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Experience with Collective Action and Cooperation in Agriculture in Israel

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Cooperation in agriculture in Israel was maintained successfully for many years, enabling growth and development of the farm sector. But agriculture in Israel, particularly its cooperative sector, has recently sunk into a deep financial crisis. The immediate causes of the crisis were inflation and macroeconomic policies, but the crisis also revealed basic faults in the organization of the agricultural sector. The paper presents the thesis that these faults were mostly due to excessive doses of government intervention, to narrow rationality on the part of farmers and members in cooperatives, and to the tendency of public agencies to yield to short-sighted political pressures.

I wish to put in this paper the problems and experience of our cooperative agriculture in a wider perspective. My main thesis is that Israel's agriculture was subjected to excessive doses of cooperation and collective action with most of the excess due to government intervention. The government made membership in cooperatives the only option available to new farmers when cooperation was deemed necessary 40 years ago and failed to create the conditions for individual action when circumstances changed. The government encouraged cooperatives to over-expand and forced collective action in marketing boards, export monopolies, and other forms. Israel's experience also demonstrates that "government" is not a single-minded, rational, decision-making body with national welfare its only goal; but rather government's actions reflect the outcome of political struggles — often between forces of narrow interest.

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The record of cooperation in agriculture in Israel is not entirely negative. On the contrary, cooperation and active government policies contributed significantly to the impressive achievements of the farm sector: the creation of a sophisticated and technically advanced agriculture producing abundant quantities of food and fibers for home and export markets. At the same time cooperation and government intervention propelled agriculture into substantial difficulties which have come to the fore in the last several years. The argument in the paper is not balanced. Focusing on the more recent experience, it is a critique, somewhat dramatized by emphasizing the crisis proportions that several of the problems have reached.

Israel: Growth and Inflation

Israel is a small country; its population is 4.5 million. Half of the country is desert, with a cultivated area of 430,000 hectares, of which approximately 50% is under irrigation. Israel is a medium-income country with per capita GNP of $9,500. Agriculture contributes 3% of the net national product and 6% of the country's export. Its share in the labor force is 5% (1990 figures).

Struggle for survival, reconstruction, and the absorption of large numbers of immigrants, who arrived almost simultaneously with the flight of 600,000 Arab refugees during the War of Independence in 1948, were the major economic efforts of the newly established state. By the mid-1950s Israel embarked on a path of economic growth which was to last at record rates for 20 years, but growth has slowed down significantly since 1974.

The country experienced two periods of severe inflation. The first was in the early 1950s when a fledgling government strove to finance war and reconstruction with a small tax base and a poor administration. Prices increased 56% in 1952. The second wave of inflation started in the early 1970s and accelerated thereafter. It was halted in 1985 after reaching an annual rate of close to 800%. Since then inflation in Israel has been approximately 20% per year. The rising prices were fueled in the inflationary periods by expanding supply of credit, much of it imported,[1] market interest rates lagged behind inflation and real rates were negative

[1] The increased availability of credit on convenient terms to Israeli banks in the 1970s reflected, at least in part, global shifts in supply due to recycling of oil money.

for most of the decade ending in 1985. These conditions encouraged over-investment and discouraged saving. But interest rates also lagged when inflation decelerated in 1985 and, consequently, real rates reached extremely high levels. Agriculture was greatly affected by these macro-economic and monetary developments. The sector enjoyed growth and rising incomes when credit was in ample supply, but it found itself in a deep crisis when inflation was halted.

Agriculture: Four Decades

The 1950s began with food shortage and rationing. Agricultural expansion, especially an extensive settlement drive and increased utilization of factors of production, was made possible when the foreign currency constraint of the newly established state was gradually alleviated. The number of moshavim and kibbutzim and the cultivated area more than doubled, irrigated area quadrupled, and the product grew since then ten fold (Table 1). Terms of trade and real output prices improved at the beginning of the decade but they have followed a downward trend thereafter.

The 1960s was mostly a period of consolidation. The political response to increased supply and reduced profitability was to establish marketing boards, to implement planning, to limit production, to withdraw surpluses from the markets, and to support farm prices and their stability.

