and by the likely loss of windfall fiscal revenues associated with the prior global financial boom. For these reasons, the difficulty of securing public debt reduction has increased. Accordingly, efforts to do so need to be redoubled, anchored by adoption of a formal long-term anchor for policies targeting public debt reduction, strengthened budget procedures, and efforts to improve supply side efficiencies, including through liberalized planning rules and competitive privatization.

Fiscal frameworks and policy could be more robust and flexible

11. An immediate step towards these goals is to reconcile aggregate spending caps with commitments on its component parts. Without this, the credibility of the current or any alternative framework of fiscal rules will be compromised.

12. Alongside, the case for adjusting the fiscal rules warrants review by Spring 2010, when fiscal outturns, immediate prospects for global demand, and the outlook for capital flows are likely to have become somewhat clearer.

13. If at that time staff central or upside global scenarios are being realized, then policy should aim to deliver deficit outturns considerably lower than the 2010 and 2011 ceilings. Accordingly, those ceilings could be replaced in the framework of rules with a target for public debt to provide a medium-term anchor for fiscal policy. In this context, a target of 60 percent of GDP by 2020, anticipating further reductions thereafter, with an interim ceiling of 70 percent of GDP by the middle of the coming decade would be appropriate. This framework should be supported by the annual publication of three year ahead fiscal projections (detailing how policies are consistent with the debt objectives), and be formally contingent on the strength of global supply over the medium-term. Policies should target debt ratios below these ceilings in "central case" scenarios to anticipate uncertainties.

14. If instead, by the Spring, the downside near-term global demand scenarios appear more likely, the same overall framework of fiscal rules would still be appropriate, but some adjustments to its execution and parameters may be needed. In the event that investor demand for Israeli public debt remains resilient, full accommodation of fiscal stabilizers would be appropriate, even if that causes a breach of the current 2010 and 2011 deficit ceilings. As a direct result, the target dates for the debt and interim objectives may also then have to be put back somewhat relative to those in the upside global scenario. However, even in the downside scenario, should financing conditions prove challenging, a more ambitious fiscal stance and consolidation path even than in the upside scenario might prove to be unavoidable.

15. This overall approach to the timing of reform of the fiscal rules, its nature, and the execution of the 2010–11 budgets has several advantages. In the case where near-term global demand is strong, the framework applies the associated fiscal windfall to deficit reduction and thus guards against the possibility that the global upswing is not sustained. This should help to strengthen policy credibility associated with the new fiscal rule, because fiscal deficits for 2011 and 2012 would be below the current ceilings. A strong commitment to the 2020 debt ceiling and the interim objective would be signaled by an early down payment towards those goals. In the case where near-term global demand is weak, the shift from deficit ceilings to the long-term debt anchor would provide additional scope for accommodation of fiscal stabilizers. And in that context, pushing back the dates for the debt ceilings reduces the risk of commitment to a fiscal consolidation path that is too ambitious.

Public spending limits and tax policy objectives should be set in this context

16. In any of these global scenarios, a debt objective should be accompanied by ceilings on expenditures over the medium term—reflecting the authorities' objectives for the size of government—and these ceilings should be given at least equal status to the debt targets in the framework of rules. They would best be expressed as a cap on nominal spending, rather than as a cap on real expenditure growth, to strengthen transparency and the counter-cyclical properties of the fiscal rule. The adoption of a two year budget is a most welcome move towards these goals, and could be taken further with the adoption of rolling three year ahead ceilings on nominal spending, the abolition of the automatic correction mechanism for inflation surprises, and the strengthening of medium-term planning procedures underpinning the ceilings.

17. Whichever specific fiscal rules are adopted, their credibility is critical. In this regard, the planned medium-term caps on public spending raise concerns because the implied compression of already low non-security outlays may prove to be unsustainable. The planned reductions in headline income tax rates assume this further spending compression, which creates a vulnerability for public debt reduction. Such precommitments to tax reductions may therefore cast doubt over the pace of debt reduction, and this could

undermine or eliminate the supply side gains from the tax cuts by pushing up risk premia and the cost of financing for firms. To avoid this, tax reductions should follow demonstrated debt reductions consistent with the debt target and interim ceiling; precommitments to tax cuts which assume such debt reduction may unduly compound Israel's vulnerabilities.

Monetary policy has provided an appropriately measured anti-inflation signal

18. Headline inflation is near the top end of the target band, and there are no serious imminent risks of deflation either in headline or underlying terms in any of the measures of inflation expectations or forecasts. A resumption of economic growth has become increasingly evident, with the moderation of the earlier downturn likely to imply a similarly moderated upswing. In this context, and bearing in mind the history of high inflation, and global uncertainties (both on the upside and the downside), the hikes in the policy rate—by 25bp each for September and December 2009 and again for January 2010—are appropriately balanced.

19. As has been recommended globally, the withdrawal from "unconventional measures"—notably foreign exchange intervention in Israel—should be phased. Given that policy rates had hit their effective floor, strong intervention served to maintain a stimulative monetary stance in Israel, leaning against excessive appreciation in the face of strong capital inflows. As the desirable monetary stance tightens and the policy rate rises, so the role of unconventional measures in pursing monetary policy objectives should be reduced. In this light, the decision to shift from preprogrammed to discretionary intervention is an appropriate step, beginning the exit while still retaining the option for continued use of the instrument for a transitional period should it prove necessary to secure a sufficiently accommodative stance of monetary policy.

20. But there are risks associated with this strategy. In particular, this transitional phase of discretionary intervention could compromise the clarity of the BoI's objectives. To restore the free floating regime, discretionary intervention should be formally terminated when the policy rate is well above its effective floor on a sustained basis.

21. Until then, further sustained real appreciation of the shekel remains a concern. Though the evidence on competitiveness is now somewhat mixed, protracted upward pressures on the exchange rate would tilt the balance of concerns more decisively. If capital inflows surge, discretionary intervention should not constitute the main policy response. Rather, scope to raise reserve requirements and to strengthen consumer protection rules should be considered, and a stronger than currently planned budget balance is a further option. Capital controls and taxes on inflows would be inadvisable alternatives as their effectiveness is doubtful and both would compromise Israel's commitment to open markets.

22. The uncertain environment also reinforces the case for the prompt adoption of the proposed draft BoI Law. The law would strengthen BoI independence, establish a committee with power to set monetary policy, and a separate management committee to manage the bank's administration.

The financial sector passed through the crisis relatively well

23. While the bond market and equity valuations suffered heavily at the peak of the global financial crisis, banks have proved remarkably resilient despite support measures considerably less extensive than were applied elsewhere. In the context of proactive supervision and conservative business practices, banks have mostly eschewed exposure to structured instruments. They also remain largely deposit funded, and are backed by a strong comprehensive implicit government guarantee. In these circumstances, their risk-weighted capital ratios (reflected in strong raw capital), represent an adequate standard for bank capitalization in Israel. This should be reflected in the determination of the level and types of capital to be set in the Basel II standards in the coming year.

But some steps to strengthen the banking prudential framework are recommended

24. A significant upgrade of macro-prudential and financial stability analysis is needed. Priorities for the unit in the BoI should include comprehensive banking stress tests to provide regulators and banks with a better understanding of risks. Scenarios could include the lower bounds of staff's 90 percent confidence intervals for the global and the associated Israeli projections. In addition, the BoI should begin publication of a financial stability report, preferably semi-annually, and consideration could be given to including the stress test results. Over the longer term, the BoI should also work with the other regulators to broaden the analysis to cover the entire financial system and its macroeconomic linkages. Further consideration should also be given to the introduction of an explicit deposit insurance scheme to provide additional options to deal with the resolution of non systemic banks

And the difficulties in non-banks call for their supervision to be reinforced

25. Given global stabilization and increased evidence that Israel has proven resilient to the recent global shock, asset valuations have recovered significantly from their mid-crisis troughs. But the severity of the earlier asset price declines, the closure of the corporate bond market, and the fall of several insurance companies' solvency ratios to below their regulatory floors, underscore the vulnerability of non-bank financial institutions and related financial markets. Various steps, including the Hodak committee proposals and initiatives by the Israeli Securities Authority (ISA) are underway to address the difficulties.

26. Beyond these steps, however, a more fundamental strengthening of the budget, staffing, and autonomy of the non-bank regulators would seem appropriate. To this end, the ISA should be given full operational independence, and the Capital Markets, Insurance and

Savings Division (CMISD) of the Ministry of Finance should be given formal autonomy, in line with international best practice. Such changes should maintain the full flow of information to other supervisors and to the monetary and fiscal authorities and coordination of strategic priorities among the various regulators should be reinforced. Concurrently, the CMISD and ISA should significantly strengthen their transparency, going well beyond the provision of data, through the publication of timely analysis of developments, issues, and risks. Finally, an assessment should be made whether the emergency support measures for the nonbank sector—even though relatively well targeted—has given rise to moral hazard. If so, this should be reflected in the content of supervisory guidelines to be adopted.

27. Staff recommends that Israel should remain on the standard 12–month consultation cycle.

II. Recent Developments

Israel has had a good "great recession"

1. After sustained strong macroeconomic performance over the past five years, output is projected to be about flat in 2009, and has been rising since Q2 (Figures 1 & 2, Table 1 and Text Table 1).[1] As elsewhere, exports fell sharply in the six months following the Lehman Brothers collapse, as did fixed capital formation and consumption of durables (Figure 3, Tables 1 and 2). But the high savings rate, the absence of housing and bank credit booms, and the fact that the overwhelming bulk of investment goods and consumer durables are imported all cushioned the impact of the global shock on domestic output. In this context, banks—with little exposure to external toxic assets or to wholesale funding—proved resilient, well-capitalized, and liquid throughout, though non-bank financial institutions and the bond market were strained (Box 1, Table 3). This is a passage through the great recession that many would envy (Figure 4).

Text table 1. Israel - National Accounts (chained data at 2005 prices, seasonally adjusted)
(quarter-to-quarter percentage change, unless otherwise stated)

	domestic products (GDP)	Private consumption expenditure	Government consumption	Gross fixed capital formation	Exports of goods and services	Imports of goods and services	Net exoprts of goods and services 1/	Changes in inventories 1/
	Quarter-to-quarter change (in percent)							
Mar-2007	1.4	1.8	0.7	2.8	3.5	1.0	1.1	-1.3
Jun-2007	1.4	0.8	1.1	3.9	1.0	3.9	-1.2	1.4
Sep-2007	1.2	1.7	-0.1	10.7	2.0	1.7	0.2	-1.8
Dec-2007	1.5	1.2	-1.1	-3.1	4.7	2.7	0.9	0.8
Mar-2008	1.4	2.3	3.5	4.0	4.6	3.8	0.4	-1.9
Jun-2008	0.9	-0.9	-2.5	-0.9	-1.6	-2.5	0.4	1.3
Sep-2008	0.2	0.4	1.3	-3.9	0.2	-2.3	1.1	0.1
Dec-2008	-0.4	-0.6	-0.2	-1.2	-10.4	-6.9	-1.8	1.2
Mar-2009	-0.8	-0.9	-1.1	-4.2	-8.1	-12.0	1.6	-0.3
Jun-2009	0.2	2.0	3.0	0.7	3.5	1.2	0.9	-3.5
Sep-2009	0.5	2.1	0.3	5.4	5.0	12.8	-2.7	1.2

Source: Central Bank of Israel, Central Bureau of Statistics, Israel.
1/ Numbers for net exports of goods and services and changes in inventories refer to contributions to output growth.

[1] See Country Report No. 09/57 ((http://www.imf.org/external/pubs/cat/longres.cfm?sk=22706.0) pages 6–17, paragraphs 24-36 for discussion of Israel's economic situations before and during the earlier phase of the crisis.

Box 1. Banking Structure and Vulnerabilities

The main banks' activities are focused on traditional lending activities, funded by a large deposit base. Exposures to liquidity risks have therefore been minimal. Holdings of non-credit assets, including domestic equity and bond holdings, as well as ABS exposures abroad, exposed banks to market risks and resulted in falls in profitability in 2008, but only Hapoalim made net losses. Returns on equity have begun to recover, but remain well below pre-crisis levels. Prudent lending practices and close supervision have kept non-performing loans at a low level, although problem loans (including loans "on watch") have risen somewhat. Banks continued to raise capital ratios during the crisis, through retained profits, bond and equity issues, and risk-weighted capital ratios have risen to over 12 percent, while Tier 1 capital has risen to over 8 percent.

Balance sheet indicators for Israel's five biggest banks

	Bank Leumi		Bank Hapoalim		Discount Bank		Mizrahi Bank		First Int'l Bank	
	Jun-09	Jun-08	Jun-09	Jun-08	Jun-09	Jun-08	Jun-09	Jun-08	Jun-09	Jun-08
Figures in percent										
Share of system assets	29.7		28.2		17.7		10.7		9.4	
Credits/assets	64.9	69.1	71.3	70.3	61.7	64.3	79.5	79.3	58.5	63.1
Deposits/liabilities	84.7	81.7	80.7	80.1	79.4	82.7	86.2	79.5	84.9	86.7
Credits/deposits	81.8		94.7		81.8		97.9		73.7	
Bonds & sub. notes/liabilities	7.7	8.1	7.8	6.7	5.5	5.6	7.1	7.2	5.3	4.6
Equity/assets	6.3	7.0	6.5	6.2	5.0	5.5	5.5	5.9	5.9	5.8
Equity/risk-weighted assets	12.9	12.4	12.8	11.0	11.5	11.1	12.2	11.6	14.0	11.7
Return on equity	10.2	14.1	4.5	-15.3	11.0	5.6	8.7	13.4	8.8	6.8

Source: Bank of Israel

2. These outcomes partly reflected a track record of strong policies and the timely and appropriate policy responses to the global shock (See Figures 1 and 6).[2] Interest rates were lowered sharply towards zero from 4¼ percent, a long-standing implicit government guarantee for banks on deposits was expressly recognized by the Minister of Finance, a program of Bank of Israel (BoI) purchases of government bonds began from March 2009, and various measures to support financial institutions and the bond market were announced (See Box 2).

3. Automatic stabilizers also went into full swing, with the downturn taking its toll on revenue (Table 4). This took the central government budget deficit for 2008 to 2¼ percent of GDP from balance in 2007. The scope for discretionary fiscal stimulus, however, was impeded by the transition to a new administration. Until a budget was adopted in July 2009, monthly spending was capped by the budget law at 1/12th of budgeted expenditure for 2008.

[2] See the first background study "Why Was Output in Israel so Resilient through the Global Crisis?".

Box 2. Financial Sector and Credit Support Measures 2008–09

Corporate bonds. The government provided seed capital of NIS 1.1 billion, to be used in a 1:3 ratio with private funds, to support corporate issues for solvent firms mainly active in Israel facing debt rollover difficulties. To date only 10 percent of the funds have been used. The program has now been expanded to include equity investments in corporates with market access problems.

Increasing banks' capital. A guarantee was offered of some NIS 6 billion for bank issues of deferred notes which would be classified as upper Tier II capital. Conditions of use were eased and the guarantee doubled to NIS 12 billion in April, but banks have raised capital without using the guarantee.

Credit guarantees to small- and medium-sized firms. The initial NIS 1.3 billion scheme was expanded to NIS 2.6 billion, with a 70 percent guarantee on the loans. The funds are leveraged in a 1:5 ratio with private funds. NIS 0.7 billion has been disbursed under the program to date.

Easing out-of-court corporate bond rescheduling procedures. The ISA provided that bond trustees will have to convene a forum of bondholders if requested to do so by a party holding a substantial portion of bonds. Some 50 companies are now subject to these procedures, accounting for total debt of US$3½ billion.

4. Given its mid-year adoption, the authorities set the budget to cover both 2009 and 2010, and it incorporates discretionary expansionary measures—despite the fact that output had begun to recover even before the measures were announced. In particular, the budget anticipates a 3 percent increase in real spending for 2009, relaxing for one year the 1.7 percent ceiling stipulated by the fiscal rule.[3] As a partial offset, social security contributions and the VAT rate were temporarily raised—the latter by 1 percentage point to 16½ percent, to be reversed at end-2010[4]—and tobacco and gasoline excises were permanently increased. Additional spending curbs are anticipated from 2011 to "correct" for the spending increases above the 1.7 percent rule that are budgeted for 2009.

5. A new path for the ceiling on headline deficits was adopted alongside, as well as commitments for reductions in the headline rates of income taxes (see Text Table 2). Neither the deficit nor expenditure ceilings, nor the income tax rate reductions, are regarded as being contingent on realization of the accompanying projected growth rates,

[3] Since 2007, declining annual deficit targets were accompanied by a cap on real spending growth of 1.7 percent annually (excluding emergency security-related items). The former drove debt down from 100 percent of GDP in 2003 to below 80 percent at end-2008, while the latter held revenue ratios broadly constant in this context.

[4] In December 2009, in light of the upside surprises on fiscal receipts, the authorities decided to bring forward half of the planned reduction in the VAT to the beginning of 2010.

Text Table 2. Budget Ceilings and Income Tax Reductions

	2009	2010	2011	2012	2013	2014
Deficit –Percent of GDP						
Old rule	1	1	1	1	1	1
New rule	6	5½	3	2	1½	1
Real expenditure growth [1/]						
Old rule	1.7	1.7	1.7	1.7	1.7	1.7
New rule	3.0	1.7	0.4 [2/]	1.7	1.7	1.7
Top marginal income tax rates						
Personal	46	45	45	44	43	42
Corporate	26	25	24	23	22	21
Projected GDP growth	0.1	2.5	4.0	4.1	3.9	3.8

[1/] Excl. corrections for previous years under/overshoots, and excl. "boxes".
[2/] This falls as accommodation of stimulus spending in 09-10 ceases.

6. The 2009–10 fiscal deficit ceilings were supported by the announcement (in June 2009) that the "U.S. Israel Loan Guarantee Commitment Agreement" would be continued. This framework originated in 2003, and under its extension, new US guarantees of $330 million will be available each year in FY2010 and FY2011, subject to agreed conditions and deductions. These amounts will add to the unused pool of the guarantees, and the combined sum amounts to some 10 percent of annual projected gross financing need for 2010.

7. These fiscal balance, monetary, and financial sector support steps for 2008–10 are consistent with the thrust of past staff advice, although specific suggestions with regard to the fiscal policy framework remain under discussion.

8. In this context, both headline and core inflation remained in positive territory throughout 2008–09, despite a brief period after the collapse of Lehman Brothers when financial market indicators anticipated a mild short-term deflation (Figure 6, lower LHS). And with residents—notably through banks—repatriating capital from more unsettled jurisdictions abroad from early 2008, Israel appeared to have acquired something of a safe haven status. The BoI in late March 2008 announced its intention to systematically raise foreign exchange reserves by some $10 billion over two years via preannounced daily purchases to $35–40 billion (later revised to $40–44 billion). In the event, reserves rose to just above $60 billion in November 2009, boosting external resilience while stemming upward pressures on the currency (See Box 3). In this context the authorities have considered the option of providing financing to the IMF.

Box 3. Competitiveness and the Equilibrium Real Exchange Rate

After several years of trading in a narrow range, the CPI-based real effective exchange rate began appreciating as the global crisis broke in the Fall of 2007, rising steadily by some 15 percent in the year to Q3 2008 (Figure 7). From then, it declined back to within sight of its earlier range by May 2009. But it has since appreciated once more, to some 10 percent above its long-established
pre-crisis levels.

As elsewhere, global volatility has rendered estimates of equilibrium rates even more hazardous than usual. The CGER estimates show a wide range, with the Equilibrium Real Exchange Rate (ERER) measure, like the CPI-REER, suggesting that the shekel is on the strong side, while the macro balance and external stability estimates suggest otherwise.

The Macro Balance (MB) and External Sustainability (ES) measures may be particularly difficult to interpret in the case of Israel, because its longstanding geopolitical difficulties—inter alia—depress gross investment and boost the demand for precautionary savings. These effects are difficult to assess quantitatively, but may account for investment ratios on the low side—around 18 percent of GDP even in a boom year like 2007—and the sustained current account surpluses despite considerable income "catch-up" potential in Israel relative to the most advanced countries. MB assessments of competitiveness, which do not adjust for these matters, may thus tend to overstate the underlying competitiveness of the shekel. The ES measure may be similarly distorted. It indicates that Israel's IIP would be stable at a more appreciated exchange rate than prevailing currently, but only on the implicit assumption that the current official inward transfers (some 1½ percent of GDP in 2008) are sustained in the medium-term. But these inward transfers to a considerable extent reflect Israel's geopolitical circumstances, and competitiveness assessments may need to be made abstracting from such distorting factors.

Accordingly, in reaching a conclusion on the overall competitiveness of the shekel, the ERER and direct price measures are emphasized relative to the MB and ES measures. In this light the shekel may be somewhat on the strong side, but with significant margins of uncertainty around that assessment.

9. With inflation expectations rising back within the target range in recent months and the resumption of economic growth increasingly evident, the exit from the accommodative stance of policies has already been signaled and its initial steps taken. The BoI modified its program of systematic reserve accumulation, and ended the program of government bond purchases. It also raised interest rates three times by 25bp each for September and December 2009, and January 2010 to the current level of 1.25 percent, the first of these moves representing the first increase by a central bank globally for over a year. And with the fiscal deficit ceilings showing a deficit reduction in 2010 and larger reductions thereafter, the authorities now anticipate that revenue buoyancy on the back of the ongoing output recovery will deliver budget deficit outturns considerably below the ceilings—with the deficit officially expected now to reach close to 5 percent of GDP in 2009 and to fall in 2010.

But Israel certainly has not been unscathed by the global crisis

10. While output, private consumption, and confidence are again in the neighborhood of their Fall 2008 levels, exports, imports, and fixed investment are far from fully recovered. The stock of bank credit to corporate has fallen through much of the year with inflation above target for much of that time. Concerns with the strength of shekel have not entirely been put to rest, although safe haven factors that put upward pressure on the currency earlier have receded along with global financial sector stabilization.

11. Unemployment has edged up, with job loss concentrated in the construction, manufacturing and wholesale and retail trade sectors, reflecting the weak export and consumer and investment demand. But with real wages adjusting flexibly (partly via inflation and reduced work hours), and the depth of the downturn relatively shallow, nominal and real unit labor costs have been subdued. And though unemployment rose to 8 percent in Q2 2009, it has since fallen back slightly.

12. The net worth of the non-bank financial sector was hit hard by sharp declines in equity and corporate bond values. From end-2007 to end-2008, the capitalization of the Tel Aviv Stock Exchange fell 45 percent, while prices of non-government bonds fell 14 percent. Concerns about the creditworthiness of borrowers also led to the curtailment of new credit. After doubling in real terms from 2004 to 2007 to form nearly half of total credit to firms, real outstanding credit to Israeli firms from domestic non-banks, foreign creditors and households fell 5 percent in 2008 and has remained flat in 2009.

13. Even banks, though resilient relative to those in major countries, have curtailed the extension of credit growth to the private sector, which has slowed in annual terms from 8½ percent in Fall 2008 to 1½ percent a year later. As non-bank financing dried up, there was some re-intermediation of borrowing by large corporates in late 2008, but in most months since then, non-mortgage bank lending to the private sector has fallen slightly. The main area of bank credit growth is in mortgage lending, which picked up noticeably from April 2008. And with the deterioration in economic conditions, loan loss provisions have been increased from 0.3 to 0.8 percent of total loans, but the NPL ratio remains at only 1.5 percent.

14. Adjustments to fiscal rules, however well motivated and timed, inevitably raise issues of credibility. The increase in spending growth in 2009 is described as “temporary” (for 2009 only, with “corrections” to follow) and the deficit ceilings anticipate early consolidation. But the interrelated credibility of both sets of ceilings remains to be established.

A number of economic vulnerabilities remain, notably on the fiscal side

15. By various indicators, Israel’s vulnerabilities are modest (Figure 8, Table 5). In comparison with others, property has not boomed, the contribution of construction and the

financial sectors to growth is relatively small, returns on corporate assets are only slightly on the low side, and external debt is low. But amongst more advanced countries, inflation is on the high side as is the general government deficit (for 2009) and public debt.

Global prospects are highly uncertain

16. Immediate global uncertainties remain heightened—with significant implications for small open economies. The World Economic Outlook (WEO) 90 percent confidence interval for world GDP growth in 2010 ranges from ¼ to 5½ percent. Using standard trade elasticities of Israeli exports and output with respect to world growth, this implies a 90 percent confidence interval for Israeli exports in 2010 ranging from -2½ to 14 percent, and a corresponding confidence interval for Israeli output ranging from 0 to 4 percent. This uncertainty is not just a short-term phenomenon. The strength of global potential output growth—and hence the strength of Israeli medium-term export market growth—has also become unclear. WEO projected global output for 2013/14 is now some 9 percent lower than was projected in April 2008, with some of Israel's most important trading partners (e.g., the US and Euro area) most heavily downgraded.

Fallout from recession, vulnerabilities, and global uncertainties all cloud the outlook

17. Staff central case projections, predicated on the WEO—the central scenario of which is somewhat below consensus—and the Israeli authorities' announced policy frameworks, show GDP growth flat in 2009, rising 2½ percent in 2010 and some 4 percent in 2011, as exports, consumption, and fixed investment, and domestic credit all recover (see Text Table 3 and Table 5). These will be partly offset by a recovery of imports, so the external current account deteriorates from 2009. Abstracting from one-off factors affecting inflation in 2009 (including indirect tax changes), underlying inflationary pressures are expected to remain subdued especially if shekel strength continues, with inflation projected at 3½ percent in 2009, falling back to the neighborhood of 2 percent thereafter.

18. Estimates of the risks around this central scenario are derived from the WEO fan chart and WEO projections for global potential output. The up- and downside scenarios assume that automatic stabilizers continue to operate unfettered, with budgeted spending commitments unchanged. On the monetary side, the risk scenarios are broadly anticipated so that inflation remains within the target band, on the upper end in the upside scenario, and vice versa. While the relative brevity and shallowness of the downturn has likely left Israel's current potential output level intact, medium-term potential output growth may have been dented if the corresponding potential output growth in the major global economies has been lowered by the crisis.[5]

[5] See the first background study "Why Was Output in Israel so Resilient through the Global Crisis?".

Text Table 3. Macro Framework projections

			2007	2008	2009	2010	2011
			Central case				
Growth	Global	GDP	5.2	3.0	-1.1	3.1	4.2
(in percent)	Israel	GDP	5.2	4.0	0.1	2.5	4.0
		Private consumption	6.3	3.6	1.2	2.3	4.0
		Private fixed investment	16.1	5.2	-3.6	4.2	5.0
		CPI (period average)	0.5	4.6	3.6	2.3	1.8
In percent		CG Budget balance	0	-2.2	-5.1	-4.1	-3.4
Of GDP		Current account	2.8	1.1	3.3	2.0	1.8
			90 percent upper bound				
Growth	Global	GDP			-0.4	5.5	
(in percent)	Israel	GDP			0.5	4	
		CPI			4	3	
In percent		CG Budget balance			-4.5	-3.0	
Of GDP		Current account			4	4	
			90 percent lower bound				
Growth	Global	GDP			-2.2	0.2	
(in percent)	Israel	GDP			-0.5	0	
		CPI			3	1	
In percent		CG Budget balance			-6	-6	

III. Staff Macro Assessment

A. Policies and Policy Frameworks—2009–11

1. The core of the macrofinancial challenge ahead for Israel is to chart and implement an exit from the emergency policy settings adopted in response to the global crisis. This challenge is shared internationally, but has three distinctive aspects in this case:

- as for others in the vanguard of global recovery, the exit strategy has to be designed largely from first principles for lack of the experience of others on which to draw;

- like other small open economies, strong global spillovers to Israel mean that upside outcomes remain largely at the mercy of international developments, so the exit strategy is largely concerned with containing domestic downside risks; and

- the nature, mass, and volatility of capital inflows may be significantly affected by being in the vanguard of global exit, with strong capital inflows likely (including possible carry trades) sourced from those further behind, until more of the major economies catch up.

2. In this context, the underlying theme of staff recommendations is to strengthen the policy frameworks to anchor long run expectations and reinforce policy credibility, thereby both securing greater flexibility to address short run shocks and supporting long-term growth. This approach is reflected in advice in the fiscal, monetary, and the financial stability areas.

3. This underlying theme is reflected in two key recommendations.

- The first is that the uncertain global environment places a high premium on avoiding actions now which might compound downside risks. This concern precludes early commitments to sizeable permanent remuneration increases, notwithstanding the encouraging economic performance so far. In particular, wage settlements for public sector employees due in 2010 should be tightly restrained. This would send an appropriate signal to private sector wage setters, help keep inflation and interest rates low as output strengthens, and thus promote continued good economic performance.

- The second is that high Israeli public debt represents an enduring vulnerability. This problem is likely aggravated by the recent elevation of public deficits and debt elsewhere in the world and the associated pressures on global savings. In periods of international market stress, costs of financing for high debt countries like Israel tend to rise particularly sharply, curbing scope to allow fiscal support to cushion shocks—a concern reflected in Israel's decision in 2009 to raise the VAT rate to cap the headline deficit. And high debt attenuates—and may even more than completely negate— the stabilizing impact on output of fiscal support in downturns. Given

Israel's particular exposure to global and geopolitical shocks, these are primary concerns. Public debt needs to come down decisively.

B. Fiscal Policy and Framework

4. The authorities have sought to anchor short-term flexibility in greater long-term credibility, notably in the budget framework for 2009–10 which accommodates automatic stabilizers in anticipation of an early sustained recovery in output (See Text Table 4). This quest for credibility is supported by the renewal of the US Government guarantee for public debt, and by the pursuit of early entry into the OECD. Discretionary stimulus spending is limited, temporary, and is largely offset by revenue measures, notably the permanent excise tax increases and the temporary (till end-2010) VAT increase.