Increased sophistication in production and expansion of exports in both quantity and diversity were the principal characteristics of agricultural development in the 1970s. Investment in the rural sector increased substantially toward the end of the decade. In the kibbutzim a major part of the investment was in manufacturing enterprises. This upsurge paved the way for the coming crisis.

The beginning of the 1980s was not much different from the preceding decade, but in 1982 income in agriculture fell dramatically and never recovered and, gradually, the sector sunk into a financial crisis: productivity did not rise with investment, and agriculture — particularly within its cooperative sector — accumulated a debt burden that eventually would prove unbearable. The crisis erupted when, as part of an anti-inflationary policy in July 1985, credit was severely squeezed and rates of interest sky rocketed. I review below the crisis and the changes it forced.

The future is clouded with uncertainty for the farm sector still burdened with heavy debts and facing the need to adapt to a new economic environment. Agriculture may emerge in a few years reformed, stronger, and healthier; but the pill may also be too hard to swallow.

TABLE 1 Agriculture — Key Data

	Irrigated Area[a]	*Employment*[b]	*Gross Capital Stock*[c]	*Net Domestic Product*[c]	*Terms of Trade*[c,d]	*Real Output Price*[c,e]
1955	890	102	35	19	—	—
1965	1510	114	59	51	119	99
1975	1800	80	95	95	100	102
1985	2327	89	112	177	90	85
1990	2057	71	112	234	88	75

[a]Thousand hectares.
[b]Thousands.
[c]Index, 1976=100.
[d]Ratio of output to input price index.
[e]Output price deflated by the Consumer Price Index.
Source: *Statistical Abstract of Israel, 1991.*

Government Intervention in Agriculture

Israel is a free market economy mixed with government intervention, which is especially intensive in agriculture and in the capital markets. Government's goals in agriculture are to secure farm income, to improve food supply, and to maintain rural population. Over the years, whilst Israel's agriculture was being built up mostly by immigrants without resources, ignorant of farming practices, public support was only natural. The government intervenes in planning, the supply of public services, price support, and trade. The government is involved in almost all aspects of farm life, particularly in cooperative agriculture.

The major instrument of policy implementation on the production side is the marketing boards. These are semi-democratic bodies, with nominated members representing growers, traders, and consumers. The boards are responsible for production control, marketing, exports, and the distribution of subsidies to product prices (investment capital and water are also subsidized, but not through the marketing boards).

Planning and subsidization go hand in hand. However, only livestock products have been subsidized on a regular basis, and livestock production is controlled quite effectively. Efforts to control the production of non-subsidized vegetables and fruits has largely failed. The rate of support determines the effectiveness of planning in agriculture, but subsidies have not been stable: product price supports in agriculture in 1986 were only one-tenth of their 1984 level. It may well be that such wide fluctuations will not be seen in the coming years, especially if inflation is kept at its current levels. But agriculture cannot expect to get in the future the same kind of support it enjoyed in the past: government budgets are now tighter, the sector lost much of its glory and political attraction, and the government is burdened with its share in the resolution of the financial crisis.

Routine planning, particularly in the livestock industry, has been quite successful despite recurring failures and difficulties. Most of the time, the goals of ample supply at stable prices with reasonable income to the growers have been achieved. Planning largely failed in the major policy areas. As I attempt to show below, an optimal water policy was not implemented; not only did the government not prevent cooperative agriculture from sinking into debt, but also it contributed directly to the accumulation of excess capacity and thus to the creation of the crisis conditions. The government was paralyzed in dealing with marketing boards and agricultural exports and adamantly rejected all proposed innovations (citrus marketing is an exception to be discussed below); the government was similarly ineffective in dealing with structural problems in cooperative agriculture and prevented long overdue changes from occurring.

These "government failures" are not incidental; they reflect yielding to narrow interests (Zusman and Rausser, 1991), arrogant rejection of professional advice, basic mistrust of the market process, favoritism (often motivated by good intentions), and the inability to implement necessary but painful changes. It seems that the government modifies its ways only if dragged into a deep crisis or if it clearly and demonstratively loses the ability to enforce its policy. Water management, the Citrus Marketing Board, and the financial crisis in cooperative agriculture are relevant examples.

Water

Water is a common resource. It belongs by law to the state and is controlled by the government. There is no private ownership of water in Israel. The national system of reservoirs and conduits connects all the important sources and users into a single network, stores water from winter to summer and between years, and moves water from the rainy north to the dry south.

The government allocates pumping quotas and user's rights. Water charges are set by the government in consultation with a parliamentary committee in a process open to political pressures, which the agricultural lobby applies skillfully. Irrigation water is subsidized at two levels: operating costs of the national water company and of regional suppliers are supported, and the national system is not charged for the capital cost of the main conduits which were constructed with public funds.

"Water carries the subsidy to the end of the pipeline," is the argument often made in support of water subsidy as a means to promote farming in remote regions. But water subsidizations do more than that; they have changed the pattern of agricultural production in Israel. The production of cotton, the country's most important field crop, would have been much smaller if water had been charged at cost. Similarly, a great part of the citrus production would have been eliminated. Subsidization increases the demand for water and the political pressures to allocate more of the available quantities and to invest more in the development of water supply.

The Water Authority, the agency in charge, operates mostly with the farmers' interest in mind, and it often yields to short-run pressures. The consequences have been over-utilization, hydrological deficits, intrusion of sea water to the coastal aquifers, contamination of other reservoirs, and a reduction of the carry-over capacity of the system. These detrimental effects have been accumulating gradually and are hard to detect and comprehend by non-professionals, but in the last two summers the combination of three dry years and poor reserves forced drastic curtailment of supply with harmful effects on farms, particularly orchards. The winter of 1991/92 was most unusually rainy and some of the reservoirs were replenished. But long-term damage cannot be amended in a single season.

The Citrus Industry

Citrus, particularly oranges, was the economy's most important export at the beginning of the 1950s, and at that time the area planted with citrus trees occupied half the irrigated land in the country. In the 1950s the citrus area was expanded as new orchards were planted in reaction to increased demand in Europe on the one hand, and expanded irrigation, skills, and availability of capital in Israel on the other. In more recent years, however, the industry has declined (Table 2). Orchards have been uprooted and over the last 15 years exports of fresh fruits have decreased to half their volume. Part of the decline in tonnage reflects a shift from the traditional bulky varieties to newer, more expensive types, but most of the reduction in Table 2 is the result of cuts in production and diversion of fresh fruit to processing.

TABLE 2 Recent Developments in the Citrus Industry

	Average 1976–1979	*1983*	*1988*
Area of orchards (000 hectares)	42	37	36
Export of fresh fruit (000 tons)	925	700	452
Share in production (%)	61	45	40
Value of export (million 1986 dollars)			
fresh fruit	428	248	189
processed	210	226	344
Terms of trade in export (ratio of FOB price to input price index)	100	87	89

In cutting production farmers reacted to changes in the terms of trade which deteriorated at the farm gate even further than indicated in Table 2. For the growers are the residual claimants in the chain of revenue from the consumer downward, and as prices in Europe declined with increasing supply of fruits by Israel and by its competitors, the processors, packers, and shippers between the farm and the harbor (where FOB prices are gauged) continued to cover their costs unaffected by the market fate of the fruit.

Moreover, fruit handling costs were high. The Citrus Marketing Board was composed mostly of packers and, though some of them are growers in their own right, these were the packers' interests that dominated the operation of the Board. Consequently, the packing and shipping industry was run as a cartel with over-capacity and inefficiencies whose cost the citrus producers were made to cover.

By law all marketing of citrus, both domestic and export, was handled by the Board. The Board accepted the fruit from the packers and shipped it to Europe; lower grades were delivered to industrial processors. Relatively small quantities went to the local consumer markets where monopoly prices were charged. The growers received pooled prices, modified to reflect quality and harvesting time. The Board was also responsible for pest control and planning of areas, locations, and varieties. It functioned as the industry's political lobby and participated in the financing of research and its direction.