Text Table 4. Budget and Macroeconomic Outlook

(Percent of GDP)

	2008	2009		2010		2014 2/
		Budget	Staff projected	Budget	Staff projected	Staff projected
Central Govt 1/						
Revenue (excluding repayment of credit)	31 1/2	28 3/4	29	29	29 3/4	29 3/4
o/w due to increase in taxes 2/	…	1/4		1/2		
Expenditure 3/ 4/	33 3/4	34 1/2	34 1/4	34 1/2	34	31 1/4
o/w due to relaxation of fiscal expenditure ceilings 5/	…	1/2		1/2		
Budget balance	-2 1/4	-6	-5	-5 1/2	-4	-1 1/2
General Govt						
Structural primary balance 4/	1	3/4	3/4	1	1	2 1/2
Gross public debt 4/	76 3/4	81	79 3/4	83 1/4	81	75 3/4
Memorandum items:						
GDP growth (percent)	4 1/4	-1	0	1 1/2	2 1/2	4

Sources: Data provided by the Israeli authorities; and IMF staff estimates.

1/ Excludes net credit.
2/ Refers to permanent increase in excise taxes on tobacco and gasoline, and temporary increase in VAT till end-2010
3/ Assumes long-term adherence to the annual real expenditure growth ceiling of 1.7 percent, excluding emergency security-related spending.
4/ Excludes proposed govt initiatives to support the financial sector
5/ Refers to 3 percent increase in real expenditure for 2009 and delayed "correction" until 2011

However, the authorities' approach raises concerns

5. First, the sum of detailed spending pledges in entitlement legislation and ministries' medium-term plans remain well in excess (by a cumulative 2 to 3 percentage points of annual GDP by 2014) of the announced ceilings on the real growth of aggregate spending. This raises doubts about the credibility of both sets of commitments, representing a risk of destabilizing uncertainty at the points when these sets of commitments have to be reconciled. And though a number of commentators regard the eventual reduction of public debt to 60 percent of GDP as an implicit objective of the authorities, the lack of a formal commitment on a medium-term fiscal anchor such as this compounds uncertainty about how the conflicting expenditure commitments will be resolved. And if they are resolved at

the expense of public debt, the underlying vulnerabilities associated with that debt will remain and the broader economic costs may be high.[1]

6. Second, the decision to continue using a path for the headline budget balance as the form of the fiscal rule has two potential drawbacks. First, it may unduly constrain the leeway in the near-term for the accommodation of automatic stabilizers, should downside global macrofinancial risks materialize. And second, it may falsely signal scope for fiscal relaxation if a temporary boom in output in 2010 after recession drives deficits down well below target. Regarding the former, staff projections indicate that automatic stabilizers would take the budget deficit above the ceiling, including in 2010. Even if global developments are within their 90 percent confidence interval, the headroom under the deficit target may be insufficient (See Text Table 3). And if "success" relative to target is interpreted in public debate as indicating greater-than-expected progress toward medium-term consolidation, raising pressure for a premature relaxation of policies, then underlying debt vulnerabilities could be aggravated.

7. The final concern raised by the authorities' plans is that the path for the fiscal balance that is implicit in the deficit ceiling path will deliver a debt ratio by 2015 of some 73 percent of GDP. This implicitly puts achievement of the often-referenced goal of debt below 60 percent of GDP well beyond 2020. More fundamentally, the underlying vulnerabilities associated with high debt levels will remain significant over a period in which global demand and supply uncertainties are unusually pronounced.

These matters could be addressed in a phased manner

8. The incompatibility between spending ceilings and commitments requires—and is amenable to—immediate action. With the administration relieved of the usual end-year administrative tasks associated with budget preparation—thanks to the two-year budget adopted in July—an early focused review of medium-term spending commitments to resolve these inconsistencies would be appropriate, regardless of which global scenario transpires.

9. There is a strong case to review the fiscal rules by Spring 2010, when the fiscal outturns, the immediate prospects for global demand, and the outlook for capital flows are likely to have become clearer. Consideration could be given to a new framework in which the deficit ceilings are replaced with rules incorporating an explicit public debt target that is formally contingent on the strength of global supply over the medium term.

10. Suppose staff's central or upside global and Israeli projections are being realized. Then policy should aim to deliver deficit outturns considerably lower than the current 2010

[1] See the second background study "Is lsrael's Public Debt too High?".

and 2011 ceilings. In this context, it would be appropriate to define formally the target to secure public debt below 60 percent of GDP by 2020—anticipating further reductions thereafter—alongside an interim ceiling of 70 percent of GDP by the middle of the coming decade. This would anchor fiscal policy in a long term objective and provide clear guidance for policies along that planned debt reduction path.

11. The interim debt objective would require and imply a phased strengthening of the path for the structural fiscal balance by 2¾ percentage points of GDP between 2009 and mid-2010 relative to the path that is implicit in the authorities' current deficit ceilings. This adjustment would appropriately reduce the vulnerabilities associated with high debt and would raise scope for the free accommodation of stabilizers. In designing budgets under this framework, the aim should be to secure debt ratios below these ceilings in "central case" scenarios, in order to anticipate shocks.

12. On the other hand, some adjustments to this approach may be needed in early 2010 if the downside near-term global demand scenarios appear more likely. In that case, if investor demand for Israeli public debt remains resilient, full accommodation of stabilizers would be appropriate, even if that causes a breach of the current 2010 and 2011 deficit ceilings. And the target dates for the debt and interim objectives may have to be extended further out. But if, in this adverse context, financing conditions prove challenging, then a more ambitious fiscal stance and consolidation path even than currently anticipated will prove to be unavoidable.

13. This contingent approach to reform of the fiscal rules and the 2010–11 budget has several advantages. In the case where near-term global demand is strong, the framework anticipates doubt about the persistence of the global upswing and so applies the associated fiscal windfall to deficit reduction. This helps to strengthen policy credibility given the change of fiscal rules because fiscal deficits for 2011 and 2012 would be below the current ceilings. By thus capitalizing on the windfall, a strong commitment to the 2020 debt target and the interim objective would be signaled by provision of the first down payment towards those goals. In the case where near-term global demand is weak, the shift from deficit ceilings to the debt anchor should provide additional scope for the accommodation of fiscal stabilizers. In this context, contingent specification of the dates for the debt ceilings reduces the risk of commitment to a fiscal consolidation path that is unduly ambitious.

Public spending limits and tax policy objectives should be set in this context

14. In any of these scenarios, a debt objective should be supported by ceilings on expenditure and by annually updated medium-term fiscal projections specifying how policies are set to achieve the medium-term debt objectives. The latter could help to guard against risk that excessive tax reductions might be predicated on unspecified subsequent compensating policy steps. And given the premium on accomodating automatic stabilizers

in the face of considerable short-term uncertainty, this means of delivering that assurance is preferable to adoption of deficit or deficit range targets. The expenditure ceilings would best be expressed as a cap on nominal spending, rather than as a cap on real expenditure growth, to strengthen transparency and the counter-cyclical properties of the fiscal rules. The two-year budgeting framework is a step towards establishing a nominal ceiling and a more medium-term focus to public spending planning, and could be taken further with the adoption of rolling three-year ahead nominal spending ceilings. See Box 4 for a side-by-side comparison of the case for the authorities current framework of rules compared with the staff suggested framework.

15. However, the planned level of medium-term caps on public spending raises concerns because the implied compression of non-security outlays may prove to be unsustainable. These outlays are already low. Israel is close to the OECD average ratio for non-interest spending to GDP, but some 8 percentage points of this is security-related in Israel's case, which implies that non-security spending already substantially below OECD norms. The risk that further compression may be unsustainable is compounded by the inconsistency between the ceilings on medium term real expenditure growth and the component commitments discussed above.

16. Both risks underscore difficulties with the planned reductions in headline income tax rates. Implementation of these tax reductions assumes further spending compression, and if the tax cuts proceed without that compression, public debt reduction is put at risk. Other tax policy steps—expansion of the income tax bases, increases in indirect taxation, or reductions in tax expenditures—could make up shortfalls. But the potential yield and feasibility of those steps should be reviewed at an early stage, and issues of their distributive impact should also be taken fully into account. Given the centrality of debt reduction to reducing macroeconomic vulnerabilities, tax cuts should only follow once debt is firmly on a path consistent with its targets, rather than vice versa.

Box 4. Deficit and Real Spending Growth Caps, or Debt and Nominal Spending Ceilings

Recent fiscal rules in Israel—deficit and real spending growth ceilings—helped lower public debt and government size in the good macroeconomic circumstances that prevailed through mid-2008. Both rules broke down—as did many fiscal rules elsewhere—during the global crisis (even though the impact of the crisis on Israel was relatively muted). But the new rules adopted have the same form, only with different numbers, and so may be vulnerable to the same risks. Alternative forms of fiscal rule may be needed.

A debt rule has three advantages over a deficit cap. It establishes as the formal goal the ultimate purpose of the deficit ceilings (which is debt reduction), aiding transparency. Because its purview extends beyond the business cycle, it minimizes the risk of false signals to policymakers and the public—of failure, when automatic stabilizers correctly cushion a downturn; and of success, when temporary growth wrongly suggests room for fiscal relaxation. And it anticipates currently heightened global uncertainties.

Rolling three year annual nominal spending caps also have various advantages over a real growth cap. They are countercyclical—automatically raising real spending when inflation falls short of the assumed rate—whereas the real rule is procyclical because lower than expected inflation in one year (implying faster than expected real spending growth) is automatically "corrected" by spending cuts the following year, even if low inflation persists. The nominal ceiling is also transparent, whereas the "correction" mechanism in the real rule is little understood. And the nominal cap can be agreed quickly in annual budget negotiations, reflecting potential growth and the BoI inflation target of 2 percent, whereas the real rule requires annual agreement of year ahead inflation forecasts, a politicized forecasting exercise.

Both debt and nominal ceiling rules would require careful application, however. To provide guidance, the debt target must be achievable over at most a medium term horizon—hence the need for an interim ceiling of 70 percent in five years if the headline goal is 60 percent of GDP by the decade's end. In order to confirm that policy remains on track, despite shocks, full annual three year ahead budget projections consistent with this objective would be required. This would be a major step up in Israeli budget practices. An exit clause from the commitment if medium term global supply deviates significantly from expectations may also be appropriate.

On the spending ceilings, a new "third" year ceiling would be added annually, and it should "correct for any past persistent inflation over or undershoots to avoid unintended persistent changes in government size. Security emergencies should be allowed for (as now), and accountability in the form of a fiscal council could assess whether classification or tax changes distort the comparison of outturns relative to ceilings. And the nominal ceiling should be reflected in BoI interest rate decisions because it changes—strengthens—the economy's automatic response to supply and demand shocks..

Overall, the deficit rule could be too restrictive in the near term and flexible in the long run, while the debt rule reverses these characteristics. If medium term debt ceilings were accompanied by three year rolling nominal spending caps, the framework could be much more robust and flexible than current arrangements. The two year budget framework is a key step in this direction—establishing nominal spending allocations and planning over a two year horizon—but it still lacks the medium-term debt anchor. Israel could go further. Sweden has done so—their "over the cycle" deficit rule being the dual of the proposed debt ceiling—for over 15 years. Israel could do well to follow in Sweden's tracks.

C. Monetary and Exchange Rate Policies and Frameworks

17. Having ended its government bond purchase program and modified the preprogrammed foreign exchange purchases to discretionary intervention, the BoI now faces two interrelated challenges in respect of its role in Israel's exit strategy. First, like all global inflation targeting central banks currently facing exceptional uncertainties, the relative priority it attaches to avoiding inflation target under- versus overshoots is key. Second, again like other central banks, it is working its way back from unconventional to conventional instruments. But unlike a number of others, it faces these challenges in a context where the domestic monetary and credit transmission mechanisms are essentially intact—the banking system remains robust and the bond market has largely recovered—even if credit flows continue to be muted.

Monetary policy has provided an appropriately measured anti-inflation signal

18. Along with other central banks, the BoI has had to consider if its approach to risks of over- and under-shooting its inflation targets should be symmetric. The case for this stance in Israel is strong:

- A resumption of economic growth has become increasingly evident, with the moderation of the earlier downturn likely to imply a similarly moderated upswing.

- Headline and core inflation measures are currently near the top end of the target band, and there are no serious imminent risks of deflation in any of the measures of inflation expectations or forecasts.

- Israel's relatively recent history of high inflation, and the cost of bringing it down, has engendered a strong aversion to risking a significant pickup in inflation.

- Foreign exchange intervention could, if necessary in a downside scenario, effectively support the nominal interest rate instrument to ensure delivery of an appropriately accommodative stance. The loss of monetary instrument effectiveness in downside scenarios is thus less of a concern for Israel than it is in larger and more closed economies.

19. For these reasons, a balanced approach to target under and over-shoots is appropriate in the Israeli context, and the policy steps taken so far reflect that assessment. The BoI has clearly signaled its intention to contain upside risks to inflation by being the first central bank to raise policy rates for over a year, by 25 bp each for September and December 2009, and January 2010 to the current level of 1.25 percent. Looking ahead, that approach remains appropriate. Given the large uncertainties about global—and therefore Israeli—prospects, further tightening should remain cautious. But if evidence emerges that growth has become self sustaining, then policymakers should stand ready to move swiftly from the current accomodative stance to a neutral stance.

But withdrawal from unconventional measures is challenging

20. As recommended globally, the transition back from unconventional to conventional policies should be phased. For Israel, this largely concerns the practice of foreign exchange intervention. Given that policy rates had hit their effective floor, strong intervention was an appropriate tool to maintain the necessary stimulative monetary stance in Israel, leaning against excessive appreciation in the face of strong "safe-haven" capital inflows. As the appropriate monetary stance tightens and the policy rate rises commensurately, the role of unconventional measures in pursuing monetary policy objectives should be reduced. In this light, the decision to shift from preprogrammed to discretionary intervention is an appropriate step. This serves to begin the exit while still retaining the option for continued use of the instrument for a transitional period, in case it should prove necessary to secure a sufficiently accommodative stance of monetary policy.

21. But as with all unconventional measures, risks arise. In particular, this transitional phase of discretionary intervention risks compromising the clarity of the BoI's objectives and the credibility of its floating foreign exchange rate regime. Israel faces highly idiosyncratic—including geopolitical—shocks, and has a fully developed capacity to operate independent monetary policy. Furthermore, until the most recent reforms, it maintained a decade-long record of non-intervention in foreign exchange markets. For all these reasons, it should not give up the status of "free floating" exchange rate regime lightly.

22. To address these risks, it will be critical that intervention clearly does not target a particular exchange rate level, but remains focused on its role in delivering the appropriate stance of monetary policy. In addition, discretionary intervention should be formally terminated when the policy rate is well above its effective floor on a sustained basis. In this way, this exit strategy anticipates the restoration of the free floating exchange rate regime.[2]

23. However, formal termination should not rule out the option of intervening in exceptional circumstances. Retention of this option would be consistent with the stance of the BoI over the bulk of the past decade, and it may become increasingly necessary as Israel continues to integrate into global capital markets.

Surges of capital inflows remain a concern, especially in this transitional phase

24. So far, Israel has escaped the full brunt of this challenge, in contrast to some other open economies in the vanguard of global exit. The reversal of the earlier "safe haven" inflows as global financial markets stabilized has offset the surge of inflows from the late global exiters. This has allowed the cessation of preprogrammed intervention to proceed

[2] Even the program of reserve acquisition ending in September maintained this because it eschewed discretionary daily intervention.

with relatively infrequent and modest discretionary interventions—with the exception of the days immediately following announcement of the change of regime—without further compromising competitiveness. In that context, the practice of discretionary interventions will shift the Fund's de facto classification of the exchange rate regime from "free floating" to "floating", with the authorities' de jure classification unchanged as "floating."

25. But should this balance of outflows and inflows shift in favor of the latter, the option to simply let the exchange rate appreciate further to absorb the inflows could be undesirable. This is particularly so if the inflows prove temporary and set to subside when all major economies exit from global recession. Though the evidence on competitiveness now is somewhat mixed, protracted further upward pressure on the exchange rate would raise the level of concern more decisively.

26. If capital inflows surge, discretionary intervention should not constitute the main policy response, even during this transitional phase. Rather, scope to raise reserve requirements for banks and consumer protection rules should be considered, with the adoption of a fiscal stance tighter than that recommended in the staff central case constituting a further option. In this context, the case for an alternative policy response of capital controls and/or taxes on inflows is not persuasive. The effectiveness of the former is questionable in light of Israel's open and integrated financial markets, and the latter measures would likely and unnecessarily compromise the signal of Israel's strong commitment to open and competitive markets.

Proposed reforms to the BoI Law are welcome

27. The central step the authorities are taking on the monetary side to underpin the long-run credibility of their inflation targeting regime is to move towards adoption of the new BoI Law. It will follow ECB and Bank of England precedents to increase independence, establish a committee with power to set monetary policy, and a separate management committee to manage the bank's administration.

D. Financial Stability

Banks remained resilient through the global crisis

28. The Israeli financial system has weathered the storm better than many other countries. Problem loans have increased only moderately, the interbank market functioned throughout, and while banks may have tightened credit conditions, slower bank credit growth primarily appears to reflect demand factors. Given this, Israel may provide useful lessons for the global debate on strengthening prudential frameworks, with several features being of particular interest: the limited reliance of Israeli banks on wholesale funding or structured products; the Glass-Steagall-like restrictions on their activities; the role of banking supervision in avoiding a property price bubble and limiting risk exposures; the practice of supervision when most if not all banks are systemic; and the lack of deposit

insurance but strong implicit comprehensive government guarantee.[3] In addition, steps were taken to ensure the authorities' readiness to deal with any stresses which might emerge (see Box 5).

Box 5. Is Israel Ready to Address Financial Instability, If It Occurs?

1. Market liquidity, and ELA facilities. The Governor appropriately enjoys wide discretion to determine the instruments, pricing, and collateral arrangements for emergency liquidity operations to support individual banks and the banking system. Thus, any shortfalls can be rapidly addressed. Nonetheless, a particular concern warranting review is the mandate under stock exchange listing requirements for financial firms to rapidly announce any LOLR facilities they receive.

2. Bank resolution framework. If the Governor, after consultation with the Supervisor, is of the opinion that a particular banking corporation is unable to meet its obligations, he may (with the approval of the Government) appoint, without delay, an administrator to manage the banking corporation. It will be key to ensure legal capacity to complete such operations speedily, should they become necessary. In this regard, it will be important to strengthen provision for preemptive bank resolution by the regulator, notably via restriction of legal recourse for affected stakeholders to financial compensation only.

3. Coordination amongst the authorities. Given the more complex financial system that has emerged due to recent reforms and the need for close cooperation between supervisors, the central bank, and the Government, strong technical capacity to manage and resolve financial stress is needed. A recent Memorandum of Understanding among the supervisors, as well as exercises that test responses to crisis scenarios is welcome.

4. Non-banks. Readiness to handle weakness in a large non-bank financial institution is unclear. While forms of appropriate support will vary from case to case, early consideration of options and risks that may arise is needed.

The banking system proved to be relatively resilient in the crisis

46. The resilience of the banking system and its ability to provide additional financing to the corporate sector and (more recently) to the household sector has helped to underpin economic activity through the external shock. This reflects a number of strengths of the banking system in the period ahead of the crisis. These included:

- Neither households nor banks were exposed to a significant fall in domestic property prices, because Israel did not experience a housing sector boom in the years before

[3] See the third background study "Global Regulatory Reform—Lessons From Israel".

the crisis; indeed, housing prices have risen through the crisis period, partly reflecting safe haven capital inflows;

- Prudent lending practices, reinforced by close supervision by the BoI, including the use of a range of quantitative restrictions on lending, helped banks to enter the crisis with generally strong lending portfolios, a low level of non-performing loans, and limited exposure to bond and equity markets;[4]

- The 2005 Bachar reforms, obliging banks to withdraw from long-term savings, pension and insurance activities, meant that banks were not exposed to the associated risks which adversely affected the performance of the non-bank financial sector.

- A strong deposit base and the absence of funding from wholesale markets at home or abroad. At end-2007, the Israeli banking system had a loan-to-deposit ratio of under 90 percent, so that it was insulated from disruptions in the availability of wholesale funds during the crisis;

- Israeli banks strengthened capital buffers in the period ahead of the crisis, and continued to strengthen capital during the crisis, in accordance with BoI requirements.

47. The Israeli capital standards themselves also appear to be appropriate—having delivered stability during an extraordinarily severe global crisis. However, the adequacy of these capital standards partly reflects the broader context in which they were tested, including the fact that banks in Israel eschewed the complex products and practices which undermined the reliability of such standards elsewhere (Basel I and II), and the early exit of the economy from recession. But adherence to the 12 percent risk-weighted standard—and the associated tier 1 ratio of 7 percent and raw capital ratios of 5-7 percent—in the context of the implicit government guarantee on banks has nevertheless proven its effectiveness, and this should be reflected in the determination of capital requirements as Basle II is brought in.

Nonetheless, strengthening of some areas of banking supervision is needed

48. A significant upgrade of macro-prudential and financial stability analysis is needed. Priorities for the new unit in the BoI should include comprehensive banking stress tests to provide a better understanding of risks to regulators and banks. Scenarios could include the lower bounds of staff's 90 percent confidence intervals for the global and the associated Israeli projections. In addition, the BoI should begin publication of a financial stability

[4] As a result, banks losses during the crisis stemmed primarily from losses on their investments in domestic and foreign securities, but for the banking system as a whole the return on equity in 2008 fell to close to zero, rather than well below it.

report, preferably semi-annually, and consideration could be given to including stress test results. Over the longer term, the BoI should also work with the other regulators to broaden the analysis to cover the entire financial system and its macroeconomic linkages.

49. Work on moving from GAAP to IFRS accounting standards is underway, and will provide increased transparency and international comparability. Implementation of Basel II, using the standard approach, is also in progress, with appropriate emphasis on Pillar II. A particular challenge is to balance the resource needs for progress in these areas against the needs of intensified supervision in the current environment.

50. The global financial difficulties have also again highlighted the importance of adequately qualified, resourced, and motivated supervisors. High turnover reflects ongoing challenges on this front. These issues have become more acute with the global financial crisis and, even in Israel, the increasing complexity of banking.

51. Further consideration should also be given to introduction of an explicit deposit insurance scheme. Clearly, any such scheme would need to reflect the fact that some banks are too large to be covered in a pre-funded or pooled insurance framework. For the large institutions, special arrangements would be required, recognizing their systemic importance.[5] Even so, introducing an explicit framework could more readily facilitate consideration of other options to deal with the resolution of non-systemic banks.

Arrangements for non-bank supervision may need fundamental review

52. Given the ongoing stabilization of world markets and increased evidence that Israel has proven resilient to the recent global shock, asset valuations have recovered significantly from their mid-crisis troughs. But the particular severity of the declines in the peak of the financial crisis, the closure of the corporate bond market during the crisis, and the decline of several insurance companies' solvency ratios to below their regulatory floors are all indicative of underlying fragilities in these institutions and markets.

53. The global financial crisis has underscored the need globally to review macro-prudential and regulatory frameworks. In Israel's case, given the focus of difficulties in non-banks, such a review should begin there. The proposals from the "Hodak Committee", as well as similar initiatives by the Israeli Securities Authority (ISA)—including strengthening bond prospectuses and attaching contractual covenants and financial criteria to bonds—provide a good starting point. But two broader issues remain.

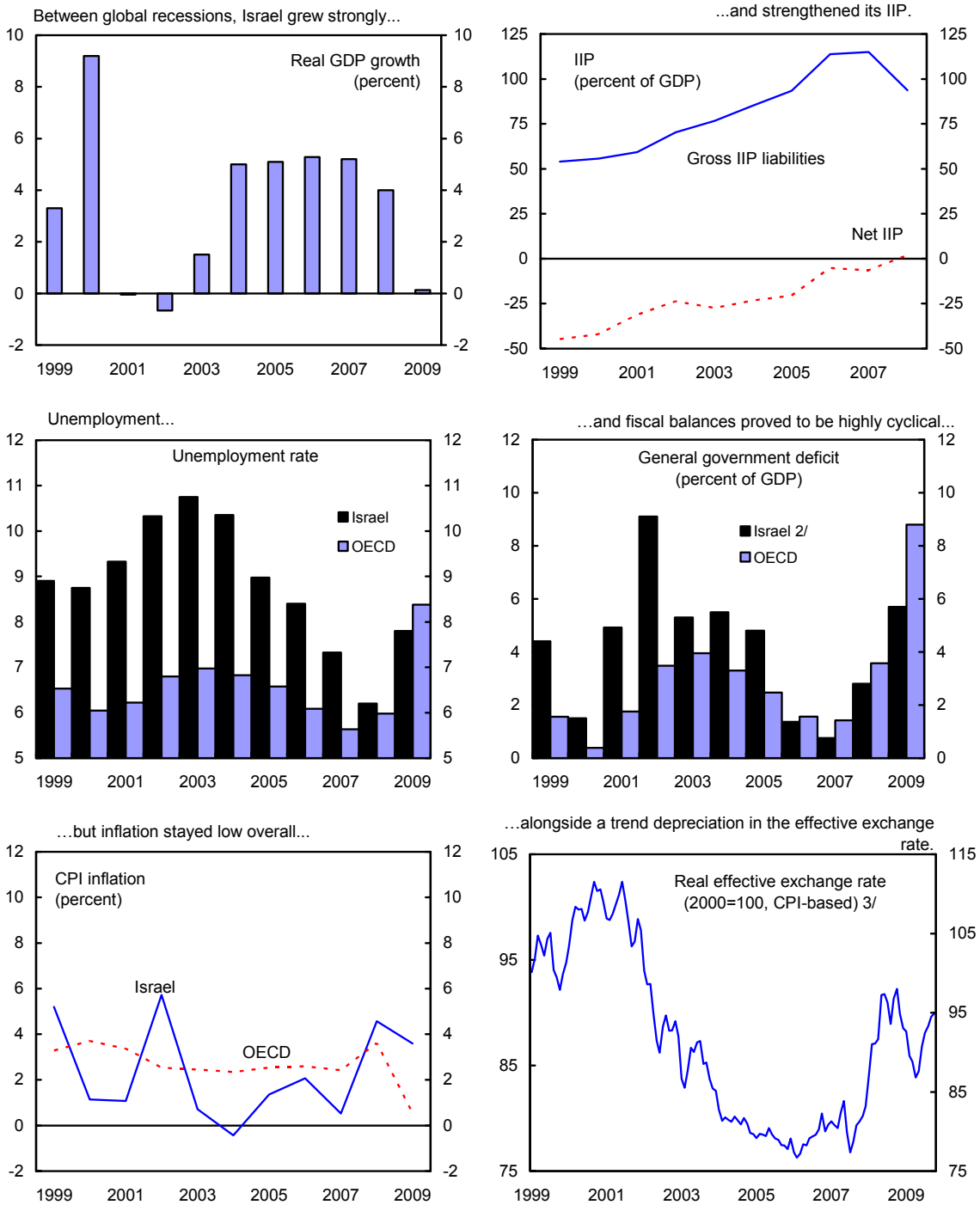
54. First, the presumption behind the 2005 reforms was that investors in these sectors would face all risks, both upside and downside, with a correspondingly lighter regulatory

[5] The Netherlands deposit insurance framework offers a possible model, as it has been designed to deal with a banking system dominated by a few very large banks.

framework than is applied to banks. The emergency measures provided some public assurance of returns to these investments but appropriately limited the guarantees offered. Nevertheless, with global market sentiment improving, there is a need to review whether that presumption remains valid—or if, in the event of sustained or renewed losses, obligations will de facto accrue to the public sector. If so, more robust regulatory arrangements to address consequent moral hazard concerns in non-banking operations will be required.

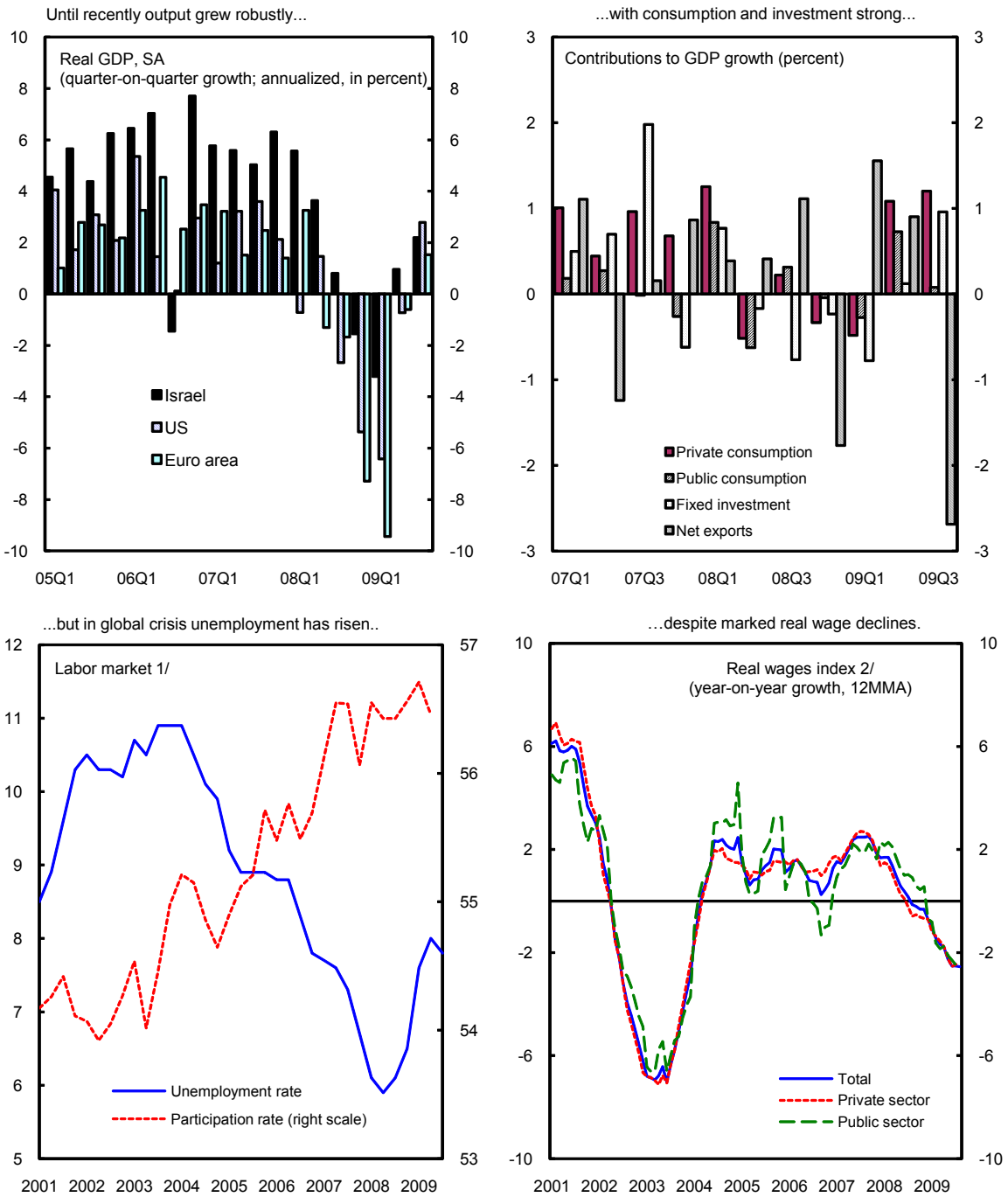
55. Second, a more fundamental strengthening of the budget, staffing, resourcing and autonomy of the non-bank regulators is appropriate. To this end, the ISA should be given full operational independence, and the Capital Markets, Insurance and Savings Division (CMISD) of the Ministry of Finance should be given formal autonomy, in line with international best practice. Such changes should maintain the full flow of information to other supervisors and to the monetary and fiscal authorities, and coordination of strategic priorities among the various regulators should be reinforced. Concurrently, the CMISD and ISA should significantly strengthen their transparency, going well beyond the provision of data, through the publication of timely analysis of developments, issues, and risks. Finally, an assessment should be made of the risk that even the relatively well-targeted emergency support measures for the non-bank sector has given rise to moral hazard there and, if so, this should be reflected in the content of supervisory guidelines to be adopted.

Figure 1. Israel: An Eventful Decade, 1999−2009 1/
(percent, unless otherwise indicated)



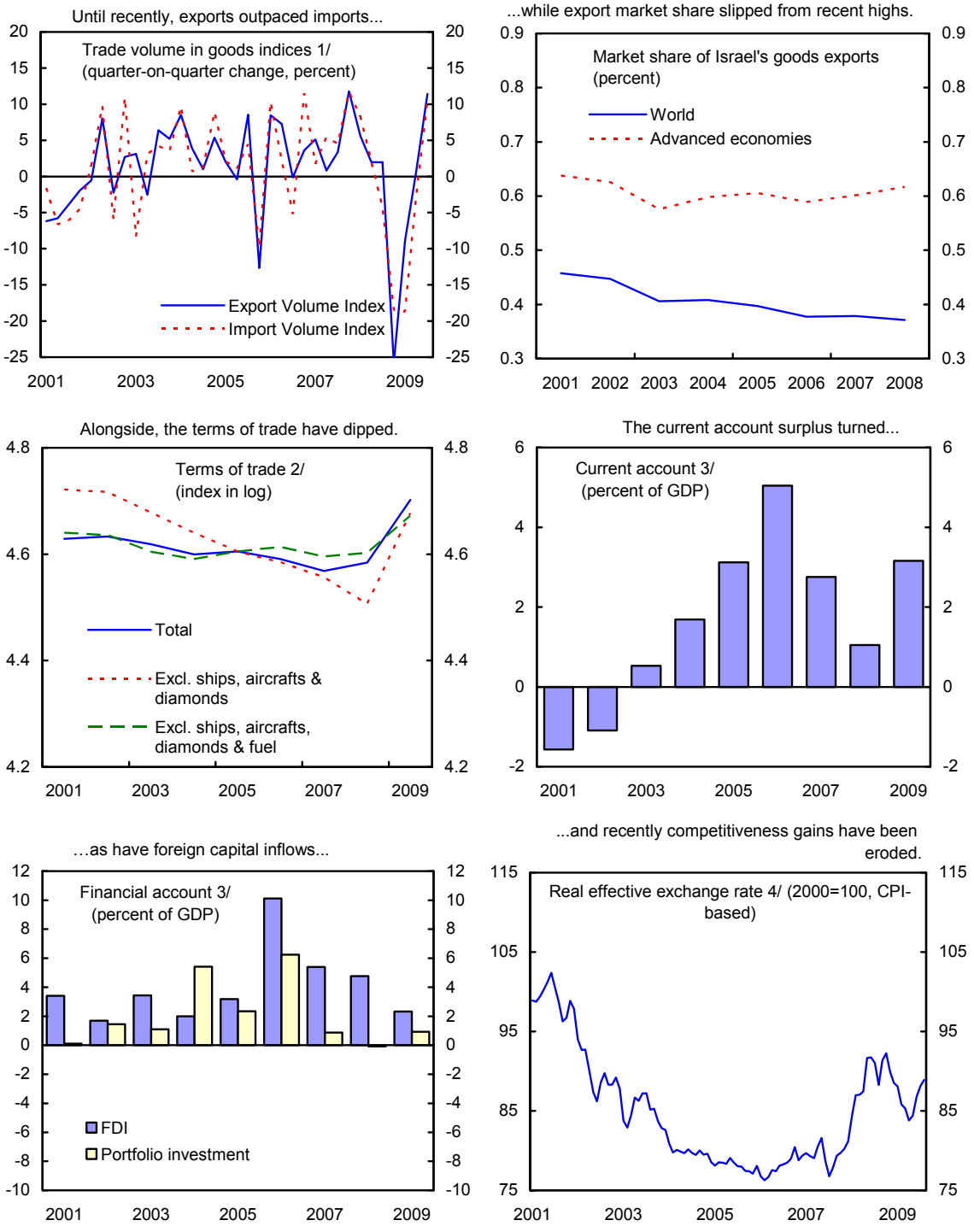
Sources: IMF, *World Economic Outlook;* and IMF, *Information Notice System.*
1/ Estimates for 2009.
2/ From 1999 onward, international definition, accrual basis.
3/ Data for 2009 as of September.

Figure 2. Israel: Recent Economic Indicators, 2001−09
(percent, unless otherwise indicated)



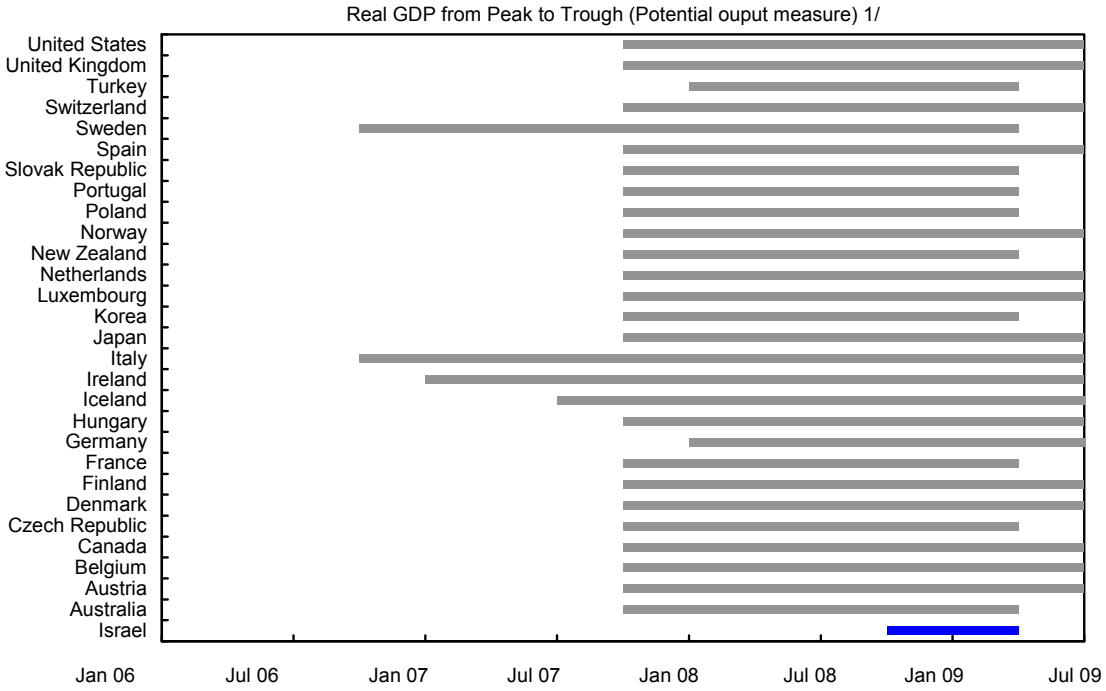
Sources: Haver Analytics and OECD Economic Outlook Database.
1/ Data for 2009 as of June.
2/ Data for 2009 as of July.

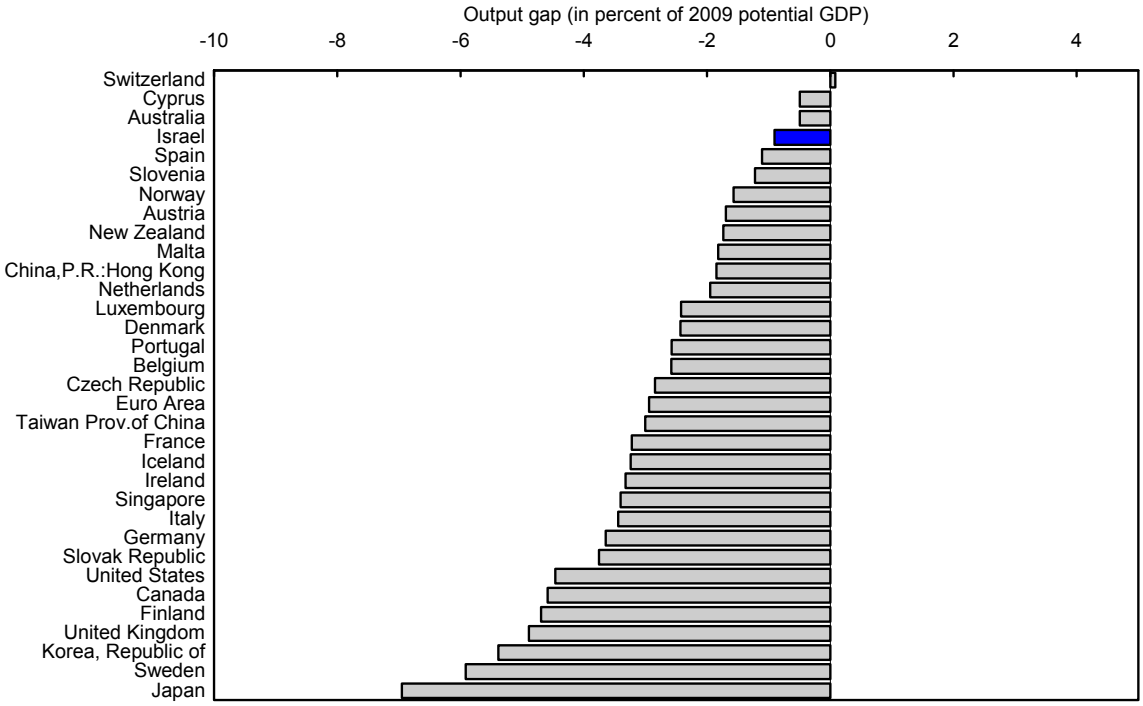
Figure 3. Israel: External Indicators, 2001−09



Sources: Central Bureau of Statistics; Bank of Israel; and IMF staff projections.
1/ Inclusive of goods and services; data for 2009 as of quarter 3.
2/ Average for 2009 Q1 and Q2.
3/ Projection for 2009.
4/ A decrease represents depreciation. Data for 2009 as of August.

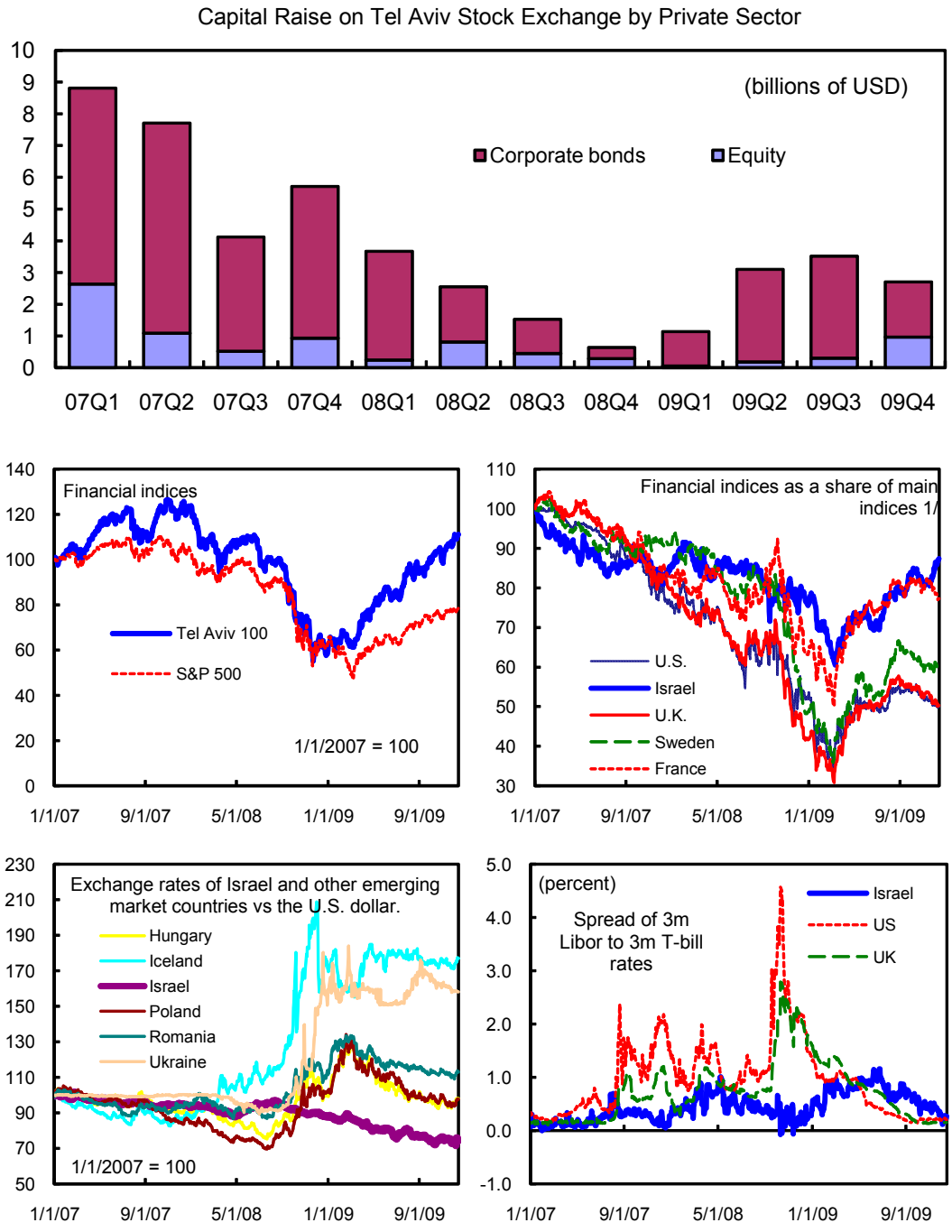
Figure 4. Israel: Global Recession - Cross-country Comparison





Source: OECD, WEO, and Central Bureau of Statistics, Israel
1/ Shaded area indicates a decline in real GDP relative to the potential level.

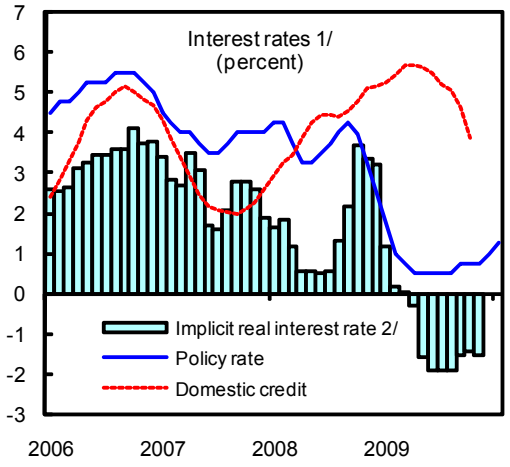
Figure 5. Indicators of Financial Market Stress



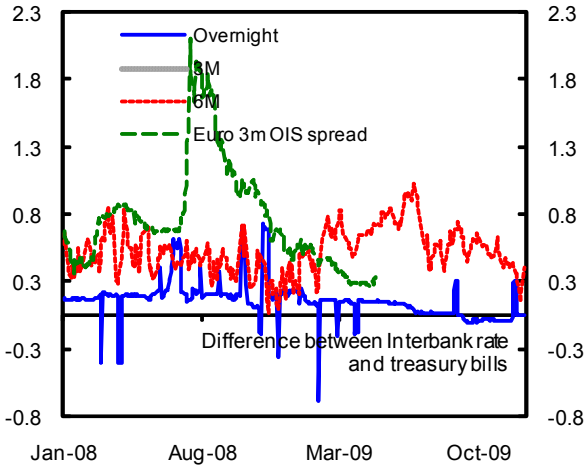
Sources: Bank of Israel, Bloomberg, TASE.
1/ Israel: Tel Aviv Banks / Tel Aviv 100
US: S&P Financials / S&P 500
UK: FTSE 300 Financials / FTSE 100
Sweden: OMX Nordic Banks / OMX Stockholm 30
France: ENEXT CAC Financials / CAC 40

Figure 6. Israel: Selected Monetary and Financial Indicators, 2006–09

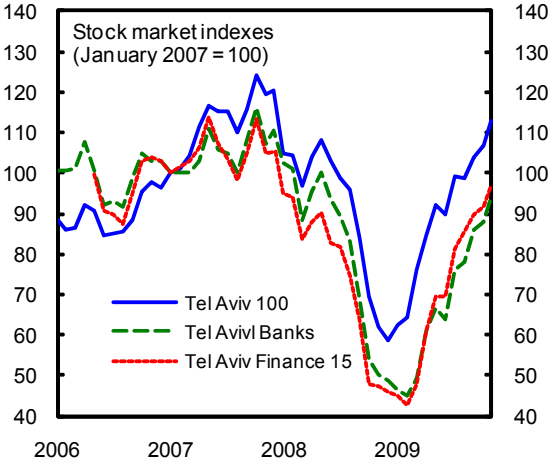
The policy rate has responded to uncertain global conditions in the context of moderate credit growth.



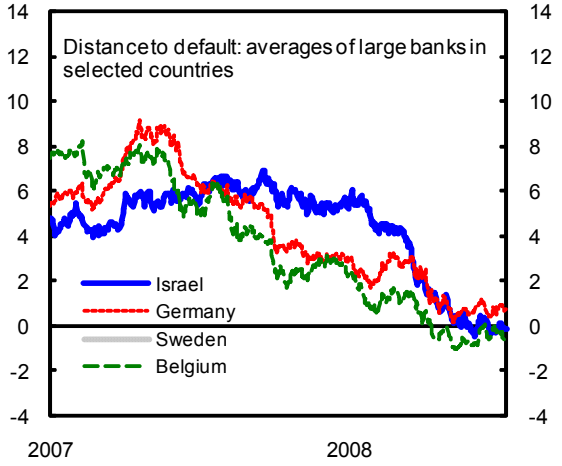
Recent money market strains have been limited...



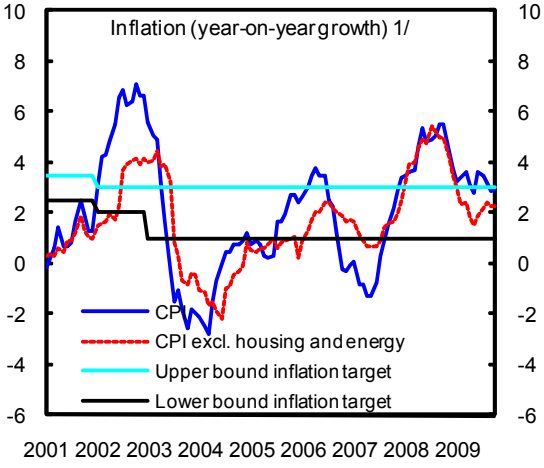
...while equity markets plunged and then recovered.



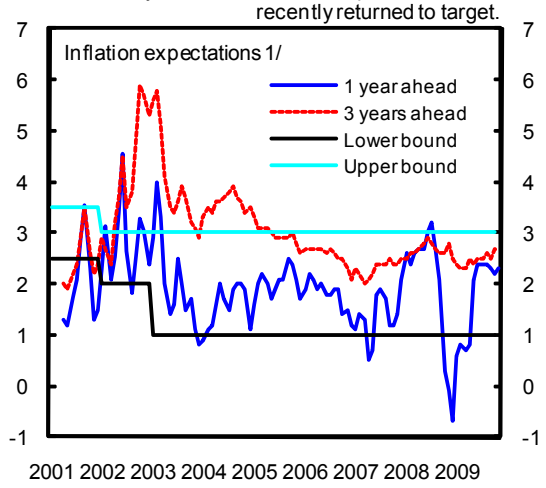
And bank default risks rose.



Inflation has risen above target...

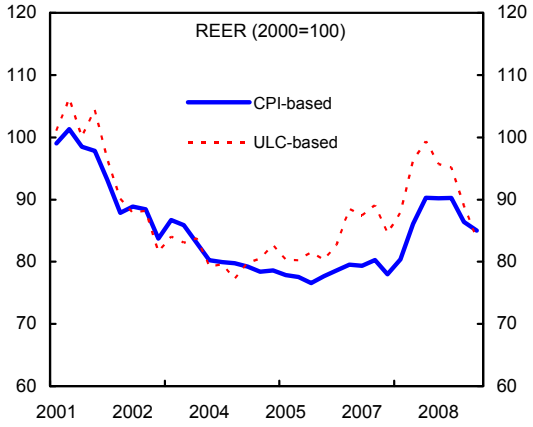


...but year ahead inflation expectations have recently returned to target.



Sources: Bank of Israel; IMF, *International Financial Statistics;* and Bloomberg.
1/ Data for 2009 as of September.
2/ Defined as the Bank of Israel policy rate minus inflation expectations.

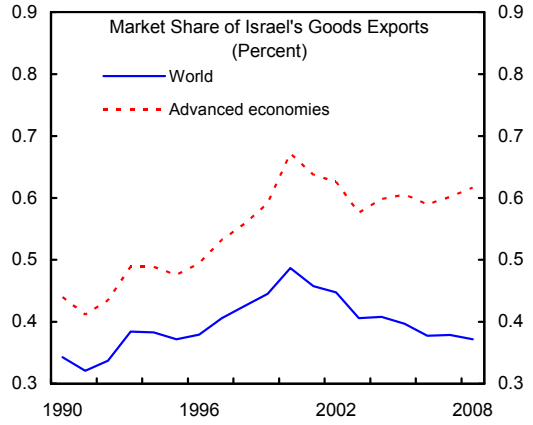
Figure 7. Indicators of Competitiveness

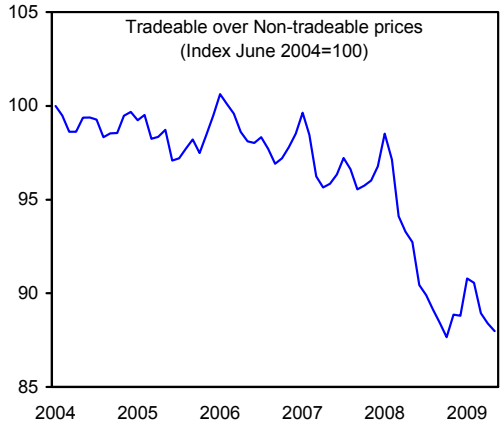


Real Exchange Rate
Fall 2009 CGER Assessment

Approach	RER Valuation Conclusion
MB	-4%
ES	-13%
ERER	6%

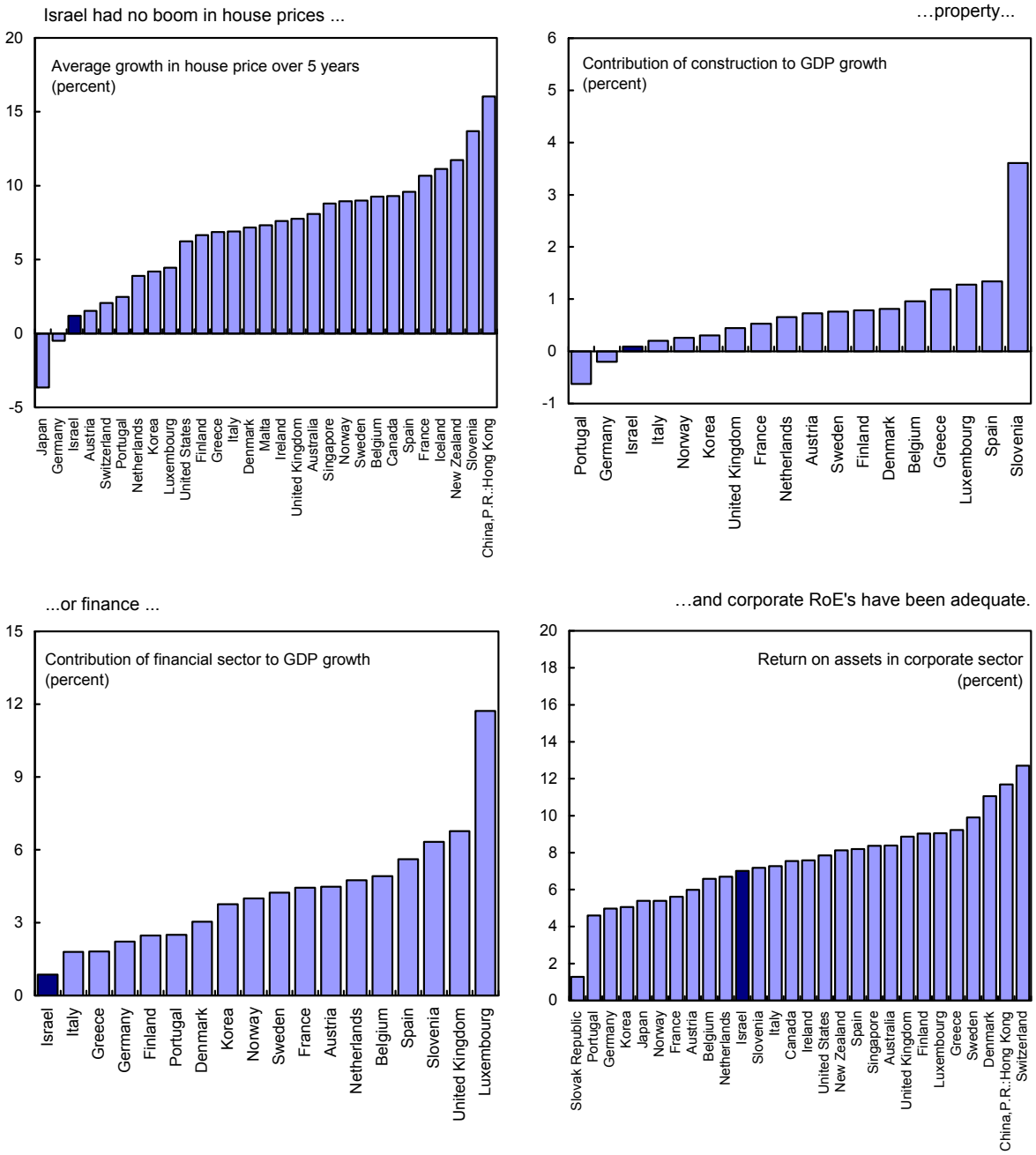
MB: Macro Balance
ES: External Sustainability
ERER: Reduced form Equilibrium RER





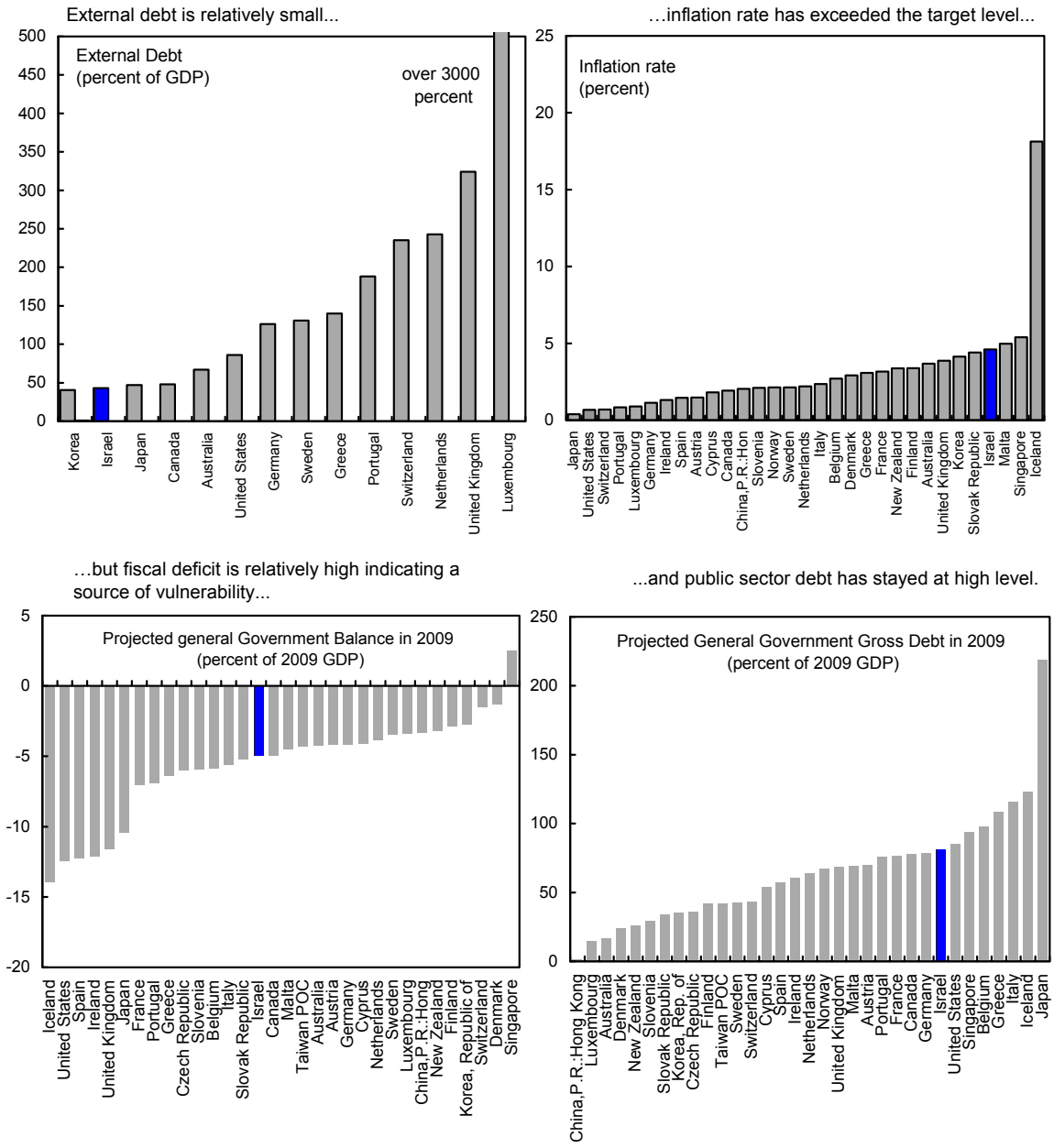
Sources: Bank of Israel; *Direction of Trade Statistics;* Haver Analytics; IMF, Information Notice System; and IMF staff calculations.