The citrus industry in Israel missed, under the leadership of the Board, two major developments that occurred in the world markets in the last decades: Israel lagged in developing and adopting new varieties, particularly easy to peel types and sweet grapefruits, and Israel ignored the shift in consumption from fresh fruits to reconstituted concentrated juice. Consequently, by the time the Israeli growers came to the markets with their new varieties, prices were already down to competitive levels, and Israel did not even try to develop processing-dedicated orchards of the kind grown by the major producers of concentrates in Florida and Brazil.

The deterioration in terms of trade and the disillusionment with cooperative action fueled a "growers' mutiny"; farmers grouped together to struggle for free marketing and competition in exports. Perhaps naively, they were willing to give up the advantages of a monopoly position in the local market, the bargaining power of the Board in the export markets, the economies of scale in shipping and handling, and much of the expertise accumulated through the years in the Marketing Board. Eventually they had their way. A sympathetic Minister of Agriculture stripped the Board of its monopoly powers and opened the market to competition. The winter of 1991/92 was the first season in which marketing was in private hands. Six export companies are now operating in the market and there are no restrictions on domestic transactions. The Board was retained with a small staff to monitor developments, to supply public services, to influence research, and to collect levies to finance these functions.

It is too early to assess the new experience, but two aspects of this recent development are already encouraging: operators at all levels pay more attention to quality now that pooling has been narrowed substantially; and smuggling fruits to the local markets — an ugly aspect of the domestic monopoly of the Board — disappeared.

The Financial Crisis in Cooperative Agriculture

Eighty percent of Israel's agricultural product comes from cooperative farms. A major form of cooperation in agriculture has been financial. It flourished for a long time; but financial cooperation has found itself recently in a deep crisis the roots of which lie in the structural weaknesses of cooperation, in government action and inaction in agriculture, and in macroeconomic factors, particularly inflation and the policies adopted to fight it. Debt settlement agreements were reached, but it was doubtful right from the beginning whether the sector would be able to honor its obligations. And, indeed, a new debt settlement law to replace the original agreement in the family-farm sector was recently passed.

Moshavim and Kibbutzim

A moshav (plural moshavim) is a farming community in which all farms are family owned and operated, and all farmers are members of the multipurpose, democratically run, village cooperative.[2] In principle (practice varies), the cooperative association in the moshav purchases all farm supplies for its members and markets their farm products. It may also own and operate a variety of service facilities and manage directly some jointly operated farm enterprises.

A kibbutz is a commune. Members work together and receive from the kibbutz food, shelter, health care, education, clothing, and a relatively small monetary allowance which they may allocate at their discretion. Again in principle, a member in the kibbutz has no property other than personal belongings.

Differences in the degree of cooperation induced many other operational differences between the kibbutzim and the moshavim. Two examples are noteworthy:

1. As the labor force exited from agriculture, members in the moshavim shifted mostly to part-time farming and found additional employment in other sectors. The kibbutzim, on the other hand, invested at their own risk in the creation of employment opportunities for their members in manufacturing and services.[3]
2. Since consumption in the kibbutzim is communal, the management of a kibbutz has much larger control over the consumption level of its members than the cooperative association in the moshav. With control comes responsibility. The modern kibbutz cannot lag too far behind the country's standard of living — its members, particularly young members, will leave. Some are already leaving (not all for economic reasons, to be sure). These considerations dictated and still dictate much of the behavior of the kibbutzim in economic and financial affairs.

Moshavim and kibbutzim are members in two types of second-order cooperatives: supply cooperatives (sometimes named requisite societies or

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[2]This is a transition period in the moshavim, and many are undergoing wide-ranging structural changes. I shall discuss these changes below.

[3]There is an interesting similarity in the numbers. Only a third of the operators in the moshavim are full-time farmers, and farming contributes on the average a third of the total income in the kibbutzim.

purchase organizations) set up to purchase farm requisites for their members, the moshavim and the kibbutzim; and regional service enterprises (feed mills, slaughterhouses, transportation services, and others). Both types operate on a regional basis, though some nation-wide cooperatives also exist.