Figure 8A. Israeli Vulnerability Indicators



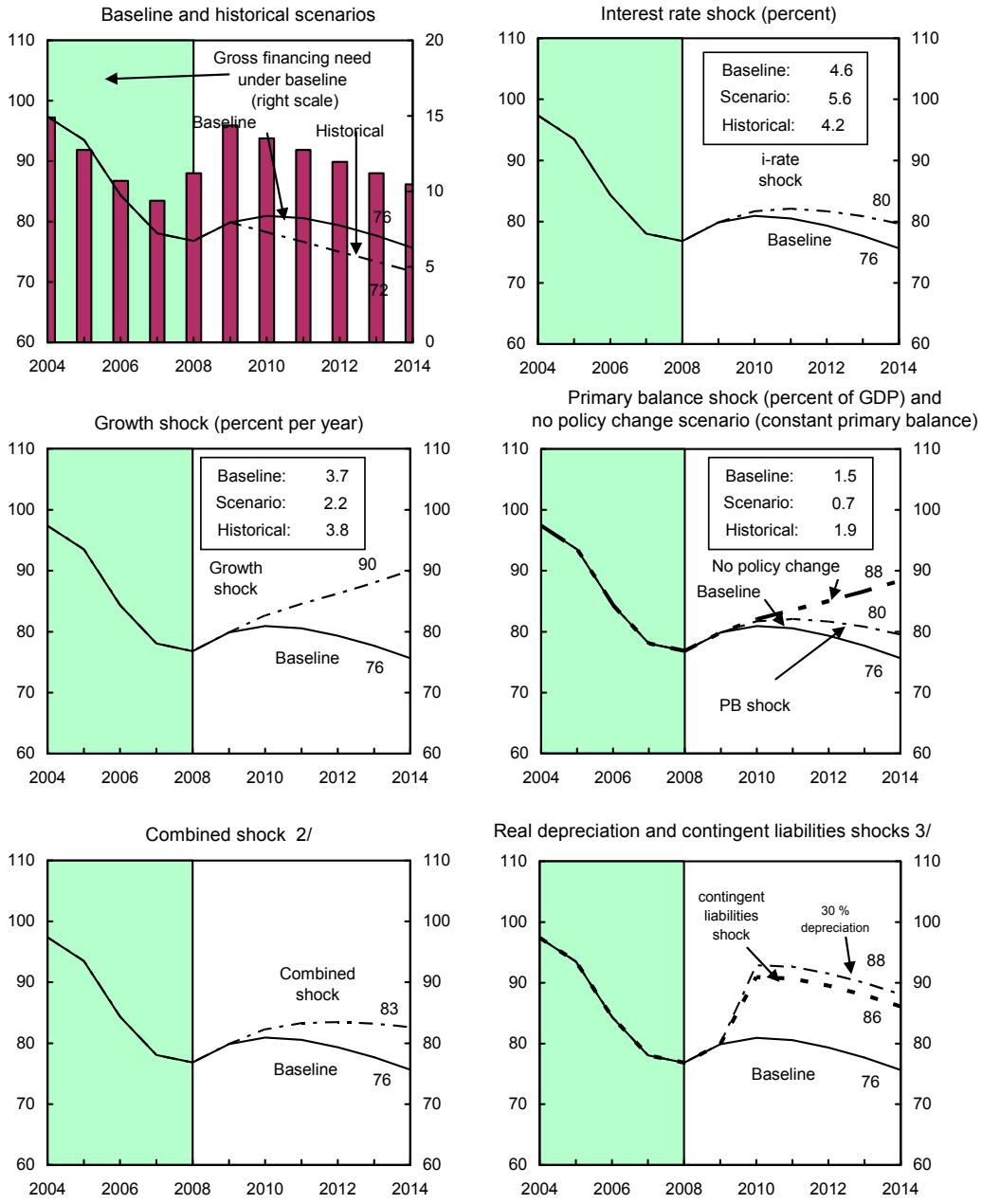
Source: IFS, WEO, OECD, National statistics agency.
1/ Data as of end-2008 in percent, unless otherwise stated.

Figure 8B. Israeli Vulnerability Indicators (Continued)



Source: IFS, WEO, OECD, National statistics agency.
1/ Data as of end-2008 in percent, unless otherwise stated.

Figure 9. Israel: Public Debt Sustainability: Bound Tests 1/
(Public debt in percent of GDP)



Sources: International Monetary Fund, country desk data, and IMF staff estimates.

1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.

2/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and primary balance.

3/ One-time real depreciation of 30 percent and 10 percent of GDP shock to contingent liabilities occur in 2009, with real depreciation defined as nominal depreciation (measured by percentage fall in dollar value of local currency) minus domestic inflation (based on GDP deflator).

Table 1. Israel: Selected Economic and Social Indicators, 2003−10

(Percent change, unless otherwise indicated)

	2003	2004	2005	2006	2007	2008	2009 1/	2010 1/
Real economy								
Real GDP	1.5	5.0	5.1	5.3	5.2	4.0	0.1	2.5
Private consumption	-0.1	5.3	3.5	4.3	6.3	3.6	1.2	2.3
Public consumption	-2.6	-1.8	1.6	3.0	3.4	2.1	1.8	1.8
Gross capital formation	-5.4	3.2	13.8	5.2	10.1	1.4	-11.7	6.0
Fixed capital formation	-5.1	1.0	4.0	11.3	15.3	4.4	-3.3	4.0
Unemployment rate (percent)	10.8	10.4	9.0	8.4	7.3	6.2	7.8	7.4
GDP deflator	-0.4	0.0	0.8	2.4	0.3	1.6	3.4	2.2
Overall CPI (end period)	-1.9	1.2	2.4	-0.1	3.4	3.8	2.6	2.1
Money and credit (period average)								
Narrow money (M1) 2/	0.5	18.0	17.5	13.7	15.34	14.1	57.8	…
Broad money (M3) 3/	2.2	4.6	7.9	7.4	12.9	8.0	15.2	…
Interest rates (average, percent)								
Bank of Israel policy rate	7.5	4.2	3.7	5.1	3.9	3.7	...	…
Public finance (percent of GDP)								
Central government revenue	35.1	34.8	35.1	35.2	35.4	31.6	29.1	29.8
Central government expenditure	40.5	38.4	37.0	36.2	35.4	33.8	34.2	33.9
Central government balance	-5.3	-3.6	-1.9	-1.0	0.0	-2.2	-5.1	-4.1
General government balance	-6.9	-4.2	-2.5	-1.4	-0.8	-2.8	-5.7	-4.7
General government debt	99.0	97.4	93.5	84.4	78.1	76.8	79.9	80.9
Of which: foreign currency external debt	24.6	24.2	24.4	22.3	19.5	16.1	15.0	14.5
Balance of payments (percent of GDP, unless otherwise noted)								
Exports of goods and services	36.7	41.3	42.6	42.9	42.8	40.2	29.2	30.8
Real growth rate (percent)	8.0	17.5	4.3	6.0	9.3	5.2	-10.8	5.4
Imports of goods and services	37.4	41.3	42.9	42.4	44.0	41.7	29.8	31.7
Real growth rate (percent)	-1.3	11.8	3.5	3.3	11.9	2.4	-13.7	6.3
Trade balance	-0.8	0.0	-0.3	0.5	-1.3	-1.5	-0.6	-0.9
Oil Imports (billions of U.S. dollars)	3.7	4.5	6.8	7.5	8.7	13.7	13.2	…
Net Imports (billions of U.S. dollars)	3.7	4.5	6.8	7.5	8.7	13.7	13.2	…
Current account	0.5	1.7	3.1	5.0	2.8	1.0	3.3	2.0
Foreign direct investment	3.4	2.0	3.2	10.1	5.4	4.8	2.3	2.2
Foreign reserves (end period, billions of U.S. dollars)	26.4	27.2	28.3	29.4	28.8	42.7	60.0	59.8
Exchange rate								
Exchange rate regime							Floating	
Present rate per U.S. dollar (December 16, 2009)							3.8	
NEER annual percent change (period average)	-3.7	-3.4	-0.7	0.4	3.9	11.4	...	…
REER annual percent change (period average)	-5.3	-6.1	-2.0	0.0	1.8	12.3	...	…

Social Indicators

GDP per capita (current U.S. dollars, 2005): 25,875; Life expectancy at birth (2005): 77.7 (male) and 81.8 (female); Infant mortality rate (2005): 5 per 1,000 births; Physicians (2003): 3.8 per 1,000 people; Automobile ownership (2003): 284 per thousand; CO2 emissions (tons per capita, 2003): 10.2; Population density (2006): 325 inhabitants per square kilometer; Poverty rate: 18.5 percent 4/.

Sources: Bank of Israel, *Annual Report*; Central Bureau of Statistics; IMF, *World Economic Outlook;* World Bank, *World Development Indicators;* and IMF staff estimates and projections.

1/ IMF staff estimates and projections.
2/ As of November 2009
3/ As of September 2009
4/ Poverty rate from National Insurance Institute of Israel.

Table 2. Israel: Balance of Payments, 2006−14

(Billions of U.S. dollars)

	2006	2007	2008	2009 1/	2010 1/	2011 1/	2012 1/	2013 1/	2014 1/
Current account balance	7.3	4.6	2.1	7.2	4.4	4.2	4.7	5.0	5.3
Merchandise	-3.8	-5.7	-7.2	-4.0	-5.0	-5.8	-6.1	-6.4	-6.7
Exports, f.o.b.	43.3	50.3	57.2	42.2	47.2	51.8	56.3	61.0	65.8
Imports, f.o.b.	47.2	56.0	64.4	46.3	52.2	57.6	62.4	67.5	72.5
Civilian imports	44.7	53.6	61.9	43.6	49.3	54.5	59.1	64.0	68.8
Military imports	2.5	2.4	2.5	2.7	2.9	3.1	3.3	3.5	3.7
Services	4.5	3.5	4.2	2.8	2.9	3.7	4.5	5.3	6.3
Exports	19.2	21.1	24.1	21.0	22.0	23.9	26.0	28.5	31.2
Imports	14.7	17.6	19.9	18.1	19.0	20.2	21.5	23.2	24.9
Factor Income	-0.8	-0.5	-3.3	-0.1	-2.0	-2.1	-2.0	-2.2	-2.6
Receipts	8.4	10.9	8.2	7.5	8.5	8.7	9.0	9.3	9.3
Payments	9.2	11.4	11.5	7.6	10.5	10.8	11.0	11.5	11.9
Net transfers	7.4	7.3	8.5	8.5	8.5	8.5	8.4	8.3	8.3
Public	4.4	3.9	4.4	4.4	4.5	4.6	4.7	4.9	5.1
Private	3.0	3.4	4.1	4.1	4.0	3.9	3.7	3.4	3.2
Capital and financial account balance 2/	-6.4	-2.8	-4.8	-7.2	-4.4	-4.2	-4.7	-5.0	-5.3
Capital account	0.8	0.8	1.1	0.7	0.7	0.7	0.7	0.7	0.7
Financial account	-7.2	-3.6	-5.9	-7.9	-5.1	-4.9	-5.4	-5.7	-6.0
Direct investment, net	-0.2	2.0	1.8	1.0	1.0	3.0	3.0	3.0	3.0
Foreign direct investment (in Israel)	14.8	9.0	9.6	5.0	5.0	7.0	7.0	7.0	7.0
Portfolio investment, net	1.1	-2.5	-2.3	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Other investment	-7.7	-4.9	8.7	-2.6	-2.6	-2.6	-2.6	-2.6	-2.6
Change in reserves 3/	-0.4	1.7	-14.2	-2.3	0.5	-1.4	-1.9	-2.1	-2.4
Errors and omissions	-0.9	-1.8	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Memorandum items (percent of GDP, unless otherwise indicated):									
Current account balance	5.0	2.8	1.0	3.3	2.0	1.8	1.9	1.9	2.0
Civilian trade balance	-0.9	-2.0	-2.3	-0.6	-0.9	-1.2	-1.2	-1.1	-1.1
Gross external debt	58.1	52.2	42.6	38.8	36.4	33.8	31.3	29.1	26.9
GDP (billions of U.S. dollars)	145.8	167.0	202.1	216.2	224.3	234.5	245.6	257.0	268.8

Source: Central Bureau of Statistics, *Monthly Bulletin of Statistics.*

1/ IMF staff estimates and projections.
2/ Excludes reserve assets.
3/ Negative (positive) sign denotes increase (decrease) in reserves.

Table 3. Israel: Financial Soundness Indicators, 2001−mid-09 1/

(Percent)

	2003	2004	2005	2006	2007	2008	2009 June
Core Set							
Deposit Takers							
Regulatory capital to risk-weighted assets	10.3	10.8	10.7	10.8	11.0	11.1	12.6
Regulatory Tier 1 capital to risk-weighted assets	6.9	7.3	7.1	7.4	7.6	7.5	8.0
Nonperforming loans net of provisions to capital	33.3	31.0	27.2	21.2	15.8	17.8	17.3
Nonperforming loans to total gross loans	2.6	2.5	2.3	1.9	1.5	1.5	1.5
Sectoral distribution of loans to total loans							
Other financial corporations (OFCs)	7.2	7.9	8.7	8.7	10.2	9.7	8.5
General government	3.3	2.7	2.5	2.2	2.0	2.1	2.1
Nonfinancial corporations (NFCs)	48.1	44.7	43.4	41.9	41.5	41.8	41.1
Other domestic sectors	26.0	28.4	28.5	29.3	28.4	32.1	34.4
Nonresidents	15.4	16.2	16.9	17.8	17.9	14.3	14.0
Return on assets	0.7	1.0	1.1	1.0	1.2	0.0	0.2
Return on equity	14.1	17.9	19.4	17.6	20.0	0.2	4.1
Interest margin to gross income	64.1	63.1	62.6	61.9	61.0	58.8	59.3
Noninterest expenses to gross income	60.2	59.7	61.7	66.2	54.5	82.8	67.8
Net open position in foreign exchange to capital	2.1	4.1	-0.5	1.8	-8.9	-15.5	-9.5
Encouraged Set							
Deposit Takers							
Capital to assets	5.3	5.5	5.6	5.9	6.1	5.7	6
Gross asset position in financial derivatives to capital	33.1	30.3	27.4	24.7	28.9	57.1	29.6
Gross liability position in financial derivatives to capital	31.3	31.6	29.1	22.9	29.1	64.4	37.3
Trading income to total income	12.3	17.9	23.7	8.8	6.9	-16.5	…
Personnel expenses to noninterest expenses	61.0	60.3	59.7	62.4	59.9	58.4	56.3
Spread between reference lending and deposit rates (basis points)	2.0	2.7	3.0	3.5	4.1	4.3	…
Customer deposits to total (non interbank) loans	115.6	117.7	119.5	118.2	113.0	106.7	110.2
Foreign-currency-denominated loans to total loans	35.4	34.5	31.4	28.1	27.0	25.3	24.2
Foreign-currency-denominated liabilities to total liabilities	40.1	41.5	42.5	40.7	39.8	36.2	35.1
Net open position in equities to capital	11.4	12.8	11.5	16.2	17.6	13.0	…
Other Financial Corporations (OFCs)							
OFCs' assets to total financial system assets	38.1	40.0	42.3	42.4	43.5	…	…
OFCs' assets to Gross Domestic Product (GDP)	94.7	98.7	104.0	103.8	111.7	…	…
Nonfinancial Corporations							
Total debt to equity	208.4	197.2	184.5	185.0	...	…	…
Return on equity	5.2	11.6	16.6	13.1	...	…	…
Earnings to interest and principal expenses	96.5	128.3	139.1	138.1	...	…	…
Households							
Household debt to GDP	40.6	40.1	40.1	38.2	39.0	39.9	39.5
Market Liquidity							
Average bid-ask spread in the securities markets (percentage of mid-point price)	...	...	0.0	0.0	0.0	0.0	0.012
Average daily turnover ratio in the securities markets	0.9	0.9	0.8	0.9	2.3	2.4	2.3
Real Estate Markets							
Residential real estate prices (annual percentage increase)	-6.1	-1.3	4.4	-4.3	3.2	10.6	12.8
Residential real estate loans to total loans	11.9	12.4	13.1	13.9	12.5	13.2	14.2
Commercial real estate loans to total loans	17.9	16.6	16.1	16.0	16.4	16.6	16.5

Source: Bank of Israel.

1/ Problem loans include non-performing loans, rescheduled loans, loans designated for rescheduling, loans in temporary arrears and loans under special supervision.

Table 4. Israel: Central Government Accounts, 2004−10

(Percent of GDP)

	2004	2005	2006	2007	2008		2009		2010	
					Budget	Actual	Budget	Staff est.	Budget	Staff proj.
Revenue (excluding repayment of credit)	35.0	35.3	35.2	36.1	32.7	31.6	28.7	29.1	29.0	29.8
Domestic	32.1	32.6	33.0	34.2	30.7	30.0	27.1		27.1	
Tax	27.3	27.4	27.8	29.3	26.2	25.3	23.1		23.4	
Of which: On income and profits	14.4	14.9	15.6	16.5	14.3	13.2	11.3		10.9	
On domestic goods and services	12.9	12.6	12.1	12.8	11.9	12.1	11.8		12.5	
Nontax	4.8	5.2	5.2	4.9	4.5	4.7	4.0		3.7	
Of which: Loans from the National Insurance Inst	1.9	2.1	2.1	2.1	2.0	2.1	1.8		1.6	
Other	2.8	3.1	3.1	2.8	2.5	2.6	2.2		2.1	
Foreign	2.9	2.6	2.2	1.9	2.0	1.6	1.6		1.9	
Of which: Grants	1.9	1.9	2.0	1.6	1.4	1.4	1.2		1.3	
Vat on defense imports	0.2	0.3	0.2	0.2	0.3	0.2	0.1		0.2	
Other	0.7	0.4	0.1	0.0	0.3	0.0	0.2		0.5	
Expenditure (excluding lending and expenditure by public hospitals)	38.6	37.1	36.2	36.1	34.2	33.8	34.6	34.2	34.5	33.9
Current expenditure	36.3	35.1	34.3	34.1	32.5	32.1	32.6		32.6	
Wages	8.1	8.1	8.0	7.7	7.3	7.3	7.7		7.9	
Subsidies & transfers	13.1	12.5	14.2	12.2	11.4	11.5	11.7		11.2	
Interest	5.8	5.6	5.5	5.2	4.8	4.6	4.8		4.9	
Other	9.3	8.9	6.6	9.0	9.1	8.7	8.4		8.7	
Capital expenditure	2.3	2.0	1.9	2.0	1.7	1.7	2.0		1.9	
Budget balance	-3.6	-1.9	-1.0	0.0	-1.6	-2.2	-6.0	-5.1	-5.5	-4.1
Budget balance ceiling 1/	…	…	…	-2.0	-1.6					
Financing	3.6	1.9	1.0	0.0	1.6	2.2	6.0		5.5	
Domestic (net)	2.2	-0.4	-0.7	-0.7	0.9	2.8	4.4		4.4	
Foreign (net)	1.4	-0.4	-0.3	0.9	0.7	-1.3	1.0		0.5	
Sale of assets (net)	0.2	1.5	0.7	0.0	0.6	0.2	0.0		0.1	
Change in cash balances and other financing (net)	-0.1	1.2	1.2	-0.2	-0.6	0.4	0.5		0.5	
Memorandum item:										
Defense expenditure	9.1	8.8	...	...	7.1	7.8	6.5		6.9	
Primary balance	2.1	3.8	4.6	5.0	3.2	2.4	-1.2		-0.6	
GDP growth (percent)	5.0	5.1	5.2	5.4	4.0		-1.0	0.1	1.5	2.5

Sources: Data provided by the Israeli authorities; and IMF staff estimates.

1/ Set in 2006, excluding 2006 emergency security-related spending. Such spending adds about 1.0, 0.7, and 0.5 percent of GDP to expenditures in 2006-08, respectively.

Table 5. Israel: Indicators of External and Financial Sector Vulnerability, 2003−09

(Percent of GDP, unless otherwise indicated)

	2003	2004	2005	2006	2007	2008	2009	Date
Financial indicators								
Broad money (percent change, 12-month basis)	2.2	4.6	7.9	7.4	12.9	8.0	15.0	Sep-09
Private sector credit (percent change, 12-month basis)	-3.1	3.9	7.1	4.3	6.7	9.2	-0.6	Sep-09
External Indicators								
Terms of trade (average, percent change) 1/	-1.4	-1.9	0.6	-1.4	-2.2	1.6	11.2	Jun-09
Current account balance	0.5	1.7	3.1	5.0	2.8	1.0	3.2	Projected
Capital and financial account balance	-2.3	-3.0	-7.2	-4.4	-1.7	-2.4	-3.2	Projected
Gross official reserves (end period, billions of U.S. dollars) 2/	26.4	27.2	28.3	29.4	28.8	42.7	61.5	Nov-09
Official reserves in months of imports of goods and nonfactor services	7.1	6.2	5.9	5.7	4.7	6.1	11.9	Projected
Total gross external debt/GDP (percent)	60.5	60.6	56.6	58.1	52.2	42.6	38.9	Projected
Total net external debt/GDP (percent)	-4.3	-8.0	-15.2	-22.7	-26.9	-23.3	-23.9	Jun-09
Country risk ratings (S. & P. / Moody's) 3/	A- / A2	A- / A2	A- / A2	A- / A2	A / A2	A / A1	A / A1	Nov-09
Exchange rate (per U.S. dollar, period average)	1.00	4.48	4.49	4.46	4.11	3.59	3.78	Nov-09
Change in Stock Market Index (end of period; 12 month percent change)	55.4	17.6	32.8	5.8	22.9	-46.4	75.3	12/14/09

Sources: Bank of Israel; Central Bureau of Statistics; and IMF staff estimates and projections.

1/ According to WEO GEE trade deflators. June 2009 data available from Bank of Israel.

2/ includes the allocation of Special Drawing Rights (SDRs) by the IMF to member countries, and the balance of the Israel's reserve tranche in the IMF.

3/ On foreign currency long-term debt.

Table 6. Israel: Medium-Term Scenarios, 2009−14

(Percent, unless indicated otherwise)

	2009	2010	2011	2012	2013	2014
GDP growth rate	0	2 1/2	4	4	4	3 3/4
Inflation (average)	3 2/4	2 1/4	1 3/4	2	2	2
Fiscal balance/GDP 1/						
Central gov't balance	-5	-4	-3 1/2	-2 3/4	-2 3/4	-1 1/2
General gov't structural primary balance	3/4	1	1 1/4	1 2/4	2	2 2/4
Central gov't expenditure/GDP	34 1/4	34	33 1/4	32 1/2	31 3/4	31 1/4
Public debt/GDP (end of period)	79 3/4	81	80 1/2	79 1/4	77 3/4	75 3/4
Current account/GDP	3 1/4	2	1 3/4	2	2	2
Foreign reserves (billions of U.S. dollars)	61 1/2	62 3/4	64	65 1/4	66 1/2	68
			(Percent changes)			
Memorandum Items:						
Aggregate domestic demand	-1	2 3/4	3 1/2	3 1/2	3 1/2	3 1/4
Private consumption	1 1/4	2 1/4	4	3 1/2	3 1/2	3 1/2
Public consumption	1 3/4	1 3/4	1/2	1 3/4	1 3/4	1 3/4
Gross capital formation	-11 1/2	6	6 3/4	6 1/2	5 1/2	4 3/4
Exports of goods and services	-10 3/4	5 1/4	7 1/2	7 1/4	7	7
Imports of goods and services	-13 3/4	6 1/4	7	6 1/4	6	6

Source: IMF staff estimates and projections.

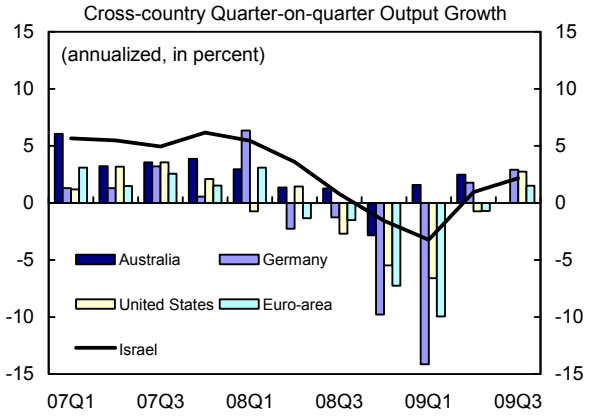
1/ For the purpose of its budget deficit targets, the central government excludes net credit.

BACKGROUND STUDIES

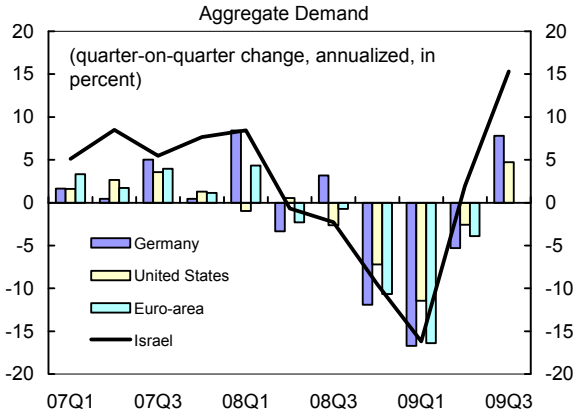
I. WHY WAS OUTPUT IN ISRAEL SO RESILIENT THROUGH THE GLOBAL CRISIS?[1]

1. **The downturn in Israel was relatively mild and short during the global downturn compared to many other countries.** The economy contracted in 2008 Q4 for two consecutive quarters for a total of 1.2 percent, and it has grown since then. This note considers the reasons for this performance, and its implications for future output growth.

2. **The main conclusion is that like many others, Israel had strong economic fundamentals prior to the global downturn and responded to the crisis with timely and appropriate policies.** In that context, factors which distinguish Israel from others—and which may therefore explain the *relative* strength of output in Israel include the absence of a housing bubble, that the bulk of its investment goods and consumer durables are imported, and the resilience of the banking sector. These seem largely to account for the relative strength of output in Israel in the face of the global shock.



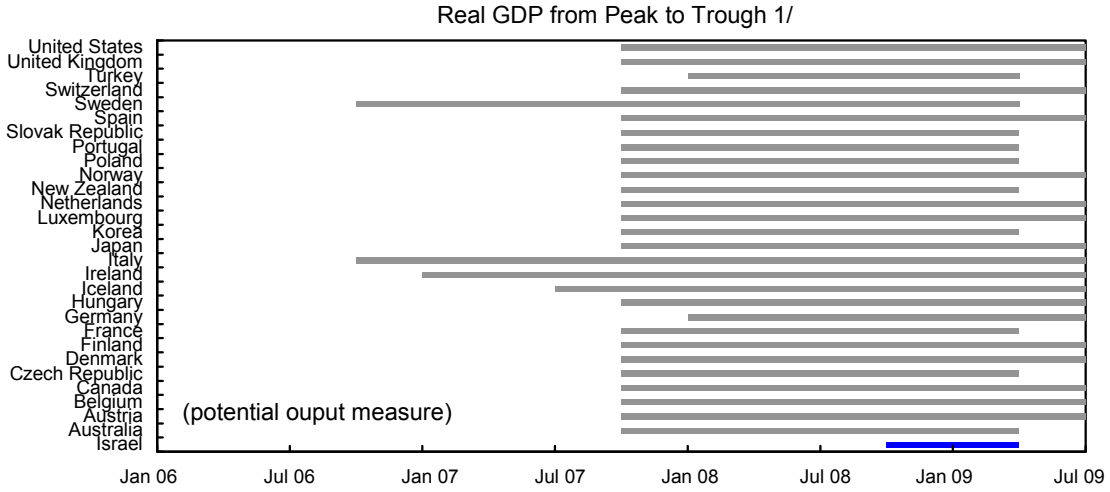
Source: OECD
1/ quarter-on-quarter growth annualized in seasonally adjusted series at chained volumes estimates.

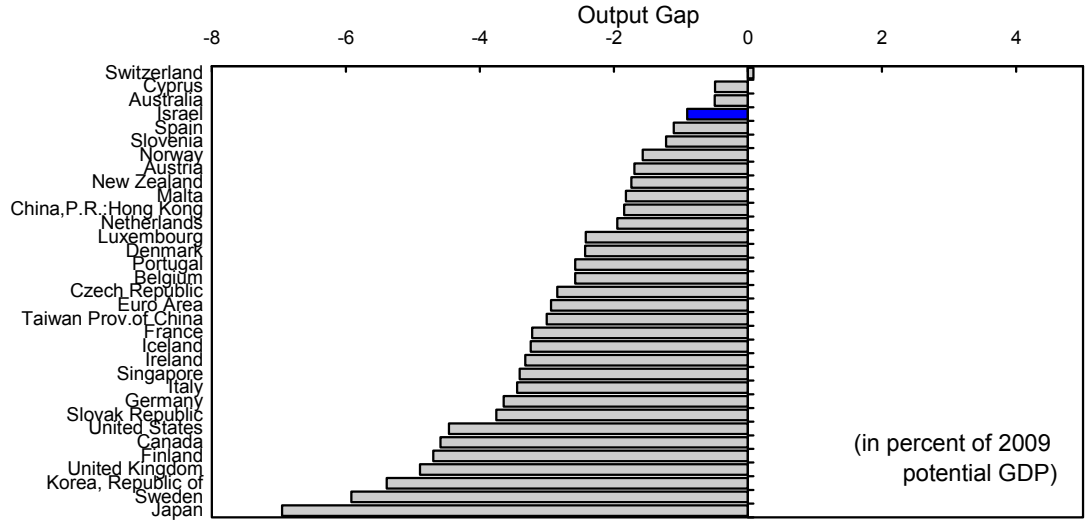


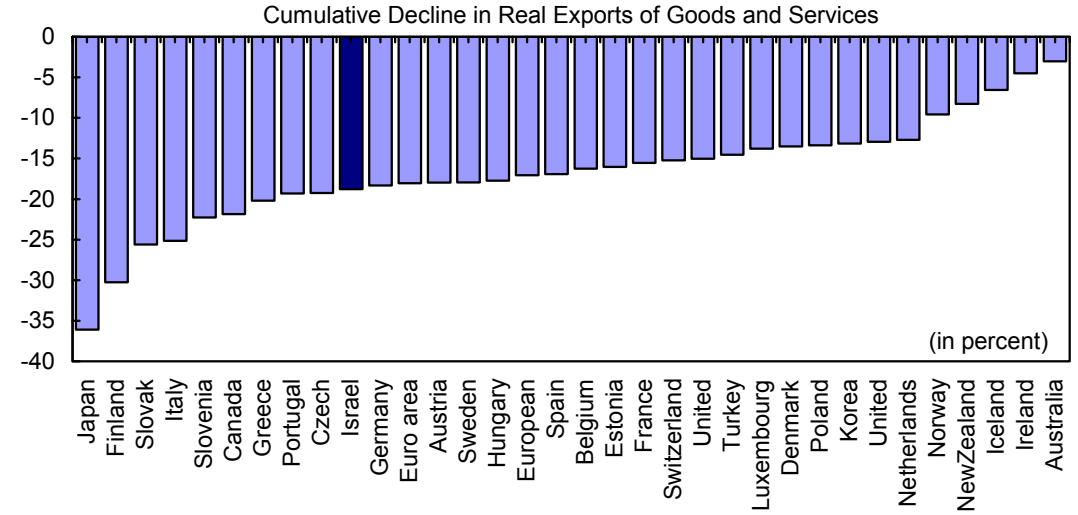
Source: OECD
1/ quarter-on-quarter growth annualized in seasonally adjusted series at chained volumes estimates.

3. **The relatively mild recession followed sharp declines in exports of goods and services.** Exports of goods and services fell by some 20 percent in real terms, still have not recovered from the pre-crisis levels, and the declines were on the high-side compared to other advanced countries. Furthermore, total demand on the economy (consumption, investment, government, and exports) fell as sharply in Israel as elsewhere, but the recession was nevertheless relatively short and mild. In that context, the output gap deteriorated since second-half of 2008 and has turned negative later that year.

[1] Prepared by W. Raphael Lam (EUR; wlam@imf.org)







Source: OECD, WEO, and Central Bureau of Statistics, Israel

1/ Shaded area indicates a decline in real GDP relative to the potential level.

4. **Strong economic fundamentals and appropriate policy responses clearly helped to contain the recession.** Economic fundamentals were strong in Israel prior to the crisis relative to the United States and some countries in the Euro-area (text table), with robust economic growth over the past five years and low levels of household debt. Timely and appropriate policies also helped to contain the contraction of demand (text table). Expansionary monetary policies were quickly introduced in the early stage of the crisis, alongside unfettered automatic stabilizers on the fiscal side. However, many other countries did likewise and yet have encountered a more severe and/or prolonged contraction than Israel.[2] Therefore, these features do not appear to be sufficient to explain Israel's relative resilience.

Table. Selected Economic Indicators before Financial Crisis 1/

	Israel	Euro-area 2/	United States
Indicators			
Real output growth	4.4	2.0	2.8
Private credit growth	4.2	5.9	9.4
Increase in real residential property price	-1.4	5.7	7.4
Household debt as percent of GDP	35.4	87.4	132.5
Gross national saving rate	20.7	18.5	13.9

Source: OECD, national statistics agencies.

1/ Average between 2003-2007 where data are available.

2/ Euro-area as indicated in OECD. Some indicators use simple aveage across key euro-area countries due to data limitation.

Table. Timely and Appropriate Policy Response to Global Contraction

Measures	Remarks
Monetary policy	
Expansionary monetary stance with reduction of policy rates	Mar 2008, Oct 2008 - Aug 2009
Foreign exchange purchase program to increase reserves 1/	Mar 2008 - Aug 2009
Government bond purchase program 1/	Early 2009 - Aug 2009
Fiscal policy	Government commitments (in NIS billions)
"Manof" funds in helping non-bank credit market 2/	1.0 - 1.5
Guarantees extended to banks to increase capital ratio 3/	6.0 - 12.0
Ashra (ECA)	3.8
Exporters and real estate gurantees	6.2
Small and medium business fund 4/	0.7

Source: Bank of Israel and Ministry of Finance, Israel

1/ The foreign exchange purchase program was modified in August 2009. Amount purchased on government bonds was limited.

2/ Total commitments are about 4.5 NIS billion, of which about one-quarter are financed by government.

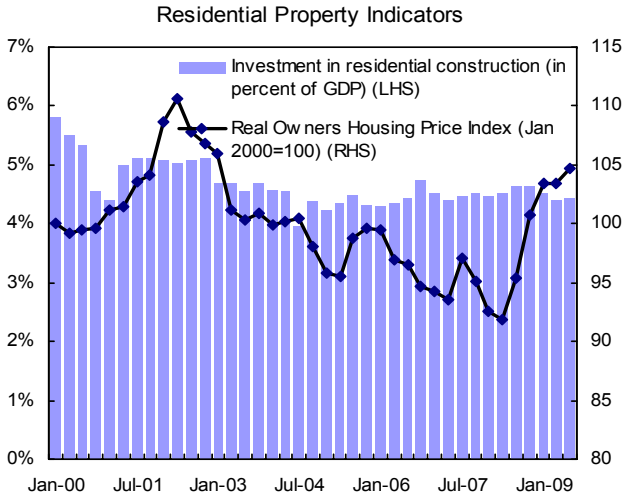
3/ It has not been disbursed as of November 2009 and banks are not expected to use it.

4/ Total commitments are about 2.6 NIS billion, of which one-fourth is financed by the government.

[2] An notable example is Korea. Both countries enjoyed a sustained economic growth prior to the crisis. Saving rates in Korea are also relatively high.

5. **Several additional factors may explain why Israel has been more resilient to the recent global shock despite sharp falls in exports**. They include:

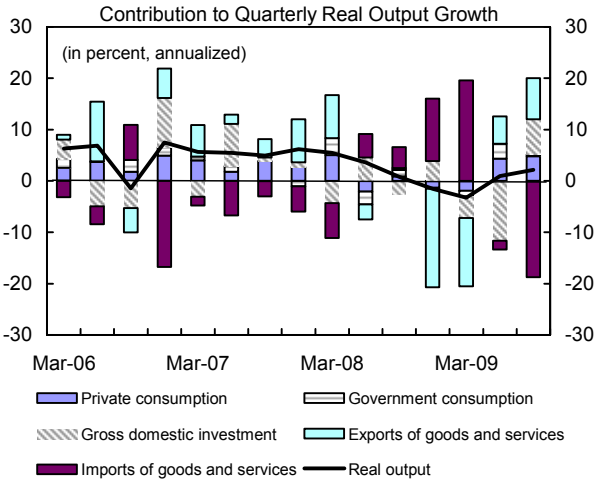
- *Absence of a housing bubble*



Israel's housing market has not reflected the global surge in property prices prior to 2008. On the contrary, property prices remained subdued until the beginning of the crisis in 2008, largely unwinding the previous housing bubble in 2001–02 (figure). Moreover, the share of investment in residential property has stayed flat for a long period preceeding the global crisis. Indeed, fixed capital investment in buildings and construction (about 40 percent of fixed investment; 7-8 percent of GDP) has held steady throughout the crisis. This helped to sustain output.

- *The bulk of investment goods and consumer durables are imported in Israel*

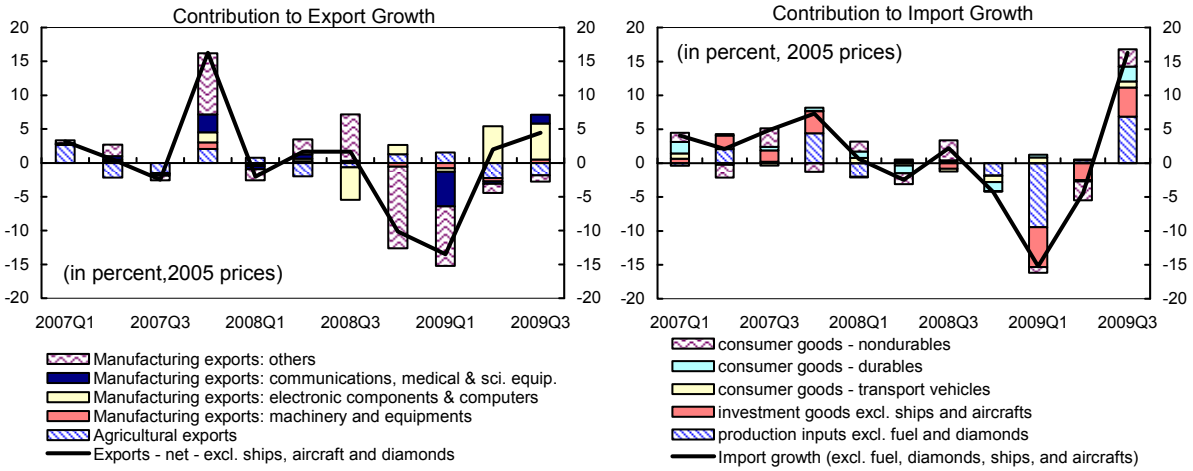
Exports fell, as in elsewhere, in the context of a sharp drop in global demand in late-2008. But imports fell even more sharply, largely reflecting contraction of imports of investment goods and production inputs. Since a large bulk of these are imported in Israel, the collapse in global and Israeli demand for these items during the global shock had a relatively modest impact on Israeli output. On the other hand, when global demand for these items began to recover from mid-2009, Israeli import demand increased alongside, muting the beneficial impact on Israeli output.



Source: Central Bank of Israel, and Central Bureau of Statistics, Israel.

- *A one-off factor helped output also*

The new Intel plant—with its exports entirely in the high-technology sector—rapidly built upt to full production during 2009. It drove the initial increase in Israel's exports in 2009, before a more across-the-board recovery in those exports became evident in Q3 2009. Since the Intel plant has already reached full capacity, its potential contribution to monthly export growth in 2010 may be limited.



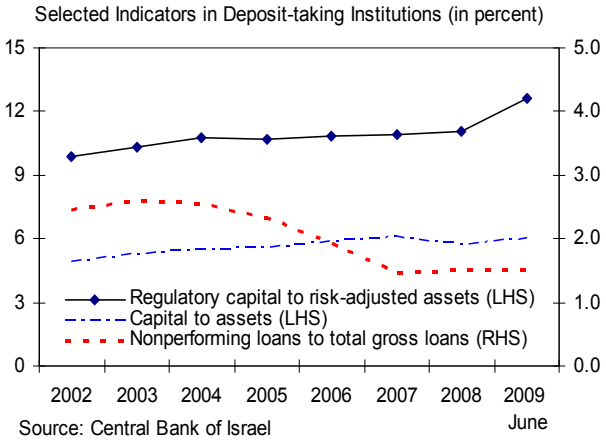
Source: Central Bank of Israel, and Central Bureau of Statistics, Israel

- *High private savings rate*

Private savings rates have long been high in Israel, in contrast to the U.S. and some countries in the Euro-area. This provided scope for households to "consumption smooth" across the global shock by drawing down their savings. Nondurable private consumption therefore remained stable throughout the short recession.

- *Resilience in the banking sector*

The resilience in the banking system helped to insulate the economy from a more severe downturn, and also likely to contribute to the recent recovery since early-2009. At the same time, the relatively mild recession has sheltered the potential vulnerabilities in banking sector from becoming more acute. The banking system did not have significant foreign exposures in assets, wholeseale funding, and domestic credit quality has largely held up during the crisis (figure).[3] Banks' capital has remained above the minimum regulatory requirements.



Source: Central Bank of Israel

6. **All these factors above may have offset the impact on Israeli output of the high level of public debt in the recent global shock.** Countries with high public debt tend to be

[3] The third background study, "Global Regulatory Reform—Lessons from Israel",provides details on the financial sector performance during the crisis in Israel.

more vulnerable to market distress, as reflected in the more than proportionate increase in sovereign yields relative to other low-debt countries.[4] Yields on Israeli government bonds did increase sharply during market distress and yet did not pose serious challenges to the real economy. Staff analysis indicates because Israel was not directly exposed to the core of this particular global shock, which hit heavily on financial assets, construction sectors, and investment demand, so high public debt did not prove to be an immediate vulnerability. Nevertheless, high public debt remains a key concern as Israel could be susceptible to different kinds of external demand shocks.

7. **Although the recession has been mild and recent economic growth has become more evident, Israel's near-term potential growth could nevertheless decline.** A slow and weak global recovery will likely reduce global—and therefore Israeli—potential growth.

8. **Staff estimates of these effects follow**. First, we estimate the level of potential output growth for Israel. Three broad methodologies are applied by estimating the aggregate production function, by introducing univariate filters on the actual real output, and by estimating a structural model that incorporates the long-term inflation, capacity utilization, and unemployment rates (Box 1).

9. **Real output is expected to be below potential for 2009.** All estimation methods suggest that the estimated output gap has deteriorated and turned negative over the past year in the sample—even acknowledging that results are subject to end point bias. Various filtering techniques show comparable results except for Baxter-King filter, which has consistently underestimated the output gap because estimated potential output tracks closely to the actual real output.

Table. Preliminary Estimation on Potential Output Growth for Israel 1/

		Univariate filtering				
	Aggregate production function	Hodrick-Prescott filter	Christiano-Fitzgerald random walk filter	Baxter-King filter	Butterworth filter	Structural model (IRIS)
Potential output growth rate (in percent)						
Selected period						
1995Q1 - 2009Q2	4.4	4.2	4.1	4.2	4.1	4.1
Medium term range						
lower end	3.4	3.1	3.4	2.9	3.0	3.2
upper end	4.1	3.6	4.0	3.8	3.7	3.9

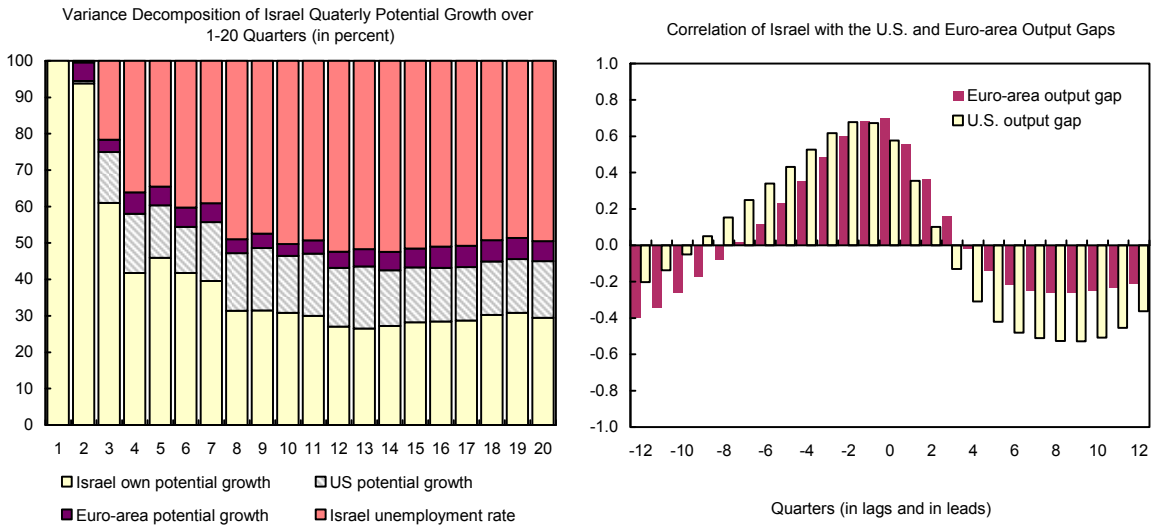
Source: WEO, IFS, and staff estimates.

1/ Growth rates refer to year-on-year basis on quarterly data. Actual output refers to quarterly output at constant 2005 prices, seasonally adjusted. The second row is estimated based on projected growth from 2009 Q4 onwards. The estimations are subject to some bias at the end points and large degree of uncertainty with respect to the estimates of global potential output growth. Upper and lower end refer to the 90 percent confidence bands of baseline estimates given current projections on U.S. and Euro-area growth.

[4] See the second background study 'Is Israel's Public Debt Too High?'.

10. **The second step is to assess the links between potential output in Israel and potential ouput in its major partners.** A vector autoregression (VAR) is used to correlate potential output growth in Israel with that in the major advanced economies. Variables included in the VAR are (in that order): i) Israel's potential output growth; ii) potential output growth for the United States; iii) potential output growth for the Euro-area; and iii) Israel's unemployment rate, which proxies for the long-term production capacity as in Blanchard and Quah (1997). The Christiano-Fitzgerald filtering technique (with same parameters) is applied in estimating the potential output for the US and Euro-area (euro area data available from 1999 onwards) for consistency.[5]

11. **The results suggest a strong tie between Israel's potential output growth and that in the U.S..** Variance decomposition suggests that shocks to potential output in the US have persistent effects on Israel's potential output and accounts for over 15 percent of its variation, with smaller effects from the Euro-area (figure). In terms of the output gap, cross-correlation of Israel's output gap with the U.S. and Euro-area counterparts is significant and persistent. The contemporaneous cross-correlation is over 70 percent, with stronger persistent (in lags) from the U.S. output gap.



12. **Given projected declines in global potential growth, the potential growth in Israel is likely to decline compared to the historical long-term levels** (text table). The large uncertainty surrounding global recovery means that Israel potential growth would also be subject to high degree of uncertainty. The range of potential growth estimates vary across methodologies. A slower projected population growth in Israel in the medium term

[5] These estimates are based on in-sample coefficients on the Israel's potential output growth with the U.S. and Euro-area counterparts. They are then applied to the preliminary benchmark projections of the U.S. and Euro-area potential output growth for out-of-sample periods, with smoothing techniques applied to arrive at a smoothed real potential output growth on Israel.

relative to previous years also contributes to lower potential growth.[6] Average population growth exceeded 2 percent in the past 15-20 years due to large immigration flows in the 90s, while the population growth is expected to be 1.5 - 1.7 percent in near term

Table. Preliminary Estimation on Potential Output Growth for Israel 1/

		Univariate filtering				
	Aggregate production function	Hodrick-Prescott filter	Christiano-Fitzgerald random walk filter	Baxter-King filter	Butterworth filter	Structural model (IRIS)
Potential output growth rate (in percent)						
Selected period						
1995Q1 - 2009Q2	4.4	4.2	4.1	4.2	4.1	4.1
Medium term range						
lower end	3.4	3.1	3.4	2.9	3.0	3.2
upper end	4.1	3.6	4.0	3.8	3.7	3.9

Source: WEO, IFS, and staff estimates.

1/ Growth rates refer to year-on-year basis on quarterly data. Actual output refers to quarterly output at constant 2005 prices, seasonally adjusted. The second row is estimated based on projected growth from 2009 Q4 onwards. The estimations are subject to some bias at the end points and large degree of uncertainty with respect to the estimates of global potential output growth. Upper and lower end refer to the 90 percent confidence bands of baseline estimates given current projections on U.S. and Euro-area growth.

Policy implications

13. **The assessment of the causes of ouput resillience so far, and the prospect of a decline in medium-term potential growth both have policy implications.**

- Israel has proved to be resilient to this particular global shock, largely because of its limited exposure on financial and construction sectors. But it may remain vulnerable to other external shocks, including those that may focus on the "high tech" sector—as in 2001–02.

- Furthermore, as recovery in Israel has reflected, at least to some degree, a significant one off factor, this leaves some doubt about prospects for continued output growth, even if global conditions continue to stabilize.

- The stability of the banking sector has played a key role. Policies should aim to maintain and deepen that strength

- But the recent resilience in the economy does not mean that long-term prospects are unaffected. If global potential growth falls, as now projected, Israel's potential

[6] Potential growth in the long term is determined by country's production capacity, including the total-factor productivity, capital accumulation and capacity utilization, and growth of labor force and its participation rate. These supply-side factors do not seem to be significantly affected during the crisis, and the temporary fall in employment and capacity utilization have begun to recover. However, potential output could be affected if demands from external environment reduce and non-tradable prices in the country do not adjust sufficiently. The labor productivity during the transition could be reduced.

growth is likely to be fall alongside. With a lower medium-term potential growth in Israel, the task of public debt reduction will both become more important, and more difficult. The robustness of fiscal rules and policies to be adopted should be commensurate with this increased challenge.

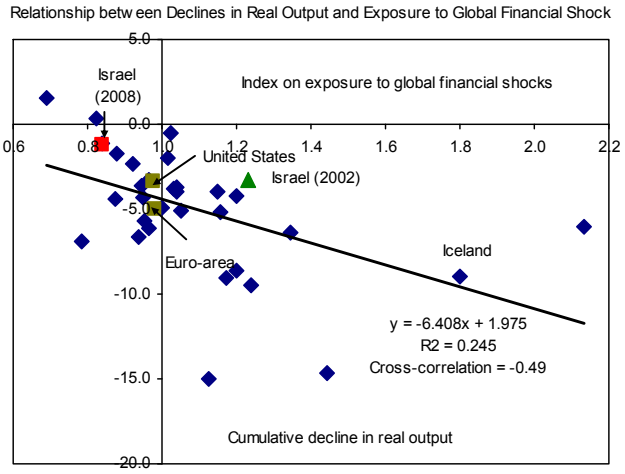
ANNEX: EMPIRICAL ANALYSIS ON ISRAEL'S EXPOSURE TO THE RECENT GLOBAL SHOCK

14. **Israel appeared to have only limited exposure to the global financial shock that emerged in 2008.** To put this into cross-country perspectives, we construct an index to measure a country's exposure to global financial shocks based on its sectoral composition on gross output. Israel scores at the lower end in the index relative to other advanced countries, indicating a narrow exposure to the global financial shock in 2008. Higher index number would imply the country is heavily exposed to the global financial shock.

15. **The exposure of global financial shock of a country is measured by an index *(EX_i)* that incorporates the country's exposure on the sectoral shocks in this global downturn.** The index is calculated based on

$$EX_i = \sum_j \left(\frac{y_{i,j} / y_i}{Y_{w,j} / Y_w} \cdot \frac{s_j}{S} \right)$$

where *i* and *j* denote country and sector. The term $y_{i,j}/y_i$ is the percentage of country's gross value-added on sector *j*. A higher share would mean a higher exposure of the country on a particular sector than the global level. The country sectoral exposure is then deflated by the sectoral share of gross value-added at world level $Y_{w,j}/Y_w$. The second term in the bracket represents the sector shock in face of the global financial crisis. The aggregate shock *S* is measured by the decline of S&P 500 in the U.S. stock market, where as s_j is the sector shock, measured by the change in the indexed stock returns on sectors in the U.S. market.[7] The analysis covers the agricultural, manufacturing, wholesale & retail, construction, technology, services, and financial sectors. The overall index (EX_i) indicates the country's overall exposure to global financial shock. A higher index number would imply the country is heavily exposed to the global financial shock.



[7] Using the U.S. equities data may not be a perfect measure of the global financial shock in general. However, the relative declines of different industries with respect to the overall equities in this particular crisis would arguably a good proxy. Substitution effect across countries in sectors that potentially bias the measure do not seem to be applicable given the short time frame in measuring and the synchronized declines across countries.

16. **Countries that score low in the index —less exposure to global financial shock in 2008— tend to have less severe output contractions.** Strong negative correlation between a country's exposure to the global financial shock and its real output growth is about -0.5 at 5 percent significant level (figure). Israel was found to be relatively less exposed at the present global financial shock and therefore could contribute to a more mild recession than other countries. For illustrative purpose, Israel was more exposed in the high-tech sector that was closely linked to previous shock in 2002-03 when it had a sharper downturn.

17. **Regression results suggest that, besides individual country's exposure to global shock, declines of external trade, and vulnerabilities in the housing market are explanatory variables to the extent of output contraction.** As indicated above, the results show a negative and in most cases significant relation between country's index on exposure to global financial shock and the output growth (text table). It also indicates that a higher decline in external trade could result a higher decline in real output (positive coefficients). However, countries with higher gross value-added in the high-tech sector, as in Israel, is less (about 40–50 percent less) susceptible to external trade effect on output, as the interacting term with external trade is negative and significant at 10 percent level. Vulnerabilities in the property sector, proxied by a cumulative housing price increase, also explain the magnitude of output declines. Credit growth to private sector prior to the crisis, however, does not appear to be significant to contribute the declines in real output. The analysis may not be fully conclusive on variables that explain Israel's resilience but reflect the possibility that Israel could be less exposed under this particular global shock.

Empirical Results 1/

Dependent variable: Cumulative real output growth White heteroskedasticity-consistent standard errors and covariance				
Regression	1	2	3	4
Constant	1.20	3.09	0.33	2.24
	(2.82)	(2.18)	(3.14)	(2.30)
Index on exposure to global shock	-5.87 **	-3.2 *	-5.58 *	-2.9
	(2.69)	(1.93)	(2.92)	(2.17)
Percentage change in external trade	0.01 **	0.002	0.1 **	0.11 **
	(0.00)	(0.00)	(0.04)	(0.03)
Percentage change in external trade * degree of high-tech exposure			-0.05 **	-0.06 **
			(0.02)	(0.02)
Nominal growth in residential property prices		-0.34 **		-0.38 **
		0.17		(0.16)
Growth in bank credit to private sector		-0.02		0.002
		0.08		(0.07)
Adjusted R-squared	0.24	0.44	0.28	0.52
F-statistics	6.29	7.76	5.33	8.44
No. of observations	35	35	35	35

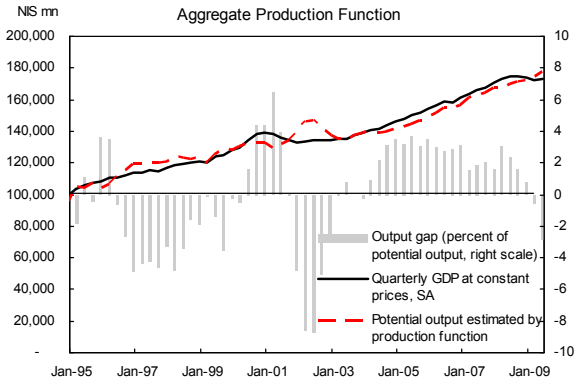
1/ '*' and '**' represent statistical significance at 10 percent and 5 percent, respectively.