Starting with the transfer of suppliers' credit to their members, both the associations of the moshavim and the supply cooperative expanded into full-scale financial intermediation. This tendency was reinforced by the fact that most farm land in Israel is nationally owned, and moshavim and kibbutzim cannot use it as collateral.

Financial Intermediation[4]

The pivotal role credit intermediation occupied in the activities of the moshav and the supply cooperative is demonstrated in their balance sheets in Table 3: members' debit balances were by far the largest assets the associations held — 76.9% of the total in the moshav and 60.9% in the supply cooperative. The moshav and the regional coop raised debt and transferred it to their members. The associations also functioned as clearing houses, accepting deposits from members with financial surpluses (members' credit balances in Table 3) for use by others. The supply coop and its moshavim were linked strongly together: through credit, as can be seen in Table 3, and through joint ventures in regional service enterprises. The relations between the kibbutzim and their supply coops were similar to those depicted in Table 3 but there are in general no financial transactions between the kibbutzim and their members.

The supply cooperatives provided their members — the moshavim and the kibbutzim — with financial services, including steady lines of credit and convenient saving facilities. The moshavim provided their members with the same kind of services. Interlinkage between marketing through the cooperatives and credit operations provided the institutional set-up that replaced collateral for loans in cooperative agriculture. In addition, virtually all members — individuals, kibbutzim, and moshavim — were parties to mutual guarantees, and all were mutually responsible for loans raised by their cooperatives. Proximity, central purchasing of inputs,

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[4]This section depicts intermediation as it was practiced before 1985. One of the consequences of the crisis has been a great reduction in the financial interconnections between cooperatives, especially in the sector of the moshavim.

TABLE 3 Balance Sheet Composition of a Moshav Association and a Supply Coop, September 30, 1981 (in percent of total assets)

	Assets			Liabilities	
	Moshav	Supply Coop		Moshav	Supply Coop
Fixed assets	3.7	3.5	Equity	0.7	3.0
Long-term investments and loans to members	3.5	13.7	Long-term debt	4.2	19.5
			Short-term loans	0.6	34.5
Inventories	4.0	—	Short-term loans from supply coop	76.9	—
Accounts receivable:					
non-members	12.2	3.6	Suppliers' credit	4.1	21.8
regional enterprises	—	18.3	Members' credit balances	13.5	21.2
Members' debit balances	76.6	60.9			
Total	100.0	100.0		100.0	100.0

Notes:

(a) The data for the supply coop are for the regional cooperative in the "Mountain Region" (a fictitious name). The data for the moshav are for an average association in a sample of thirteen moshavim in the same region.

(b) Balance sheets are prepared in historical values, not adjusted for inflation.

(c) The financial reports of the cooperative in the moshav are for the *association*, not for the whole village. Information on individual farms is not included and is generally not available.

Source: Zusman (1988).

TABLE 4 Outstanding Bank Credit (percent)

	Volume of Real Credit		*Ratio of Debt to Net Capital*	
	Agriculture	*Industry*	*Agriculture*	*Industry*
1969	100	100	19	52
1974	209	219	35	69
1979	335	327	48	75
1984	491	352	67	70
1987	655	402	79	64

product marketing, and financial interdependency should have, in principle, allowed close monitoring and control of the economic affairs of the member-borrowers. For a long time they did (as witnessed by the increased capital intensity in agriculture compared to industry in Table 4), but they failed the test of extreme economic circumstances in the inflationary period and their weaknesses were brought to light in the recent crisis.

Regional Enterprises

These are second-order cooperatives, the members of which are moshav associations and kibbutzim, mostly potential patrons of the service offered. Often the regional supply coop is also a member; and in all cases the two kinds of regionals — the supply coop and the service enterprises — are strongly interconnected financially, a relationship that proved detrimental when the recent crisis erupted.

Zealous adherence to rural development by public agencies, easy access to credit through the supply cooperatives, and strong political regional lobbies resulted in over-expansion of many of the service enterprises. This occurred particularly in the 1970s when credit was in ample supply and economic optimism ran high. Consequently, in the early 1980s many service enterprises operated under capacity and could not cover their operating costs.

Inflation in the late 1970s and early 1980s eroded most of the debt of the regionals, but circumstances gradually changed with the adjustment of the financial markets to the inflationary environment. The supply cooperatives, assuming the role of the financiers of last resort, found themselves financing not only operating losses but also debt services of the regional enterprises. A few of the enterprises collapsed and went bankrupt in the crisis of 1985, and then they took the supply coops down with them.

Government

Cooperation in agriculture has always been supported by the government: new immigrants settled in the cooperative moshavim as a matter of policy, land and water allotted to the moshav and distributed equally between the members, production quotas allocated on a village basis, and the moshav decides on internal distribution; government agencies usually consult with the cooperative association in the moshav on the allocation of long-term loans to farm operators.

The deepest public involvement was in credit. The government raised debt in capital markets to finance its budget, thus crowding out private sources of long-term investment credit. To remedy the shortage of its own creation, the government distributed credit to approved borrowers and subsidized it. Moreover, it was also often ready to supply additional credit to enterprises — farm cooperatives in particular — which ran into difficulties. The dependency on the government and the expectation that it would bail out troubled moshavim and kibbutzim created moral hazard problems. Cooperatives at all levels were willing to rely on large amounts of debt and banks were willing to lend, all trusting the government to save them in case of misfortune. This problem of moral hazard was recognized by the government, and tools to control its consequences were created in the 1960s and implemented vigorously, but the will to maintain a strict policy could not resist the flood of credit in the late 1970s. Moreover, the government itself encouraged uncontrolled expansion and over-investment. Perhaps governments are more often slaves of circumstances than they are their own masters.

Aggravating Policy Factors

The roots of the financial crisis in agriculture are in excessive expansion — of investment and debt — of the agricultural sector and particularly of cooperative agriculture in moshavim, kibbutzim, and their regionals. The deep crisis and the difficulties agriculture is facing were aggravated by several policy factors.

One of the anti-inflationary policy measures adopted in July 1985 that was particularly hard on the production sector was a severe credit squeeze which caused an unprecedented increase in the rates of interest (100% per year on overdraft facilities, for example) and a reduction in credit availability. These developments hastened the coming of the crisis and intensified its consequences.

Another such measure was an exchange rate pegging policy adopted to stabilize the local price level (creating a "monetary anchor"). Despite several devaluations, the real exchange rate has lagged significantly behind domestic price levels in recent years and prices farmers received for exports declined markedly.

Simultaneously with the deterioration of the terms of trade, the quantity index of fresh agricultural exports (not including processed food) decreased by 10% between the second half of the 1970s and the 1980s. Citrus exports suffered particularly (Table 2). Since the domestic demand for agricultural products expands only slightly, the reduction of export is severely harmful to agriculture. And indeed, the 1980s saw a substantial reduction in the sector's income (see Table 5, below).

Crisis

The crisis erupted at the end of 1985 once creditors realized that agriculture, particularly cooperative agriculture, could not or would not continue to service its debt in view of the exceedingly high, post-reform, real rates of interest on short-term loans and that the government could not bail out the sector any more. Most regional cooperatives and many of the associations in the moshavim collapsed. Farm production has continued, often with private credit arrangements and the farmers' own resources. But this could not be a complete solution to the crisis, and banks and other creditors continued to demand repayment of their loans. For most members in the cooperatives the heavy burden is not their own debt but their share in the mutual liabilities — their share in covering the debt of several heavy borrowers in the moshav and the debt of the regional enterprises.

Agriculture cannot repay or service its debt in full; the question therefore is how to distribute the losses. This was already realized in 1986 and, consequently, the government stepped in offering its support to reach a debt settlement between the banks, on the one hand, and the farming sector on the other. Agreements were formulated in 1988 with the moshavim and in 1989 with the kibbutzim,[5] but their implementation was

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[5]The principal component of the debt settlement is a rescheduling of loans according to accepted measures of ability to pay. The agreements are sector level framework contracts to be implemented with every kibbutz and every moshav (sometimes with every farm operator) separately.

slow as many in the sector kept hoping that they could gather political support for a more favorable settlement. Indeed, they succeeded. But before we turn to the most recent events, let me consider the sector's ability to maintain the settlements originally reached.