Box 1. Methodologies in Estimating Potential Output and Output Gaps

Three broad methodologies are applied by estimating the aggregate production function, by introducing univariate filters on the actual real output, and by applying a structural model using the key economic variables on prices, output, unemployment, and capacity utilization. Quarterly data from 1995Q1 to 2009Q3 are used. The period is roughly characterized by the following phases: 1) stable modest growth; 2) the dotcom boom at the turn of the century; 3) burst of the dotcom bubble that resulted recession; 4) strong growth rebound supported by benign external environment; and 5) the outbreak of the financial crisis and the subsequent global downturn.

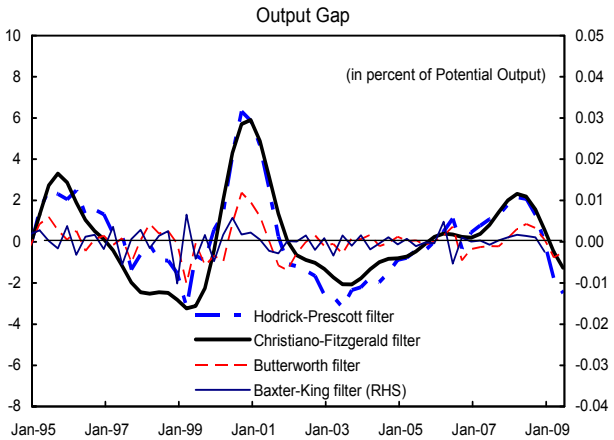
- Aggregate production function

Estimates of potential output from a standard production function consisting of labor (L) and capital (K) as inputs, and the total factor productivity (Z). The production function follows $Y_t = Z_t K_t^{\alpha} L_t^{\beta}$, where Y is the output, α and β denote the capital and labor share of output. Data on the total factor productivity, labor inputs (in hours), and capital inputs (on gross and net basis) are available. First, coefficients on capital and labor share are estimated using the data from 1995-2009Q2 to be around 0.37 and 0.56, which do not reject the constant returns to scale hypothesis. Estimated potential output captures the below-trend output in recent global crisis, but appears to overshoot for periods after the dot-com crisis.



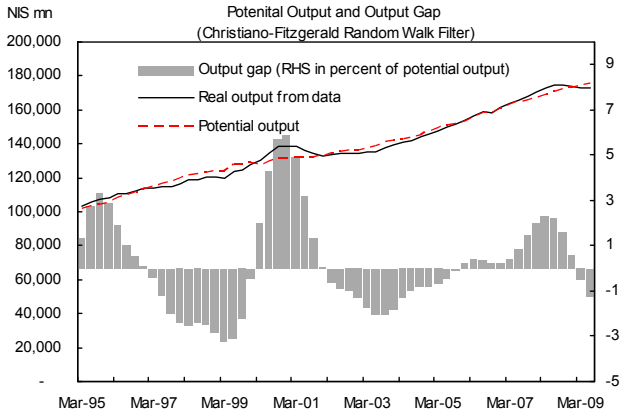
- Univariate filtering

Filtering methods are used to separate between permanent and transitory movements in the real output. Filtering techniques focus on producing a smoothed series and recovering the residual components of the original series. Four different filtering techniques on the quarterly output at constant prices and seasonally adjusted to arrive at the potential output level, namely: Hodrick-Prescott filter (1997), Baxter-King filter (1999), Butterworth filter (Pollock (2000)), Christiano-Fitzgerald random walk filter (2003).



- Structural model

The structural model framework is based on the ongoing IRIS project initiated in Research Department. The framework comprises of four set of equations on the output gap, inflation, unemployment, and capacity utilization, each describing the dynamics of these variables as a function of their steady state levels, lags, other variables, and a stochastic shock.

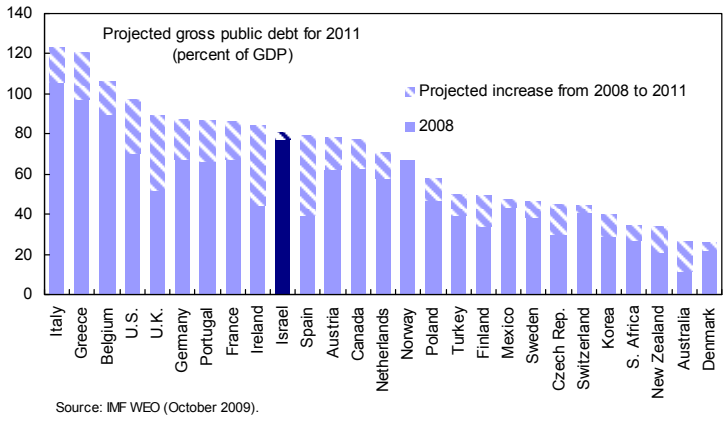


Parameters on the steady states are set at their long-term levels. Some degrees on judgement are applied to parameters concerning the persistence and variations of the shocks. Here uses the same set of priors as in the cross-country studies.

II. Is Israel's Public Debt Too High?[1]

Introduction

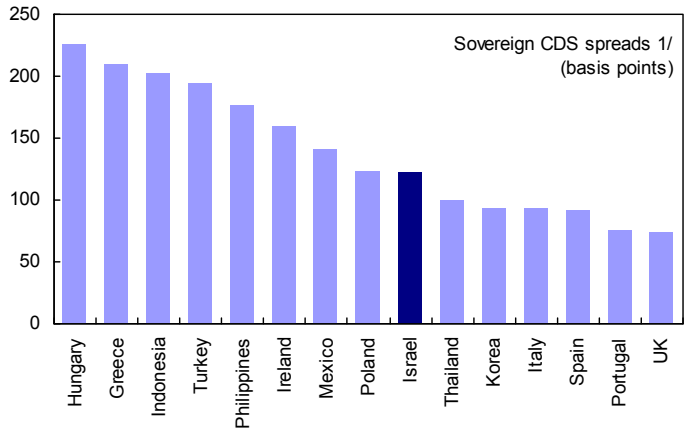
1. **At near 80 percent of GDP and rising, Israel's public debt ratio is expected to remain one of the highest among developed countries**. Does this matter?



Source: IMF WEO (October 2009).

2. **The level of debt constrains fiscal options in various ways and may compromise investor confidence in the fiscal outlook.** The latter uncertainty is compounded by concerns about the fiscal policy framework. The expenditure and budget deficit rules have been relaxed for 2009-2010 and the credibility of the revised fiscal targets for 2011 and onwards is doubtful. Insufficient medium-term budget planning and a lack of clarity about the prospect of reforming the fiscal rules also weighs on confidence in Israel's fiscal sustainability.

3. **But, at present, these concerns are not reflected in government financing strains**. Israel's sovereign CDS spreads have risen since the outbreak of the global crisis—as for most other countries—but the increase in spreads is relatively modest. Moreover, against the background of large-scale investment repatriation by domestic residents and the recent tightening of monetary policy stance, there have been strong inflows of capital, giving support to Israeli assets. Alongside, Israel's sovereign credit ratings have been retained at A throughout the current crisis, in part reflecting the relative resilience of the Israeli economy.



1/ 5-year CDS spreads, averaged over the one-month period ending 12/21/2009.

[1] Prepared by M.K. Tang (EUR; mtang@imf.org)

Indeed, in March 2009, the government successfully issued US$1.5bn of external debt, the largest external bond offering ever for Israel.

4. **At the same time, the existing literature on high public debt internationally has found mixed evidence of its long-term economic implications.** A large volume of work has investigated the empirical relevance of debt overhang[2]. On the one hand, some researchers report either direct or indirect evidence on debt overhang (e.g., Pattillo, Poirson and Ricci (2003), Imbs and Ranciere (2005) and Blavy (2006)); on the other hand, using different samples and methodologies, others find less conclusive linkages between debt and economic performance (e.g., Cohen (1993), Warner (1992), Depetris Chauvin and Kraay (2005), and Cordella, Ricci and Ruiz-Arranz (2005)). In a similar vein, the empirical relationship between debt and interest rates remains debatable—Ardagna, Caselli and Lane (2007) find significant positive effect only for countries with a very high debt level, and Cantor and Packer (1996) and Dell'Ariccia et al. (2006) do not find very strong evidence pointing to such an effect.

5. **These studies, however, have given little focus to the implications of high public debt during times of great uncertainty**. But for authorities interested in smoothing shocks and stabilizing economy, risk scenarios are arguably a key consideration. Indeed, an analysis in April 2009 WEO shows that the effectiveness of fiscal stimulus tends to be lower for countries with a higher debt-to-GDP ratio, suggesting that a country's ability to mitigate economic shocks could be constrained by debt. In Israel's case, the decision to temporarily raise VAT in July 2009 even as the economy weakened clearly illustrated the situation where the scope for fiscal support is limited by high debt.

6. **For Israel, risks remain despite the subdued market indicators now evident**. Israel's government bond yields and sovereign CDS spreads have come down significantly in recent months. Yet, as clearly demonstrated in this crisis, dramatic market repricing—sometimes excessive—can be triggered with little warning. Notwithstanding the recent worldwide pickup in economic activity and investor sentiment, the global recovery has yet to gain solid footing and the outlook is still dominated by uncertainty. Small open economies, such as Israel, that are subject to strong spillovers from global demand and financial conditions, still face heightened risks of significant volatility.

7. **In this context, a key question is whether high public debt matters in the context of global market strains**. More specifically,does the impact of market stress on government bond yields differ for countries with different public debt-to-GDP ratios, controlling for other factors?

[2] It refers to a situation where a high level of indebtedness raises uncertainty, crowds out investment and inhibits economic growth.

8. **In empirical analysis reported below, we find significant evidence that at times of stress, markets disproportionately penalize countries with high public debt**. When the market is stressed, high-debt countries' bond yields tend to rise by more, and be more susceptible to marginal increases in market anxiety. The same qualitative results obtain, whether the level of debt is expressed as a continuous or discrete variable.

Empirical analysis

9. **Data**.

- The analysis focuses on a group of countries that have similar level of economic development as Israel.[3]
- The dependent variable is government bond yields, taken from EMBIG and Bloomberg.
- A key explanatory variable is a measure of market stress, proxied for by the VIX index in the analysis.
- Other regressors include US Treasury yields, public debt, net IIP, and government budget balances. Except for the US yields, which are taken from Bloomberg, data for all those variables are sourced from the WEO database.
- To capture the sudden shifts in market sentiment, daily data are used for bond yields, the VIX, and for variables constructed using VIX.

10. **Specification**.

- The main variables of interest are the interactive terms
    - *VIX*Debt* and
    - *Hi_VIX*VIX*Debt*,

  where *Deb*t is public debt-to-GDP ratio, and *Hi_VIX* is a dummy variable with a value of one when the market is stressed (or when the VIX level is high) and zero otherwise. The coefficient of the first interactive term indicates how the impact of a marginal change in market volatility on bond yields varies with debtl. The coefficient

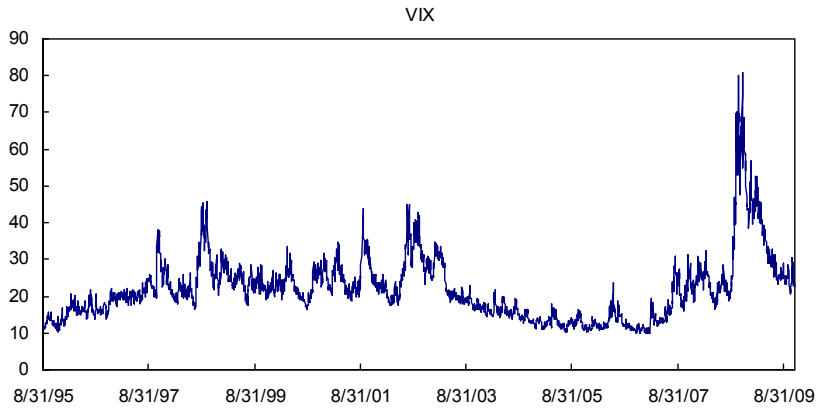
[3] In particular, for the two periods studied (to be discussed later), the analysis covers countries with per capita GDP above US$8,500 and US$10,000, respectively.

of the second interactive term measures the same effect but with a focus on the periods when the market stress level is particularly high.

- The global risk-free interest rates (bond yields on US 10-year Treasury), the countries' external position (net IIP as a percent of GDP) and financing need (fiscal balance as a share of GDP) are included in all regressions as control variables.

- Country dummies are also included to account for the different levels of yields across countries.

11. **The study encompasses two recent distinct periods of general market uncertainty**. The first period, between mid-1997 to end-2002, corresponds to the episodes of Russian default, collapse of LTCM, Asian financial crisis, and the burst of dotcom bubble. The series of shocks was followed by several years of strong and stable world growth, easy financing conditions, and low degree of market uncertainty. Worries about potential banking losses and cracks in the global financial system started to surface in mid-2007, sending market volatility higher. This marked the beginning of another period of general market uncertainty, during which the initial turbulence in pockets of the financial markets grew into a full-blown global financial crisis.



Results for mid-1997 – end-2002

12. **The analysis indicates that high-debt countries were particularly vulnerable when the market was stressed.** The impact of market volatility on bond yields was greater for high-debt countries, but the differential effect is not statistically significant across all time periods—stressed and non-stressed combined (Table 1, regression 1). However, when focusing only on the periods when the market was stressed, the differential effect becomes strongly significant (Table 1, regression 2)—i.e., at times of market unease, for countries that have high debt-to-GDP ratio, the unfavorable impact of market fluctuation on risk premiums is particularly pronounced.

13. **Expressing debt in discrete terms does not alter the basic results**. In order to account for possible non-linearities, the next set of regressions replicate the previous one, except with countries now discretely categorized into high-debt and low-debt groups. Three different cutoffs for debt, i.e., 55 (the median of the sample), 65, and 75 percent of GDP, are considered. When the 55 percent of GDP cutoff is used, the coefficient of the interactive term is positive but statistically insignificant. But when the threshold of "high-debt" is raised to 65 or 75 percent of GDP, however, the coefficient becomes both positive and significant (Table 1, regression 3 shows the result with the cutoff at 65 percent of GDP). Qualitatively, the indication continues to hold that high-debt countries are disproportionately penalized by investors during times of market stress.

Table 1. Mid 1997 - end 2002 (Asia crisis, Russian default, LTCM, burst of dotcom bubble, etc.)

Dependent variable: Govt bond yields (percentage points); daily frequency; only countries with per capita GDP > US$8,500

Explanatory variables:	coeff	t value		coeff	t value		coeff	t value	
VIX * Debt	0.014	1.19							
Hi_VIX * VIX * Debt				0.009	2.23	**			
Hi_VIX * VIX * Hi_debt							0.0045	2.26	**
US 10 yr Treasury yield	0.65	12.86	***	0.65	12.83	***	0.65	12.79	***
VIX	0.006	0.81		0.018	5.94	***	0.006	4.26	***
VIX * Net IIP	0.008	1.2							
* Govt balance	0.17	2.8	**						
Hi_VIX * VIX				-0.008	-2.38	**	-0.002	-1.47	
Hi_VIX * VIX * Net IIP				0.0009	0.9		0.0019	1.81	*
* Govt balance				0.058	2.62	**	0.045	2.24	**
Country dummies	Y			Y			Y		
#Obs	24731			24731			24731		
# countries	20			20			20		
R sq	0.91			0.91			0.91		

Hi_VIX refers to VIX>24; Hi_debt refers to public debt > 65% of GDP

*Robust standard errors, clustered by country; *, **, and *** denote 10, 5, and 1 percent significant, respectively*

Results for mid-2007 – October 2009

14. **The differential effect appears to be even stronger during the current global financial crisis**. Market stress is much higher in the current crisis than in the late 1990s, with VIX once rising to more than three times its pre-crisis values and staying at very heightened levels for over seven months following the collapse of Lehman Brothers. Possibly reflecting the greater and more prolonged investor anxiety, countries with large public debt seemed to be even more particularly vulnerable to market uncertainty in this crisis episode. Specifically, both the magnitude and the statistical significance of the following key findings appear to be greater for this crisis: i) debt amplifies the impact of market volatility on countries' risk premiums (Table 2, regression 1); ii) when the market is stressed, the impact of market volatility on risk premiums was particularly pronounced for

high-debt countries (Table 2, regression 2); and iii) finding (ii) remains valid when countries are discretely categorized into high- vs. low-debt groups (Table 2, regression 3)[4].

Table 2. Mid 2007 - Nov 2009 (global financial crisis)

Dependent variable: Govt bond yield (percentage points); daily frequency; includes only countries with per capita GDP > US$10,000

Explanatory variables:	coeff	t value		coeff	t value		coeff	t value	
VIX * Debt	0.05	2.79	***						
Hi_VIX * VIX * Debt				0.025	2.83	***			
Hi_VIX * VIX * Hi_debt							0.014	2.30	**
US 10 yr Treasury yield	0.35	4.84	***	0.32	5.44	***	0.33	5.51	***
VIX	-0.02	-2.47	**	0.01	1.22		0.006	1.06	
VIX * Net IIP	-0.01	-1.34							
* Govt balance	0.15	1.66							
Med_VIX * VIX				-0.01	-3.84	***	-0.006	-4.14	***
Hi_VIX * VIX				-0.01	-1.95	*	-0.005	-1.01	
Med_VIX * VIX *Net IIP				-0.01	-1.52		-0.008	-1.22	
* Govt balance				0.11	1.74	*	0.038	0.81	
* Debt				0.01	1.98	*			
Med_VIX * VIX * Hi_debt							0.00098	0.31	
Country dummies	Y			Y			Y		
#Obs	10088			10088			10088		
# countries	27			27			27		
R sq	0.88			0.89			0.88		

Hi_VIX refers to VIX>35; Med_VIX refers to VIX> 25.5; Hi_debt refers to public debt > 70% of GDP
*Robust standard errors, clustered by country; *, **, and *** denote 10, 5, and 1 percent significant, respectively*

15. **We checked the robustness of these results in various ways—in particular, controls for various non-debt characteristics of the sample countries are considered.** If these characteristics interact with market volatility in affecting the countries' risk premiums, neglecting them in the regressions might lead to biased results. Interactive terms involving the following three variables proxying for additional fiscal risks and economic risks are included in the baseline specifications as robustness checks.

- **Financial sector contingent liabilities**. With the banking system encountering significant strains during this crisis, many sovereigns have brought on considerable contingent liabilities onto their balance sheets

[4] Regression 3 of the table shows the result when the cutoff for high- vs. low-debt countries is set at 70 percent of GDP. The qualitative finding remains when the threshold is changed to 50 (sample median), 60, or 80 percent of GDP.

through capital injection, asset purchases, and various guarantees. Data on the sizes of these liabilities are taken from IMF (November 2009).[5]

- **Depth of the economic downturn**. Some countries have experienced a particularly sharp fall in output, possibly raising concerns about the short-term outlook and even longer-term economic fragilities. The depth of the economic downturn is measured as the difference between the currently expected growth outturn for 2009 and the one-year ahead consensus growth forecast made before the outbreak of the crisis.

- **Ageing-related fiscal costs**. Expected increases in pension entitlements and health care costs represent significant unfunded liabilities for most countries, especially those with fast-ageing demographics. Such fiscal burdens are taken into account by converting the OECD's estimates of future ageing-related fiscal spending into net present values.[6]

16. **The key findings are robust to inclusion of these controls**. Both the size and the statistical significance of the main coefficient estimates is indeed little affected after controlling for the potential differential effects associated with the aforementioned additional variables (Table 3). The indication remains that risk premiums of high-debt countries are especially susceptible to global financial conditions when the market is stressed.

[5] "The State of Public Finances Cross-Country Fiscal Monitor: November 2009," *IMF Staff Position Note SPN/09/25*.

[6] A real growth rate of 2½ percent and a real discount rate of 4 percent are assumed in the NPV calculations.

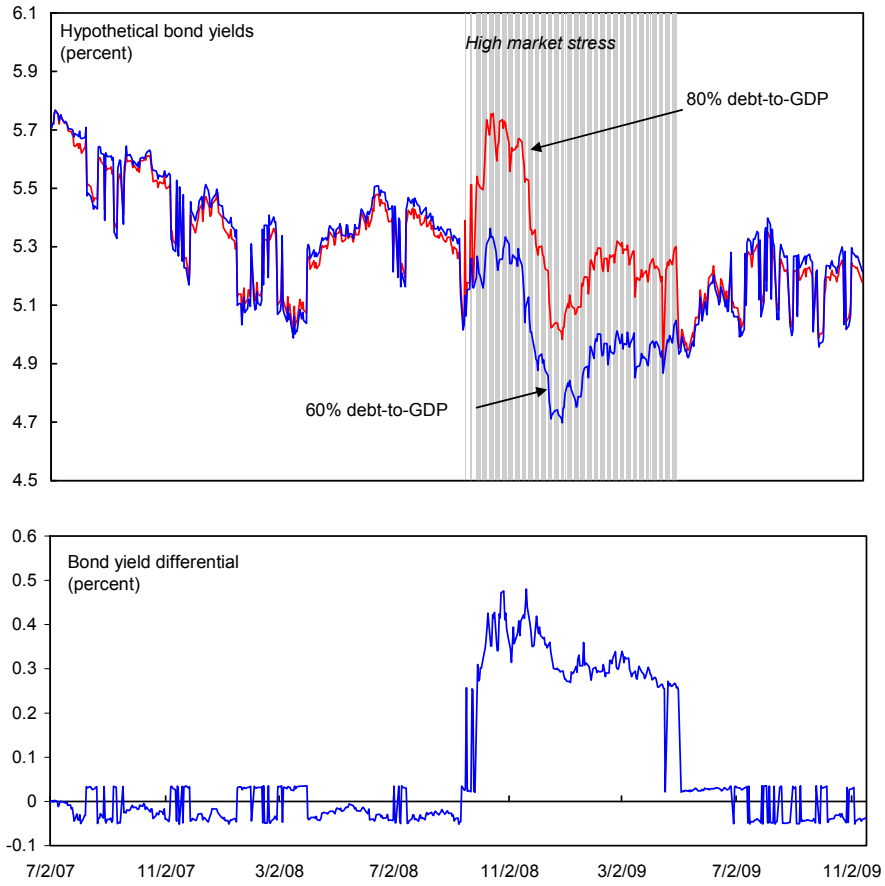
Table 3. Mid 2007 - Nov 2009 (global financial crisis)

Dependent variable: Govt bond yield (percentage points); daily frequency; includes only countries with per capita GDP > US$10,000

Explanatory variables:									
	coeff	t value		coeff	t value		coeff	t value	
Hi_VIX * VIX * Debt	0.027	2.99	***	0.025	3.18	***	0.025	2.77	**
Hi_VIX * VIX * Hi_contingent liabilities	-0.007	-1.65							
Hi_VIX * VIX * Deep_downturn				0.008	0.79				
Hi_VIX * VIX * Ageing costs							0	-0.11	
US 10 yr Treasury yield	0.33	5.44	***	0.33	5.42	***	0.32	5.16	***
VIX	0.006	1.12		0.01	1.19		0.007	1.35	
VIX * Debt									
*Net II									
* Govt balance									
Med_VIX * VIX	-0.009	-3.01	***	-0.01	-2.93	***	-0.01	-1.37	
Hi_VIX * VIX	-0.014	-2.30	**	-0.013	-2.03	*	-0.012	-1.91	*
Med_VIX * VIX * Debt	0.009	1.93	*	0.007	1.81	*	0.0099	2.27	**
* Net IIP	-0.009	-1.34		-0.009	-1.37		-0.011	-1.44	
* Govt balance	0.0897	1.50		0.083	1.64		0.11	1.63	
Country dummies	Y			Y			Y		
#Obs	10088			10088			9592		
# countries	27			27			25		
R sq	0.89			0.89			0.89		

Hi_contingent liabilities refers to countries with financial sector assistance > 30 percent of GDP (the 25th percentile of sample countries);
Deep_downturn refers to countries with currently estimated 2009 growth at least 8 percentage points worse than pre-crisis expectations (the 25th percentile of sample countries);
Ageing costs refers to NPV of the OECD estimates of ageing-related fiscal spending;
Hi_VIX refers to VIX>35; Med_VIX refers to VIX> 25.5
*Robust standard errors, clustered by country; *, **, and *** denote 10, 5, and 1 percent significant, respectively*

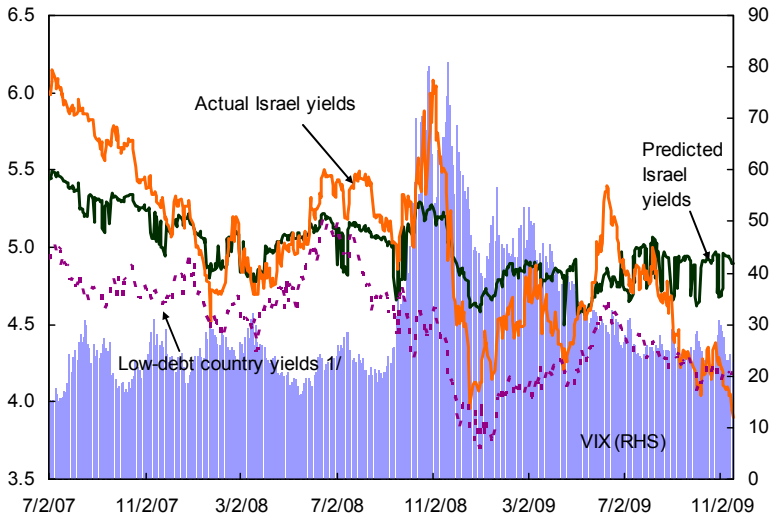
17. **Having established robustness, the quantitative importance of the differential effect is illustrated by construction of two hypothetical country cases**. We consider two hypothetical countries with net IIP and fiscal balances equal to the sample averages. But the debt-to-GDP ratio of one is 80 percent while that of the other is slightly lower at 60 percent. Their predicted bond yields since mid-2007 to date—derived from the panel regression's coefficient estimates—are depicted in the following chart. During times of relative market calm, the bond yields of these two countries track one another closely. However, when the market is under severe strains (in the 7½ months since September 2008, when VIX consistently hit above 35), their bond yields show significant divergence. At the beginning of the high-stress period when investors retrench their risk exposures, the bond yields of the higher-debt country rise sharply, while those of the lower-debt counterpart remain relatively stable. Indeed, at the peak of the stress, the bond yield differential between these two hypothetical countries reaches as high as 50 bps.



Considerations for Israel

18. **Israel's bond yields appear to be strongly susceptible to market stress, even after accounting for its high debt ratio**. As the market stress peaked in late October 2008, Israel's bond yields were close to 100 bps above what the coefficient estimates from the panel regression would suggest. On the other hand, as the global financial conditions stabilized in recent months, Israel's bond yields have declined rapidly, to around 100 bps below the predicted values as of mid-November 2009. A simple statistical analysis of Israel's bond yield "residuals" (i.e., deviations of the actual bond yields from the predicted values) indeed indicates that they are strongly correlated with the measure of market stress.[7]

[7] In a simple regression of Israel's yield residuals on the US Treasury yields and VIX, the t-value of the coefficient estimate on the latter explanatory variable is 13.78.



1/ Low-debt countries refer to those with debt below 50 percent of GDP (sample median).

19. **This particular susceptibility might reflect a combination of temporary and long-standing factors**. The peak of the global market stress coincided with increasing expectations of a change in administration in Israel and a lack of clarity about the new budget. At the same time, concerns about Israel's debt sustainability and geopolitical uncertainty—likely heightened by the rise in global risk aversion—and doubts about the Israeli economy in the face of global downturn might have also contributed to the sharp increase in Israel's risk premiums in late 2008. The rapid fall in risk premiums in recent months was likely driven by the stronger-than-expected rebound of the Israeli economy, supported by the broader moderation of risk pricing in the global markets.

20. **Thus, the main finding suggests that for high-debt countries, such as Israel, market stress tends to disproportionately heighten bond yields.** In addition, the "residuals" for Israel are strongly correlated with the measure of market stress, suggesting that Israel's susceptibility to global financial conditions may be above and beyond what is typical for countries that are similarly indebted.

21. **While the Israeli economy exited this global crisis rapidly and strongly, the market has not always been forgiving of Israel's high debt and other fragilities.** Renewed shocks to the global markets have significant potential to sharply raise Israel's risk premiums and expose its fiscal weakness. In combination with the WEO finding that fiscal stimulus may be attenuated—or even more than completely negated—in high public debt contexts, this finding underscores the limited role fiscal policy can play to cushion temporary exogenous shocks. In this light, and given Israel's particular exposure to exogenous shocks, steps to strengthen the potency of the fiscal instrument, notably by adopting credible and appropriately ambitious debt reduction plans, should remain among the most important of policy priorities.

III. Global Regulatory Reform—Lessons From Israel[1]

Introduction

1. The Israeli financial system appears to have weathered the global financial crisis better than those of many other developed small open economies. Consequently, the Israeli experience may have useful experience for other countries to consider in making their financial systems more robust to major external financial shocks. This note focuses on factors that may have contributed to the resilience of the Israeli financial system, drawing on comparisons with a selection of other countries whose financial systems also performed relatively well, as well as with some that clearly did not.

2. The first part of the note focuses on characteristics of Israel's financial system in the pre-crisis period that might help account for its relatively good performance during the crisis. The analysis then narrows in on underlying features of the Israeli financial system and prudential supervision framework that appear to have been especially important in accounting for the resilience of the system. Finally, the discussion turns to lessons that might be drawn from the Israeli experience for the international debate on how to modify financial regulation in the wake of the financial crisis.

Pre-crisis Conditions

Macro-financial developments 2004–07

3. Standard macroeconomic indicators comparing Israel's macroeconomic performance with a group of peer countries over the four years leading up to the financial crisis, provide only very limited indications as to which financial systems were particularly fragile or robust:[2]

- All of the countries experienced good but not obviously unsustainable growth, and low average inflation. All saw their currencies appreciate versus the US dollar (in nominal and real terms), and most maintained interest rates positive in real terms.

- All of the countries, experienced rapid increases in equity prices and, to a lesser extent, in property prices. Israel is an exception: stockmarket increases were similar to those in other countries, but property price increases were very subdued.

---

[1] Prepared by Scott Roger (MCM; sroger@imf.org)

[2] The peer group countries considered included Belgium, Finland, Greece, Iceland, Ireland, Korea, Netherlands, and Norway. Like Israel, all are high income, small open economies, with monetary policies primarily focused on a price stability objective.

4. The main conclusion is that the relatively good performance of the Israeli financial system is not obviously related to Israel's pre-crisis macroeconomic performance, except in one respect—the very different pre-crisis performance of Israel's housing market. Apart from that, one has to look at other factors.

Table 1. Macro-financial developments 2004-2007
(Annual averages, in percent)

	Iceland	Ireland	Belgium	Netherlands	Greece	Norway	Korea	Finland	Israel
Real GDP growth	6.6	4.6	2.7	3.1	3.9	2.7	4.5	4.0	5.2
CPI inflation	3.3	2.6	2.4	1.4	3.4	1.7	2.4	0.9	1.6
Real interest rate[1/]	7.3	0.3	0.6	1.4	-0.5	1.4	1.9	2.0	2.2
Nominal exchange rate vs. US dollar	-3.9	-4.8	-4.8	-4.8	-4.8	-5.1	-6.0	-4.8	-2.9
House price inflation	16.7	7.2	14.3	4.2	7.3	10.6	4.1	7.9	0.4
Stockmarket growth	29.3	9.0	21.6	11.2	23.0	33.8	23.7	17.8	21.2

Sources: Haver analytics, IFS, Datastream
Notes: 1/ 3-month interbank rate

Financial structure and vulnerabilities

5. The Israeli banking system is highly concentrated, with the top two banks accounting for nearly 60 percent of banking system assets, and the top accounting for 95 percent. Until relatively recently, the banks also dominated provident funds and mutual funds. The Bachar reforms, introduced in the mid-2005, forced the banks to shed these kinds of activities.[3] Subsequently, the non-bank financial sector has grown very rapidly, so that by end-2007, assets of non-bank financial institutions amounted to around 110 percent of GDP compared with banking system assets of around 140 percent of GDP.

6. Banks are supervised by the Bank of Israel, while insurance, pension and provident funds are supervised by the Ministry of Finance, and mutual funds and equity markets are supervised by the Israel Securities Authority (ISA).

7. An important feature of the banking system is that there is no formal system of deposit insurance. Nonetheless, past government practice, notably during the banking crisis of 1983, suggests that there is, in effect a policy of treating almost all banks as too important to fail. A corollary of this, however, is that the Bank of Israel supervises banks very closely.

[3] See M. Sokoler, 2006, "Changes in the Israeli banking system," in "The banking system in emerging economies: how much progress has been made?" *BIS Papers No. 28*, 249-57.

8. In the period following the Bachar reforms, corporate borrowing shifted rapidly from the closely supervised banking sector to the equity and, especially, the corporate bond market. As a result, the corporate debt-to-equity ratio and bond debt-to-GDP ratio rose rapidly to high levels by international standards. The increased risk associated with such leveraging would be primarily with holders of such bonds, including pensions, insurers, and mutual funds; i.e., in the non-bank sector.

9. A number of features of the Israeli financial system on the eve of the crisis suggest that the banking system was better placed to cope with significant shocks than the banking systems in most of its peers:

- Israel's banking system was relatively moderate in size, relative to GDP, compared with several peer group countries—notably Iceland and Ireland. This has two important implications: First, any problems in the Israeli banking system were likely to have a smaller macroeconomic impact than similar problems in economies with larger financial systems. Second, the smaller size of the banking system also means that the potential fiscal cost of problems in the banking system was likely to be more manageable, which also suggests that the implicit government backing of the banking system would be more credible than otherwise.

- In contrast with the situation in most of its peers, Israel did not experience a property boom in the run up to the crisis, with the result that household debt, and especially mortgage debt, was much lower in relation to incomes than in peer countries. Since the large majority of household borrowing is from banks, Israeli banks were correspondingly less exposed to credit risk stemming from the household sector generally and the housing market in particular.

- On the liabilities side, Israeli banks were also favorably positioned relative to peer group countries. In most peer group countries, domestic loans significantly exceeded deposits, so that banks were reliant on either market-based funding or external borrowing. In contrast, the Israeli banking system appears to have had a very strong deposit base exceeding domestic lending. As a result, the banking system was not vulnerable to drying up of access to external or domestic sources of funds. The surplus of deposit funds, in fact created a risk on the other side of the balance sheet, as Israeli banks invested funds in assets abroad.

- In Israel, as in the peer group countries, the strong growth of previous years had contributed to a decline in non-performing loans (NPLs) to low levels relative to total loans.

- Although the Israeli banking sector ratios of Tier I and total capital to risk-adjusted assets were more or less in line with those of its peers, it may be noted that during the

pre-crisis period it built up its capital buffers, whereas in most of its peers, capital ratios were allowed to decline.

Table 2. Financial sector characteristics, 2007
(year-end value, in percent)

	Iceland	Ireland	Belgium	Nether-lands	Greece	Norway	Korea	Finland	Israel
Gross external liabilities/GDP	557.9							208.7	53.1
Net external liabilities/GDP								26.1	
Bank assets/GDP	1040.3		476.1	326.1	147.4				143.2
NBFI assets/GDP	158.6			228.8	13.2				111.7
Stockmarket/GDP		52.3			80.0	84.2	107.0		135.1
H/hold debt/disp. income	226.5		50.1	117.5		187.9	136	102.7	39.9
NFC debt/GDP		115	150	92	58	118	96	100	
NFC debt/equity	2.9		59.9	108.0		146.9			191.8
Bank loans/deposits		205.4	192.1		220			144.2	89.2
Deposits/total assets								36.9	77.3
Private sector credit/GDP		246.6		183					
Share of bank lending to:									
households	25.8	50.3	31.9	61.5	49.5	56.6			28.3
Of which mortgages	9.6	41.5	24.6		34.5	50.8		61.2	
NFCs	35.7		23.3	22.9	47.2				41.5
NBFIs			1.8	15.6	1.7	6.8			10.2
Non-residents	38.5		28.1						17.9
NPL % of gross loans	0.8		1.1		4.5	0.5	0.7	0.3	1.4
Δ in NPL rate	-0.1		-1.5		-2.5	-1.1	-1.9	-0.2	-1.1
NPLs (net of provisions)/ Tier I capital						2.4			
Bank provisions/NPLs	84.1	49.1	48.0		53.4	67.0	205.2		
Bank CAR (unweighted)	6.9	5.5	4.1	3.3	6.9	6.2	9.0	8.3	6.0
Δ in unweighted CAR	-0.2	0.2	1.0	-1.0	-0.2	-1.2	2.0	-2.6	0.7
Bank CAR (risk-weighted)	12.1	10.7	11.2	13.2	11.2	11.7	12.3	15.4	11.0
Δ in risk-weighted CAR	-0.2	-3.2	-1.6	0.9	-0.8	-0.7	1.2	-3.3	0.6
Tier I CAR	10.1		12.1	9.0	9.2	9.3		11.5	7.6
Δ in Tier I CAR			3.3	2.0	0.4	-0.4		1.8	0.7
Return on Assets (ROA)	1.5	0.7	0.4	0.6	1.0	0.8	1.1	1.2	1.2
Return on Equity (ROE)	22.4	16.4	13.2	18.7	14.8	17.0	14.6	14.3	20.0
Insurance solvency ratio			225			244			114

Sources: Central bank websites, Haver Analytics, Datastream, Bloomberg

Impact of the Crisis

10. Although the Israeli economy has been adversely affected by the global financial crisis, the financial system as a whole has weathered the crisis better than in many peer group countries. Some key features of the way that the financial system was affected include:

- The Israeli economy has been less adversely affected than many peers by the global slump in export markets despite its high degree of openness. Additionally, although Israel's country risk premium appears to have increased somewhat during the crisis, the increase was less marked, and the downward pressure on the currency less severe than in most of its peers. The less severe real and financial transmission of the crisis to the Israeli economy helped to cushion the financial system better than in other countries. At the same time, however, the resilience of the Israeli financial system also helped to insulate the economy from a more severe downturn and also likely contributed to the rapid turn around in 2009 by maintaining lending to the private sector.

- As in virtually all countries, the Israeli stock market was hit hard by the crisis, with the Tel-Aviv market capitalization falling by over 40 percent from end-2007 to end-2008, in the same range as the peer group countries. In Israel's case, as in many other countries, the real estate sector of the market was especially hard hit;

- Pension and provident funds, insurers and mutual funds all suffered heavily as portfolios lost value and as investors withdrew funds to invest in safer assets. In contrast with many other countries, this included a shift into real estate, so that property prices in Israel have risen rather than fallen in the wake of the crisis.

- Corporate bond issuance in Israel essentially ceased during the depths of the crisis and, although recovering, remains well below pre-crisis levels.

- As in other countries, bank lending growth in Israel slowed sharply, partly reflecting some apparent tightening of credit conditions, as well as weakening of demand by some borrowers. However, with the difficulty of raising funds in the bond or equity market, there was also some re-intermediation of bank borrowing by large corporates, as well as an increase in demand for mortgage finance as households redirected savings towards real assets. As a result, aggregate lending has been fairly flat rather than falling as in many other countries.

- Israeli banks, like others, experienced a sharp fall in profits. In Israel's case, this mainly reflected losses on their portfolios of foreign and domestic securities, rather than losses on lending. Indeed, although there has been some increase in overdue loans, the NPL rate has remained almost unchanged.

- Measures taken during the crisis. Israeli authorities took a range of measures to bolster confidence in the financial system, promote restoration of market liquidity, and ensure access to finance for certain borrowers (Box 1). In Israel's case, since bank solvency was not an issue, the public resource use has been small. The key

benefit has been in promoting market liquidity and in reassuring the public of the safety of the banking system.

Box 1: Financial Sector and Credit Support Measures 2008–09

Corporate bonds. The government provided seed capital of NIS 1.1 billion, to be used in a 1:3 ratio with private funds, to support corporate issues for solvent firms mainly active in Israel facing debt rollover difficulties. To date only 10 percent of the funds have been used. The program has now been expanded to include equity investments in corporates with market access problems.

Increasing banks' capital. A guarantee was offered of some NIS 6 billion for bank issues of deferred notes which would be classified as upper Tier II capital. Conditions of use were eased and the guarantee doubled to NIS 12 billion in April, but banks have raised capital without using the guarantee.

Credit guarantees to small- and medium-sized firms. The initial NIS 1.3 billion scheme was expanded to NIS 2.6 billion, with a 70 percent guarantee on the loans. The funds are leveraged in a 1:5 ratio with private funds. NIS 0.7 billion has been disbursed under the program to date.

Easing out-of-court corporate bond rescheduling procedures. The Israeli Securities Authority provided that bond trustees will have to convene a forum of bondholders if requested to do so by a party holding a substantial portion of bonds. Some 50 companies are now subject to these procedures, accounting for total debt of US$3½ billion.

Interpreting Israeli experience

11. The better overall performance of the Israeli financial system than those of most of its peers in weathering the crisis, as well as the particular features of the way in which the crisis affected the financial system, substantially reflect favorable initial conditions of the financial system. These initial conditions, however, did not arise by chance. Instead, they appear to be the product of a number of characteristics of the financial system, including its regulation and supervision. These include:

Conservative funding practices

12. A key difference between Israel's banks and banks in many of its peers has been the reliance of Israel's banks on customer deposits to fund their activities. As a result, banks have not been vulnerable to cutbacks in access to external funding or to disruption in local markets. To some extent this may reflect special circumstances in Israel, particularly the availability of stable, low-cost deposits from the Israeli diaspora, but it also reflects the limited development of securities markets in Israel. Legislation to enable securitization is only now being put in place.

13. Although securitization, in principle, can be beneficial, the recent experience of other countries vividly illustrates that such products can also lead to unintended but

potentially disastrous risk exposures and threats to systemic financial stability. This is not an argument that Israel should not develop securitization, but it does suggest that the authorities will also need to consider how the potential dangers of such instruments should be mitigated through revised guidelines or practices for bank liquidity standards, as well as in lender of last resort arrangements.

Prudent lending and asset allocation practices

14. The Israeli banking system is characterized by a range of rules and practices limiting the exposure of banks to various kinds of risk. These include:

- Over and above limits on exposures to single borrowers, banks are constrained on their exposure to groups of closely associated borrowers.
- A limit on equity investment in foreign subsidiaries or branches.
- Sectoral lending limits.

15. The prudent lending practices are reflected in the fact that, in contrast with almost all of its peers, Israel did not experience a housing price bubble prior to the financial crisis, so that the financial system, including both banks and non-banks were not significantly exposed to a slump in housing prices or the construction sector. Indeed, the vulnerability of the construction sector was primarily to its exposure to slumps in overseas property markets. The favorable position of the financial system in this regard was the product of three main factors:

- The 20 percent limit[4] on the share of lending to the housing sector constrained the ability of the banking sector to fund a housing boom, at the same time as limiting its vulnerability to a crash in the property market. The lack of comparable restrictions in the non-bank financial sector, however, meant that funding for the construction sector gravitated towards that part of the financial system, so that non-bank financial institutions became more exposed to booms and busts in the property sector.
- Industry limits on loan-to-value ratios. Although such limits are fairly common in other countries, the common limit in Israel of 70 percent is unusually low. This helps to limit banks' exposure to slumps in property values, as well as constraining the ability of households to become over-extended, or to engage in speculative property investments.

[4] The limit is not absolute; banks can have higher exposures, but this is effectively discouraged by higher provisioning requirements for exposures above the 20 percent mark.

- An overhang of excess supply in the housing market that began in the early 2000s, and which ended only in 2008. While this suggests that there was an element of good fortune in Israel's avoidance of a housing market bubble, it can also be argued that if the conservative rules noted above had not been in place, the excess supply might have been dissipated much earlier. That is, the conservative rules tend to dampen busts as well as booms.

16. The apparent effectiveness of these restrictions on lending to the property market raises an interesting issue for Israeli regulators, as well as those in other countries, particularly in the context of the introduction of Basel II. The use of simple, across-the-board quantitative rules appears to run against the grain of risk management approaches embedded in the Basel II framework. In principle, optimal lending limits to individual borrowers, groups, or sectors, as well as optimal investment strategies should be functions of many variables, with the result that they will vary over time and across institutions. In this case, imposing simple quantitative rules will be inefficient.

17. However, perhaps there is a sound rationale for some simple quantitative limits on portfolio choices as a form of 'back up" on optimizing behavior by banks or potential borrowers. The key point is that the kind of optimizing behavior implicit in the Pillar I approach involves the management of risk. But as the financial crisis has amply demonstrated, estimates of risk can be wildly wrong. In this case, it is important to deal effectively with uncertainty rather than just quantified, but potentially mis-estimated risk. This tends to point toward the need for robust rather than optimal rules. And it perhaps in this respect that the kinds of rules used in the Israeli framework may have proved their value.

18. At the same time, it is important to recognize that it is possible to be too cautious. An unduly prudent approach will undermine the efficiency of the banking system in intermediating between savers and borrowers, to the detriment of the whole economy. In this regard, however, the fact that Israeli banks have had rates of return on equity or assets comparable to those of banks in peer countries suggests that the degree of prudence of Israeli banks has not had a significantly adverse impact on efficiency.

The conservative culture of banking and banking supervision

19. Beyond the conservative rules used in bank funding and lending, the Israeli financial system may also be characterized as having a conservative culture of banking and banking supervision. Banks examine carefully loans and the repayment ability of borrowers, which has been reflected in a low NPL rate and little change in the NPL rate

during the crisis.[5] Most banks have also been fairly cautious in their investments abroad, though not all have been successful in avoiding significant losses on those investments.

20. This conservative culture appears to stem from two principal sources. First, the banking system has had crises in the past—including in 2001-03 and earlier in the 1980's—and the lessons of those crises has not been forgotten.[6] Second, a significant proportion of senior management of Israel's banks are themselves former bank supervisors or government officials with a relatively conservative approach which they have brought to their commercial activities. In some other countries, however, it is less clear that the lessons of past crises have become ingrained in the banking culture. For Israel, as well as other countries, this raises the question of how to ensure that the lessons of past experience with crises are not lost with the passage of time. And since the degree of conservatism in bank practices is largely determined by the bank's management, how might bank governance, including the appointment and qualifications required of senior management be modified to promote prudent risk management behavior as part of the corporate culture?

21. Banks in Israel are closely supervised. This reflects a number of factors which, in turn, raise a number of issues. The first factor helping to account for the closeness of supervision is the classic one: the potential for losses to accrue to the public in a system with a publicly funded safety net. In Israel's case, although there is no explicit deposit insurance, there appears to be a common understanding that the government would act to prevent the failure of most, if not all, banks. This implies not only comprehensive deposit guarantees, but also some guarantee for bank shareholders. Such an extensive backing of the banking system warrants much more intensive supervision than in a system with much more limited government guarantees.

22. Close supervision has also been facilitated by the concentration of the banking system, as well as by the separation of insurance, pension and capital market activities from traditional banking activities. With only a few banks dominating the system, it is easier for the supervisors to gain an in-depth knowledge of the supervised institutions. This may not hold if the dominant banks are highly complex. In the case of Israel, however, the Bachar reforms have meant that banking activities is much simpler than would otherwise be the case.[7]

---

[5] "Problem loans", which include loans deemed at risk, but not necessarily non-performing, have risen.

[6] The 1983 financial crisis, involving bank purchases of their own stock to boost share prices and investor confidence, eventually led to a collapse in share prices and nationalization of the main banks, while the 2001-03 crisis resulted from a combination of events, including the LTCM crisis, the dotcom stockmarket crash, war in Lebanon.

[7] For example, although the Netherlands banking system is also very concentrated, those banks are highly complex, with extensive foreign activities, as well as heavy involvement in the insurance and pensions sectors.

23. There is, however, a potential danger in close supervision. That is the danger that the supervisors may come to identify too closely with the supervised—a sort of reversed Stockholm syndrome. This may be especially likely in a country like Israel, where many bank managers were former supervisors, and therefore have longstanding personal connections with their supervisors. Yet there seems to be no evidence of this problem in Israel. Two factors may help explain this. The first is a high level of transparency. With high levels of transparency, whether required or informal, the scope for bending rules is much more limited than otherwise. In addition, however, it may also be fair to describe the bank supervision framework as having a higher degree of effective accountability than most systems. In the aftermath of the 1983 banking crisis, the forced resignations of bank CEOs as well as of the governor of the Bank of Israel established a level of personal accountability that is unusual by international standards. To what extent this experience continues to influence behavior in the banks or their supervisors is not clear. But it may be worthwhile both in Israel and in other supervisory agencies to consider how to strengthen the personal accountability of the supervisors for their performance.

24. One of the most important means of enhancing accountability is through transparency. Transparency plays a crucial role in the Bank of Israel (BoI) inflation targeting framework, and should be applied also to the BoI's financial stability framework. The BoI is building up its capacity in the area of financial stability analysis, and an important objective should be to begin publishing financial stability reports on semi-annual basis. The requirement to publish its analysis and assessments of the stability of the banking system would provide a healthy discipline on supervisors, both in promoting a high standard of analysis, and in ensuring that assessments being made could be defended in public.

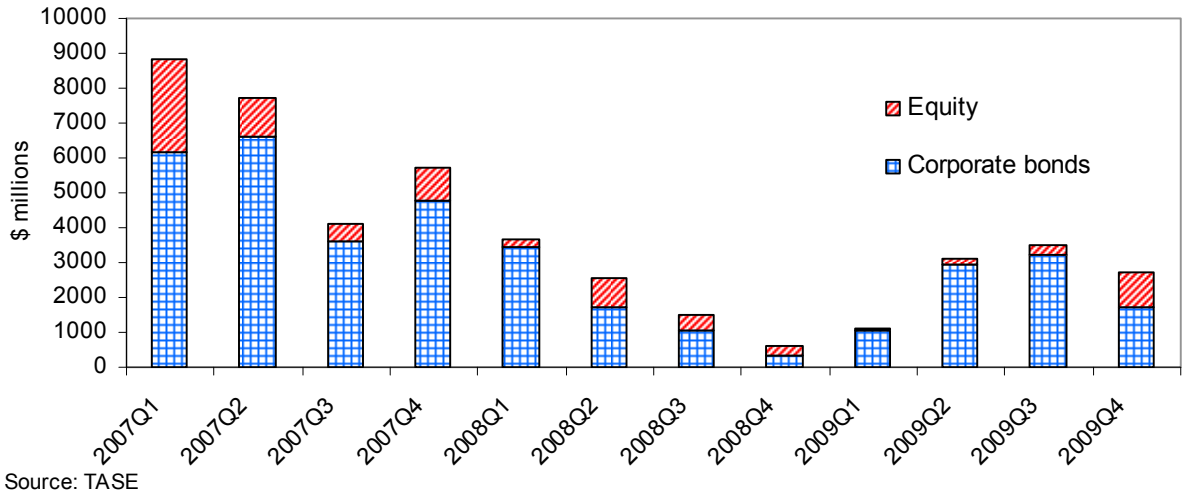
25. The conservative prudential framework applied to banking activity in Israel is also relevant to the issue of capital adequacy, because to an important extent, a more conservative regulatory and supervisory approach can substitute for additional capital, by preventing losses as opposed to covering them. The level of capital ratios held by Israeli banks appears to have been adequate in the current crisis. But it is important to be cautious in drawing conclusions from this experience for appropriate levels of capitalization in general, since the outcomes for banks could have been quite different had the shock to the Israeli economy been larger or longer lasting, or if the Bachar reforms not taken place, or had there been a housing bubble problem.

The non-bank financial sector

26. The net worth of the non-bank financial sector was hit hard by sharp declines in equity and corporate bond values. From end-2007 to end-2008, the capitalization of the Tel Aviv Stock Exchange fell 45 percent, while prices of non-government bonds fell 14 percent. Concerns about the creditworthiness of borrowers also led to the curtailment of

new credit. The volume of issuance in both the equity bond markets, which had slowed progressively since the beginning of the financial crisis in the second half of 2007, almost completely ceased in the wake of the Lehman Brothers failure in 2008Q4, and only began to recover in 2009Q2 (Figure 1).[8]

Figure 1: Capital raised on Tel Aviv Stock Exchange, 2007-09



27. Several steps were taken by the authorities to boost confidence and liquidity in the markets, including through the public-private fund to purchase corporate bonds, as well as by cuts in interest rates, and improvements in arrangements for restructuring of bond debt (Box 1).

28. The performance of the non-bank financial sector during the crisis has drawn attention to a number of weakness in the development of the sector and in its supervision. Although Israeli pension funds outperformed those in many peer countries, falling by an average of only 11 percent in 2008, they might have been expected to do even better in view of the facts that the global economic slump did not hit Israel as quickly or as hard as many of its peers and that Israeli pension and other long-term savings funds were only lightly exposed to foreign toxic assets. Moreover, despite the relatively small fall in asset values, losses by insurers on nostro and insured portfolios led several insurers to fall below minimum solvency requirements, while the solvency of the insurance sector as a whole fell to just above minimum requirements.

29. To a large extent, these weaknesses in performance in the non-bank financial sector may be traced back to the very recent and rapid development of the sector, spurred by the

[8] Moreover, much of the pick up in the bond market reflected the needs of banks to raise capital adequacy, rather than issuance by non-financial corporations.

Bachar reforms. As a consequence, players and supervisors in the sector have not had a long period in which to gain expertise or experience that might have made the sector less vulnerable to the crisis.

30. The supervisory agencies have begun to take remedial actions. An important objective of these measures is to establish a better balance of market power between borrowers and lenders by strengthening the rights of share and bond holders. A general view is that, following the Bachar reforms, the balance of market power shifted too far in favor of debt issuers, especially the large groups dominating the Israeli corporate sector, at the expense of institutional investors, and that this contributed to the high degree of market uncertainty during the crisis. Measures along these lines include: (i) the ISA initiative to establish more effective bond debt restructuring procedures, mainly by strengthening the negotiating position of bond holders and trustees (Box 1); and the proposals of the Hodak Committee to strengthen investor protection through bond covenants and stronger disclosure requirements for bond issuers (Box 2).

The supervisory framework

1. The current regulatory and supervisory framework, as noted earlier, involves three supervisory entities, with responsibilities split along institutional rather than functional lines. The experience in the pre-crisis period and during the crisis suggests that, while the regulation and supervision of banks contributed importantly to the resilience of the banking system, the same cannot be said of regulation and supervision of the non-bank financial sector.

2. Clearly, the Bachar reforms helped to insulate the banks from the losses experienced in the non-bank financial sector. However, the very rapid shift in corporate financing from the bank to non-bank financial sectors suggests that there was a significant element of regulatory arbitrage from the closely supervised bank sector to the non-bank sector with inexperienced and under-resourced regulators. The crisis highlighted a number of deficiencies in regulation in the non-bank sector, as well as in the behavior and transparency of players in sector. Although remedial actions are underway, an important issue for the authorities to reflect on is how best to strengthen the regulatory and supervisory framework without stifling financial activity and innovation.

Box 2: The Hodak report—Recommendations of the Committee for Establishing Parameters for Institutional Bodies' Investments in Non-government Bonds

Following the Bachar reforms, which forced banks to divest themselves of mutual funds and provident funds, getting them out of long-term institutional savings and investment activities, there was a rapid shift in non-financial corporate funding from the banking sector to non-bank financing, especially through bond financing. Between 2004 and 2007, the share of business credit provided by the non-bank sector doubled from around one-quarter to nearly one-half.

Despite the rapid growth of the bond market, however, it remains relatively unsophisticated in important respects. In particular, there are concerns that lenders are insufficiently protected, and that institutional investors are insufficiently rigorous in their evaluation of potential investments. The Hodak committee has made recommendations focused on improving market performance in both these areas:

- The report recommends bringing the framework of covenants attached to bond issues more into line with standard practice in more established markets. Currently, Israeli bonds typically carry few if any covenants to protect claims of bond purchasers. The report recommends covenants used commonly in Europe and the US be made mandatory in Israel. These include negative pledges, and the right of bondholders to insist on immediate repayment in the event of a variety of circumstances in which their claims could be harmed or subordinated to other claims.

The report also recommends that institutions purchasing bonds be required to establish meaningful processes for evaluating the bonds and their risk characteristics in relation to the investment portfolio. The report also emphasizes the need to monitor such investments on an ongoing basis, and recommends that bond issuers be required to make necessary information available on a regular basis.

3. The 2006 IMF Article IV mission examined a range of potential alternative models of supervision, including the status quo, a shift to a functional model, such as the so-called twin peaks model, and the single supervisor model. While the experience of other countries during the crisis suggests that no single model is clearly superior to others in preventing a crisis, the Israeli experience during the crisis suggests that both the ISA and the Capital Markets, Insurance and Savings Division (CMISD) of the Ministry of Finance were hindered in the pre-crisis period by insufficient operational autonomy, leading to under-resourcing. This suggests that both institutions should be given full autonomy. Additionally, the Israeli experience suggests that coordination and information flows between the supervisory authorities need to be strengthened, and that information flows to the monetary and fiscal authorities also need to be strengthened. This is especially important in the area of macro-prudential supervision, which currently scarcely exists.

4. Concurrently, the CMISD and ISA should significantly strengthen their public transparency, going well beyond the provision of data, through the publication of timely analysis of developments, issues, and risks. Finally, an assessment should be made of the risk that even the relatively targeted emergency support measures for the non-bank sector has given rise to moral hazard there and, if so, this should be reflected in the content of supervisory guidelines to be adopted.

Lessons from Israel's experience

5. One feature of the Israeli experience that cannot be underscored too much is the need to promote prudent behavior by financial institutions themselves, as well as a conservative approach by the supervisors. Without these, even the best set of rules is unlikely to be properly enforced. With them, weaknesses in rules become far less important. The most challenging question is how to promote these traits and ensure that they are not lost with the passage of time since the last crisis. For financial institutions, this may entail carefully reviewing governance arrangements so as to ensure that senior officers have a track record of prudent behavior, and that they are held accountable for their decisions. For supervisors, a culture of conservatism needs to be promoted, and reinforced by high levels of transparency and accountability.

6. A second lesson that may be drawn from Israel's experience is that relatively simple quantitative guides and rules may provide effective and robust backstops for more sophisticated risk management approaches, especially in an environment in which there is considerable uncertainty about the true values of key risk parameters in the financial system. The Israeli experience also suggests that the efficiency cost of applying such rules may not be too costly in terms of financial system profitability.

7. A further lesson from the Israeli experience is that important reforms in the financial sector should be accompanied by corresponding modifications in financial sector supervision, so that new activities do not either go unsupervised or overstretch the capacity of the responsible supervisors. In this context, the Israeli experience also suggests that having independent but accountable supervisory agencies, and a strong culture of cooperation amongst them, may help to minimize such risks.

RESPONSE OF THE AUTHORITIES TO THE CONCLUSIONS OF THE MISSION

1. The authorities agreed with much of the staff analysis and policy proposals. However, they reserved their position regarding the form of the fiscal rules, underscored their commitment to phased reductions in income tax rates, indicated their intention to review international practice regarding arrangements for the supervision of non-banks before finalizing decisions on this, and underscored the specific intentions with regard to exit from discretionary intervention on foreign exchange markets.

Macroeconomic developments and policy responses 2007–09

2. The authorities agreed that progress in the past decade to lower public debt and the budget deficit, to strengthen the banking sector, and to increase economic flexibility through structural reforms had positioned Israel well to face the global crisis from the Fall of 2007.

3. As the crisis deepened in the Fall of 2008, the policy response was led by reductions in the policy rates by the Bank of Israel to ½ a percent, and by various "unconventional" monetary policy measures—notably preprogrammed foreign exchange intervention. This was supported by the accommodation of fiscal stabilizers (with medium term sustainability anchored on a path of declining annual ceilings (adopted in mid-2009) on deficits to 2014. In addition, there were several initiatives to stabilize the financial sector—each carefully designed to target specific vulnerabilities while minimizing risks of moral hazard.

4. Nevertheless, a slowdown could not be completely averted and fixed investment and consumer durables spending fell sharply into early 2009. But as these goods are largely imported, and the policy responses and high household savings rates supported non-durables consumption, the overall impact on output was modest and Israel resumed growth relatively quickly. In this context, and with inflation towards the upper end of the target band, the monetary stance was tightened. Moreover, some unconventional actions have ceased, intervention has switched from preprogrammed to discretionary, and fiscal deficit outturns well below the 2009–10 ceilings are anticipated.

5. As the new administration formed in mid-2009, well into the budget year, a single budget to run to end-2010 was adopted, a "two-year" budget. This provided some stability in an uncertain environment, and allowed greater focus on medium-term budgeting matters. In that context, prior spending ceilings and the VAT rate were raised to meet immediate spending priorities. Both actions will be reversed from end-2010.

Reform of fiscal rules

6. The authorities noted that the premium they place on deficit reduction is evident in the schedule of declining ceilings they have adopted. These ceilings are supported by the caps on real spending growth—which is set to decline in 2011 to just 0.4 percent as the correction for the spending increase in 2009 takes place. While there is no explicit medium-

term debt objective, it is broadly understood that an objective of 60 percent of GDP remains desirable. The staff's concerns about the possible rigidities in the deficits ceilings, the specification of the spending ceilings in real rather than nominal terms, and the absence of a formal long term anchor were recognized, however. Accordingly, the option to reform the framework will be kept under close review in coming months, but the authorities remain committed to their current framework until then.

Reduction in income tax rates

7. The intent of preannounced income tax reductions is to clarify conditions for business and investors—and so encourage early new investment. As tax burdens are likely to rise internationally in coming years following the global crisis, the planned tax reductions may have a particularly beneficial impact on establishing Israel as an attractive investment destination. While the importance of public debt reduction is recognized, the commitment to announced tax reductions will remain in place, though assessments of their impact on investment, employment, and deficits will continue to be refined.

Supervision of non-banks

8. Best practice in the structure of supervisory bodies and the content of supervision remains unclear, with a variety of different models globally which will be reviewed before a determination is made of the appropriate arrangements for Israel. Effective supervision of non-banks is seen as a priority, not least given the risk of international and domestic aftershocks following the recent global crisis. A key benefit of housing the CMISD within the Ministry of Finance is that it facilitates the free flow of supervisory and market intelligence to policymakers there. Key steps to strengthen the content of nonbank supervision are underway, and the resourcing of those supervisors will be kept under review.

Exit from discretionary intervention in foreign exchange markets

9. Discretionary intervention is a transitional step towards a free floating exchange rate regime, in the context of domestic and global exit from extraordinary measures taken during the crisis. However, when this transitional phase ends (envisaged, as suggested, when nominal policy rates return to "normal" levels), any formal announcement to that effect will note that the Bank of Israel reserves the right to intervene in exceptional circumstances—i.e., a return to the situation prior to preprogrammed reserve accumulation. With increasing integration into global capital markets, the need for such actions to prevent disorderly conditions cannot be ruled out, but the BoI does not and will not target any specific rate.

INTERNATIONAL MONETARY FUND

ISRAEL

Staff Report for the 2009 Article IV Consultation—Informational Annex

Prepared by the European Department

January 12, 2010

Contents Page

Annexes

ANNEX I. ISRAEL: FUND RELATIONS

(AS OF NOVEMBER 30, 2009)

I. **Membership Status**: Israel became a member of the Fund on July 12, 1954, and accepted the obligations of Article VIII, Sections 2, 3, and 4 on September 21, 1993, and, other than solely for national and international security reasons, maintains an exchange system free of restrictions on the making of payments and transfers for current international transactions. Israel subscribes to the SDDS and is in full observance of the SDDS's prescriptions for data coverage, periodicity and timeliness, and for the dissemination of advance release calendars.[1]

II. **General Resources Account**:	**SDR Million**	**% Quota**
Quota	928.20	100.00
Fund holdings of currency	743.91	80.15
Reserve position in Fund	184.30	19.86

III. **SDR Department**:	**SDR Million**	**% Allocation**
Net cumulative allocation	883.39	100.00
Holdings	785.51	88.92

IV. **Outstanding Purchases and Loans**: None

V. **Financial Arrangements**: None

VI. **Projected Payments to Fund (SDR Million)**:

	Forthcoming				
	2009	2010	2011	2012	2013
Principal					
Charges/Interest		0.30	0.30	0.30	0.30
Total		0.30	0.30	0.30	0.30

VII. **Implementation of HIPC Initiative**: Not applicable

VIII. **Safeguards Assessments**: Not applicable

[1] For purposes of Fund relations, the West Bank and Gaza (WBG) fall under Israeli jurisdiction in accordance with Article XXXI, Section 2(g) of the Articles of Agreement.

IX. **Exchange Rate Arrangement**:

Effective August 10, 2009, the Fund has reclassified Israel's de facto exchange rate regime from "free floating" to "floating," as the authorities have made discretionary interventions on more than three occasions since July 2009. The discretionary interventions serve as a transitional step facilitating the exit from the preprogrammed USD purchases that began in March 2008. The authorities clarify that they do not target any specific exchange rate. The authorities' de jure classification remains as "floating."

X. **Article IV consultation**:

The last Article IV consultation was concluded on February 13, 2009. Israel is on the standard 12-month consultation cycle.

XI. **ROSCs:**

- Financial System Stability Assessment was conducted in 2000, issued in August 2001.
- Fiscal Transparency ROSC was conducted in 2003, issued in March 2004.
- AML/CFT ROSC was conducted in 2003, issued in June 2005.
- Data Module ROSC was conducted in 2005, and issued as IMF Country Report No. 06/125 in March 2006.

XII. **Technical Assistance**:

The Fund has been providing policy advice and technical assistance to the Palestinian Authority (PA) since the 1993 Oslo Accords, and presently has a senior resident representative based in Jerusalem. The Fund's work in the West Bank and Gaza (WBG) has intensified since 2007, with a focus on the macroeconomic, fiscal, and financial areas. Staff missions to the WBG have been assisting the PA in the design and implementation of its macroeconomic and fiscal framework in line with the objectives set out in the Palestinian Reform and Development Plan (PRDP) presented at the Paris international donors' conference in December 2007. The most recent progress report on that framework was presented at the Ad-Hoc Liaison Committee (AHLC) meeting of donors held in New York on September 22, 2009. Technical assistance has also been stepped up since 2007, in particular in the areas of public expenditure management, banking supervision and regulation, and macroeconomic statistics.

XIII. **Resident Representative**:

A resident representative has been in the WBG since early 1996.

ANNEX II. ISRAEL: STATISTICAL ISSUES

Israel is generally in observance of the Special Data Dissemination Standard, meeting specifications for coverage, periodicity, timeliness, and dissemination of advance release calendars. Macroeconomic statistics are of generally high quality and broadly adequate for surveillance, although there are few shortcomings particularly in monetary and government finance statistics. A Report on the Observance of Standards and Codes—Data Module, a Detailed Assessments Using the Data Quality Assessment Framework (DQAF), and a Response by the Authorities were published on the IMF website on March 24, 2006 (*IMF Country Report No. 06/125*).

Banking statistics are not based on balance sheet reporting, but instead on a selection of data reported by banks to the regulatory authorities. Current information does not permit full sectorization of the economy in the monetary statistics, and more detailed information on instruments also would be useful.

The methodology underlying the reported overall annual fiscal balance is not in conformity with internationally accepted best practice, as interest expenditure excludes the inflation component. The authorities are gradually moving toward implementation of the methodology that is standard in other countries, so that the discrepancy will decline over time. Data submitted by the Central Bureau for Statistics for the Fund's *Government Finance Statistics* broadly follows the *GFSM 2001* format. However, for financial assets and liabilities, only transaction data are submitted, but not stock data. Within-year monthly reports on central government operations—compiled by the MoF—cover only the main aggregates of budgetary accounts, not broken down by components.

Balance of payments and international investment position data are compiled on a quarterly basis and follow the fifth edition of the *Balance of Payments Manual.* External sector data were not examined in the Report on the Observance of Standards and Codes.

Israel: Table of Common Indicators Required for Surveillance

As of December 30, 2009

	Date of latest observation	Date received	Frequency of data 1/	Frequency of reporting 1/	Frequency of publication 1/	Memo items: Data quality: methodological soundness 2/	Memo items: Data quality: accuracy and reliability 3/
Exchange rates	Dec-09	30-Dec-09	D and M	D and M	D and M		
Official international reserve assets and liabilities 4/	Nov-09	8-Dec-09	M	M	M		
Reserve/Base money	Nov-09	20-Dec-09	M	M	M		
Broad money	Nov-09	20-Dec-09	M	M	M	LNO, LO, NO, LO	O, O, O, NA, NA
Central bank balance sheet	Nov-09	20-Dec-09	M	M	M		
Consolidated balance sheet of the banking system	Q3 2009	Dec-09	Q	Q	Q		
Interest rates 5/	Dec-09	30-Dec-09	D and M	D and M	D and M		
Consumer price index	Nov-09	15-Dec-09	M	M	M	O, O, O, O	O, O, LO, O, O
Revenue, expenditure, balance and composition of financing 6/—General govt 7/	2008	Aug-09	A	A	A	O, LO, O, LO	LO, O, O, O, O
Revenue, expenditure, balance and composition of financing 6/—Central govt	Nov-09	7-Dec-09	M	M	M		
Stocks of central and central government-guaranteed debt 8/	Q3 2009	30-Dec-09	Q	Q	Q		
External current account balance	Q3 2009	15-Dec-09	Q	Q	Q	NA	NA
Exports and imports of goods and services	Nov-09	13-Dec-09	M	M	M		
GDP/GNP	Q3 2009	16-Nov-09	Q	Q	Q	O, O, O, LO	LO, O, LO, O, LO
Gross external debt	Q3 2009	15-Dec-09	Q	Q	Q		

1/ Daily (D), Weekly (W), Monthly (M), Quarterly (Q), Annually (A); Irregular (I); Not Avaliable (NA).
2/ Reflects the assessment provided in the data ROSC published in March, 2006. The assessment indicates whether international standards concering (respective) concepts and definitions, scopem classification/sectorization, and basis for recording are fully observed (O), largely observed (LO), largely not observed (LNO), not observed (NO), or not available (NA).
3/ Same as footnote 2/, except referring to international standards concerning (respectively) source data, statistical techniques, assessment and validation of source data, assessment and validation of intermediate data and statistical outputs, and revision studies.
4/ Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.
5/ Both market-based and officially determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.
6/ Foreign, domestic banks, and domestic nonbanking financing.
7/ The general government consists of the central government (budgetary funds, extra-budgetary funds, and social security funds) and state and local governments.
8/ Including currency and maturity composition.

INTERNATIONAL MONETARY FUND
Public Information Notice
EXTERNAL RELATIONS DEPARTMENT

Public Information Notice (PIN) No. 10/10
FOR IMMEDIATE RELEASE
January 25, 2010

International Monetary Fund
700 19th Street, NW
Washington, D. C. 20431 USA

IMF Executive Board Concludes 2009 Article IV Consultation with Israel

On January 15, 2010, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation with Israel.[1]

Background

The economy expanded rapidly following the 2001–03 downturn, with growth averaging over 5 percent in 2004–07. Supported by strong exports and contained government spending, the external current account remained in significant surplus while the exchange rate was largely stable. Inflation stayed close to the target band, before soaring fuel prices led to its sharp upward climb after mid-2007. Driven by strong fiscal tightening efforts, and also aided by rapid economic growth, the central government fiscal accounts steadily improved from a deficit of 5¼ percent of GDP in 2003 to balance in 2007, whereas public debt was lowered from 99 percent of GDP to below 80 percent of GDP during the period.

Trends changed, however, in the latter half of 2008, as the deepening global financial crisis took its toll. Exports and growth slowed, reducing growth to 4 percent and the current account surplus to 1 percent of GDP for the year. Alongside, unhindered operation of automatic stabilizers pushed the central government deficit up to 2¼ percent of GDP in 2008. Banks—with robust balance sheets—remained relatively resilient, although non-bank financial institutions and the domestic corporate bond market were strained. In this context, Israel's "safe haven"

[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board. At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.imf.org/external/np/sec/misc/qualifiers.htm.

appeal rose and capital inflows surged, leading the real effective exchange rate to rise by some 15 percent between end-2007 and mid-2008.

Strong policy measures were adopted in response to the impact of the global crisis. Near-term fiscal targets for expenditure and deficit were relaxed in the 2009–10 budget, even though an increase in some excises and a temporary 1 percentage point rise in the Value Added Tax (VAT) rate—programmed to be reversed at end-2010—acted as a partial offset. With headline inflation and inflation expectations rapidly falling and shekel appreciating, the Bank of Israel rapidly reduced policy rates from 4.25 percent in February 2008 to 0.5 percent in April 2009, and adopted unconventional monetary measures—intervening in the foreign exchange (FX) market and purchasing long-dated government bonds. Targeted efforts to relieve financial market strains were also taken, including setting up public-private bond funds and offering guarantees for bank capital raising.

In part reflecting this policy support, growth returned in the second quarter of 2009 and signs of a sustained recovery have strengthened in recent months. In this context, fiscal receipts have surprised on the upside, likely bringing the central government deficit to 5 percent of GDP and debt to about 80 percent of GDP for 2009, both better than budgeted. Inflation expectations have recently risen back to within the target band and the current account surplus has rebounded strongly on the back of reviving exports. Against this background, the Bank of Israel discontinued its pre-announced FX interventions and government bond purchases in Summer 2009, and began raising policy rates for September 2009, to 1.25 percent for January 2010. And on the fiscal side, the authorities reduced the VAT rate by half a percentage point to 16 percent from end-December, bringing forward by one year half of the cut that had been planned for end-2010.

Executive Board Assessment

Directors observed that the resilience of the Israeli economy during the global crisis reflected strong policy responses, robust fundamentals, prudent bank supervision, public debt reduction, and structural reforms in recent years.

Directors cautioned, however, that the global outlook remains highly uncertain, and the slower medium-term global growth would have adverse implications for Israel's potential growth rate. They therefore agreed that long-term anchors in Israel's policy frameworks should be strengthened to allow a flexible response of policies to short-term developments and to stimulate long-term supply. Directors welcomed the various steps that have been taken in this direction--including the adoption of a declining target path for fiscal deficits, the recent tightening of the monetary stance, steps towards adoption of the new Law for the Bank of Israel, and various actions to bolster prudential supervision.

At the same time, Directors recognized that challenges remain. The credibility of the new deficit ceiling rules has yet to be fully established. Public debt is high and is expected to rise in the near term before resuming its downward track. Although economic growth has resumed relatively early, upward pressures on the shekel could pose new risks. In this light, Directors

underscored that further efforts are needed to address downside risks—notably, moderation in the forthcoming public sector wage settlements, including as a signal to private sector settlements.

Directors noted the importance of strengthening the fiscal framework. Steps to reconcile aggregate spending ceilings with the sum of undertakings on specific programs should be a priority. A reform of the fiscal rules—with the adoption of a framework anchored by explicit medium-term debt targets—would help establish the priority assigned to debt reduction and allow fiscal flexibility in the short term. This should be accompanied by multi-year spending ceilings with appropriate countercyclical properties. Strengthened medium-term budget planning would reinforce credibility and improve spending efficiency.

Given economic recovery and the history of high inflation, Directors welcomed the steps taken to begin withdrawal from unconventional monetary policy measures—including preprogrammed foreign exchange intervention—and to increase interest rates. They noted the authorities' commitment to avoid targeting specific levels of the exchange rate. Discretionary interventions should be formally terminated, for all but the most exceptional market circumstances, once the policy interest rate is well above its effective floor on a sustained basis. Directors urged an early completion of all steps to adopt the Bank of Israel Law.

While noting that the Israeli banking system has weathered the crisis well, Directors saw scope for a further strengthening of the banking prudential framework. Comprehensive banking stress tests, regular publication of a financial stability report by the Bank of Israel, and closer coordination among various regulators would all strengthen transparency and stability. Some Directors recommended consideration of a formal deposit insurance scheme.

Directors welcomed the priority attached by the authorities to effective supervision of the non-banking sector, noting a need to strengthen the budget, staff, and autonomy of the non-bank regulators. In this context, separation of the pension and insurance regulator from the Ministry of Finance would reflect international best practice. Regular publication of risk analyses by non-bank regulators was also encouraged.

Israel: Selected Economic and Financial Indicators, 2005−10
(Percent change, unless otherwise indicated)

	2005	2006	2007	2008	2009 1/	2010 1/
National accounts indicators (constant prices)						
Domestic demand	4.8	4.1	6.2	2.8	-1.1	2.8
Private consumption	3.5	4.3	6.3	3.6	1.2	2.3
Public consumption	1.6	3.0	3.4	2.1	1.8	1.8
Gross capital formation	13.8	5.2	10.1	1.4	-11.7	6.0
Fixed capital formation	4.0	11.3	15.3	4.4	-3.3	4.0
Imports of goods and services	3.5	3.3	11.9	2.4	-13.7	6.3
Exports of goods and services	4.3	6.0	9.3	5.2	-10.8	5.4
Real GDP	5.1	5.3	5.2	4.0	0.1	2.5
Labor market indicators						
Unemployment rate (percent)	9.0	8.4	7.3	6.2	7.8	7.4
Real wages 2/	1.0	1.3	1.7	-0.7	-2.6	…
Prices						
CPI (end period)	2.4	-0.1	3.4	3.8	2.6	2.1
CPI (period average)	1.4	2.1	0.5	4.6	3.6	2.3
CPI (excluding housing and energy, end period)	0.7	1.9	1.3	4.5	…	…
Interest rates (average, percent): BOI policy rate 3/	3.7	5.1	3.9	3.7	0.8	…
Money and credit (period average)						
Private sector credit 4/	7.1	4.3	6.7	9.2	1.2	…
Narrow money (M1) 5/	17.5	13.7	15.3	14.1	55.2	…
Broad money (M3) 4/	7.9	7.4	12.9	8.0	15.2	…
Public finance (percent of GDP)						
Central government revenue	35.1	35.2	35.4	31.6	29.1	29.8
Central government expenditure	37.0	36.2	35.4	33.8	34.2	33.9
Central government balance 6/	-1.9	-1.0	0.0	-2.2	-5.1	-4.1
General government balance 7/	-4.8	-1.8	-0.8	-2.8	-5.7	-4.7
General government debt	93.5	84.4	78.1	76.8	79.9	80.9
Balance of payments						
Trade balance (percent of GDP)	-3.1	-2.6	-3.4	-3.6	-1.9	-2.2
Current account (percent of GDP)	3.1	5.0	2.8	1.0	3.3	2.0
Foreign direct investment (percent of GDP)	3.2	10.1	5.4	4.8	2.3	2.2
Foreign reserves (end period, billions of U.S. dollars) 3/	28.3	29.4	28.8	42.7	61.5	…
Exchange rate and terms of trade indices						
NEER (period average) 5/	-0.7	0.4	3.9	11.4	-5.7	…
REER (period average) 5/	-2.0	0.0	1.8	12.3	-2.5	…
Terms of trade (index, 2000=100)	100.0	98.6	96.4	97.9	…	…

Sources: Bank of Israel, *Annual Report*; Central Bureau of Statistics; IMF, *International Financial Statistics;* and IMF staff estimates and projections.

1/ IMF staff projections.
2/ Data for 2009 as of August.
3/ Data for 2009 as of November.
4/ Data for 2009 as of September.
5/ Data for 2009 as of October.
6/ National definition, cash basis.
7/ International definition, accrual basis. On the difference between central and general government deficits during 2003–06: much of it is accounted for by the difference between accrual and cash bases accounting. On the latter, the key factor is the CPI indexation component that is paid on all NIS debt when it matures and is recorded below the line in the central government balance, but above the line in the general government balance when it accrues.

Statement by Age Bakker, Executive Director for Israel and
Yoav Friedmann, Senior Advisor to Executive Director
January 15, 2010

At the outset, my authorities would like to express their appreciation for management and staff's efforts to have Israel's Article IV Board discussion only one month after the end of the mission. This ensures a relevant discussion by the Board and reduces staff's need to constantly update the report. Prompt release of the report to the public will also increase the attention and weight it receives in the public domain. My authorities would also like to thank staff for very interesting, candid and fruitful discussions. Staff's suggestions and recommendations are always taken seriously in Jerusalem.

Israel's Macroeconomic Developments and Outlook

Given the deep global recession, its effect on external demand, and concerns about a possible sharp reduction in domestic demand, Israel's economic performance in 2009 was impressive. Growth was positive, the fiscal deficit was contained, the financial sector remained sound and resilient, and the current account surplus has widened substantially.

Many factors contributed to Israel's relatively good economic performance in 2009. While it is difficult to measure their weight, the main contributors to the economy's resilience are: fiscal discipline during the high growth years of 2004–07, strong and conservative banking supervision, strong external position, and appropriate fiscal and monetary policy responses to the crisis.

The flexibility shown by Israel's labor market was another factor facilitating the absorption of the external shock. In the business sector, real wages per employee post and average hours worked weekly per employee went down by 3.1 percent and 2.9 percent respectively.[1] That said, an important ingredient in enhancing future growth is raising the labor participation rate, which was on an increasing trajectory in recent years but is still low compared to OECD countries.

The BoI revised upwards this week its GDP growth projection for 2010 by one percentage point to 3.5 percent. The revision reflects positive new information regarding economic activity in the second half of 2009, both globally and in Israel, and in light of improved forecasts of global growth and world trade in 2010. The main downward risk to this projection is a slower recovery in the global economy than that on which the forecast is based.

Fiscal Policy

A new government was formed in Israel in April 2009, following the resignation of the former PM in September 2008 and elections in February 2009. The new government's strategy to cope with the recession was based on two main elements. First, automatic stabilizers were allowed to fully operate. The reduction in the public debt-to-GDP ratio and

[1] First three quarters of 2009 compared with the same period in 2008.

the credibility accumulated by the fiscal authorities in the years 2003–08 allowed the government to abandon the preannounced one percent of GDP fiscal deficit target, and plan for a 6 percent deficit for 2009. Second, the government focused on reducing short and medium-term uncertainties and setting the base for long-term enhanced growth. A seven-year plan to reduce income tax and corporate tax, as well as a declining trend of fiscal deficit ceilings for the same period was adopted as part of the Budget Law. Uncertainty regarding fiscal operations was reduced by passing a two-year budget for the years 2009 and 2010. The underlying assumption behind these measures is that setting out the government's medium and long-term programs would have positive short-term effects on the economy and encourage early new investments. In this regard, the authorities are considering moving to a two-year budget framework, as routine. In order to finance the short-term increase in expenditure, reflecting a relatively mild fiscal discretionary stimulus, the government decided to increase VAT temporarily by one percentage point and increase excise tax rates on cigarettes and gasoline. At the beginning of 2010 VAT was reduced by 0.5 percentage points.

The authorities believe that their programs to mitigate the tight credit conditions and revive the corporate bond market contributed to the recovery of the financial markets. Although not utilized to any great extent, they served as a signal that the government would be in the market if conditions warranted. As all of these programs were carefully designed and targeted to address specific vulnerabilities, and as they resulted from an exceptional global financial crisis, the authorities do not expect them to give rise to moral hazard difficulties.

Going forward, reducing the public debt-to-GDP ratio is a main goal in the government's economic agenda, although currently it is not explicitly part of the fiscal rule. Staff's recommendation to adopt an interim target of 70 percent debt-to-GDP ratio by the middle of the coming decade and a target of 60 percent by 2020 clearly has merits and will be taken into careful consideration as the process of revising the current rule unfolds. Regarding the details on how to achieve these targets, the authorities' view is that a somewhat stricter rule than the one proposed by staff would better fit the Israeli economy. The authorities believe that deviating from a rule in case of an extreme external shock, as occurred in 2007 after the Second Lebanese War and during the current year, would not harm fiscal credibility.

While the total public debt as a percent of GDP is relatively high, its maturity structure and currency denomination is comfortable, with an average time to maturity of 6.4 years and about 80 percent denominated in domestic currency. In March, as a revival of the international sovereign bond market emerged, Israel tapped the market raising US$1.5 billion for ten years. This was Israel's largest sovereign bond issue to date.

Monetary Policy

Monetary policy has played a crucial role in supporting the real economy throughout the downturn and now that economic activity begins its recovery. Three monetary tools were used to deliver a satisfactory expansionary monetary policy during the year. First, the interest rate was reduced sharply from 4.25 percent in September 2008 to 0.5 percent in April 2009, mitigating the economic downturn through traditional monetary channels. Second, the BoI continued its daily purchase of US$100 million. Third, the BoI purchased a preannounced

daily amount of NIS 200 million of government bonds, a policy it had adopted to lower medium and long-term interest rates.

The BoI began to unwind its exceptionally expansionary monetary policy during the third quarter of 2009, as it became clear that a reversal of the policy was necessary to strike the right balance between the need to moderate inflation and the need to continue to support the real economy. In August 2009 the preannounced daily purchase of foreign currency was replaced by a discretionary intervention policy. The BoI announced that it would intervene only in the event of unusual movements in the exchange rate inconsistent with underlying economic conditions. The daily purchases of government bonds were also stopped in August, as the total amounts purchased reached the preannounced target. In September, the Bank raised its interest rate for the first time in more than a year.

In light of the current inflation environment in Israel which is in the upper part of the price stability range, and against the background of growth that is increasingly more firmly based, the BoI increased its policy rate by a total of 75 basis points since it began increasing its policy rate in September. This is part of a gradual process of returning the interest rate to a "normal" level. Going forward, the pace of increases in the policy rate will be determined in accordance with the degree of firmness of growth, both global and in Israel, the inflation environment, and the rate at which the major central banks increase their interest rates. Financial stability considerations, like the evolution of asset prices, including housing prices, would also be taken into account as part of the lessons of the crisis.

The Financial Sector

Israel's banking system is conservative, tightly regulated and closely monitored, all of which helped the system remain sound and resilient throughout the global financial crisis. The banks are well capitalized and profitable. As the Israeli banks are net lenders to foreign banks abroad, the disappearance of international inter-bank lending did not much affect the system.

The existing prudential quantitative restrictions on various exposures coupled with the scrutiny of enhanced supervision provided robust means of limiting risk and sheltered the banks from large losses during the crisis. The prompt demand for enhanced transparency of banks' exposures to various foreign markets' exotic products and institutions, as well as the authorities' urging banks to deal promptly with more risky mortgage-backed securities, reduced the ambiguity about the quality of their assets and possible losses. Together with the clear pronouncement by the authorities that public deposits are safe, this increased public confidence in the banks.

A prominent step reflecting the banking supervision’s forward looking approach was its demand in 2007 (under the Basel I regime), when economic activity was at a peak, that banks increase their capital adequacy ratios (CAR) to 12 percent. The Supervisor was resolute that banks achieve this target by the end of 2009 in spite of the developing crisis. By September 2009 all banks achieved this goal without the need to use government guarantees that were offered to them.

Banks' internal limits on loan-to-value (LTV) in mortgage loans and a lack of securitization helped to prevent a property price bubble of proportions similar to those seen in other developed countries, and reduced the risk of contagion through negative developments in the real estate sector. However, the deterioration of highly-leveraged borrowers operating in the construction industry abroad and a low domestic GDP growth rate adversely affected the quality of loan portfolios of most banks – since December 2007 problem loans to total loans rose by 1-2 percentage points in the five major banking groups, amounting to 7-9 percent of total loans in the balance sheet, and loan-loss provision rose by 0.5 percentage point to 0.7 percent of total loans. Nevertheless, stress tests conducted by the authorities show that banks would be resilient to a much more severe shock.

The CMISD (Capital Markets, Insurance and Savings Division), which supervises the insurance companies, provident funds and pension funds in Israel, increased its monitoring and oversight during the global financial crisis. It found that no institutional bodies in Israel were in financial difficulties as a result of the crisis. Also, the recent increase by around 50% in the minimum capital requirement (MCR) resulted in the overall impact being minor. Currently, the level of capital of insurance companies in Israel is the highest ever. In addition, the losses to Israeli long-term savers were only temporary. During the year 2009, the long-term savings market in Israel covered the losses arising from the global crisis - investment returns from January 2008 to November 2009 of life insurance policies, provident funds, and new pension funds were 7.4, 5.2, and 11.9 percent, respectively.

Effective supervision of non-banks is seen as a priority by the authorities. Hence, the authorities will learn the global lessons of the crisis before determining what change is needed, if any, in the supervision structure of the financial sector in Israel. Meanwhile, key steps to strengthen the current non-bank regulators are underway.