Can Agriculture Honor the Debt Settlements?

By the available estimates at the end of 1988 (the reference point for debt settlements) agricultural debt was NIS 6.5 billion, and the value of its net capital was then NIS 6 billion (the exchange rate was then US $1.8 to the New Israeli Sheqel). Agriculture as a whole has by these figures no equity of its own; all its capital is financed by debt.

With the 1988–1989 debt settlement agreements, close to a third of the debt is erased and the remaining obligations are rescheduled for a period of 15–20 years; the new loans are linked to the price index and they carry low interest rates. Assume accordingly that agriculture is left with a debt of NIS 4.3 billion to repay over 20 years at 4.5%; the annuity is then NIS 331 million. If agriculture's debt is actually repaid at this rate, the sector will redeem its equity capital at the 1988 level over the next two decades.

This is an impossible undertaking. For even if the calculated annuity is an over-estimate, if part of the short-term debt is rolled over, not subject to repayments, and even if debt forgiveness is somewhat larger — to be able to maintain its part in the settlement agreements — agriculture will have to return to the levels of profits it enjoyed in the 1970s (Table 5). In that decade the operating profits were upward of NIS 300 million (at 1987 prices). At such levels, with replacement of only necessary capital assets, agriculture will be able to repay its rescheduled debts. But profitability has been deteriorating in recent years. Terms of trade that were improved several years ago are worsening again, technological improvements can be expected to slow down with the reduction of investment, competition in foreign markets is toughening, and domestic demand is expanding only slightly.[6]

The parties to the debt settlements were aware of these difficulties, and they based a great part of their optimism on structural changes to come in

[6]Estimates of operating profits such as in Table 5 are not available for more recent years, but other indicators show no sign of improvement in agricultural profitability.

TABLE 5 Operating Profits in Agriculture (million NIS in 1987 prices)

	Output	*Purchased Inputs*	*Labor*		*Deprecia-tion*	*Operating Profits*
	(1)	*(2)*	*Own (3)*	*Hired (4)*	*(5)*	*(6)*
1965–1967	2116	829	854	292	188	−47
1975–1977	3927	1792	1094	374	302	365
1985–1987	4648	2334	1367	503	457	−13

Notes:

Column (3) is imputed according to the sum of per laborer consumption and saving levels in the economy.

Column (6) is Column (1) − (2) − (3) − (4) − (5).

The exchange rate in 1987 was NIS 1.6 to the US dollar.

Source: Lerman and Kosto (1990).

the wake of the crisis and the obligations implied by the agreements. Among them: the supply cooperatives ceased to function as financial intermediators; the regional enterprises were constrained to direct services to agriculture; some enterprises were closed down to reduce excess capacity; the kibbutzim adopted a policy of redirecting labor from services to income generating activities; weak farms in the moshavim, judged unable to repay their debts were to be closed and their factors of production distributed among the remaining members; investment was to be limited to necessary replacements and only to carefully analyzed expansions.

Increased efficiency can improve the ability of a firm in difficulties to repay its debt. This, however, is not necessarily true for an industry. In agriculture it can reasonably be expected that if the structural changes are realized and efficiency is improved, terms of trade will worsen and profitability will not increase. Moreover, the recent crisis resulted in the collapse of part of the agricultural support systems and a reduction in the political willingness to budget subsidies for agriculture. It is impossible to see how agriculture can tax its consumers (for this is what it amounts to) and gather the necessary profits needed to service its old debts.

If agriculture cannot cover its debt from profits, farmers may still do it by reducing consumption. At recent levels (last line in Table 5) farmers will have to divert 24% of their income — returns to own labor — to debt service. It is, however, hard to expect this to occur, particularly because the debt is not evenly distributed and many will have to divert much larger shares of their farm income to the repayments stipulated by the agreements. The situation is particularly difficult for a large number of the kibbutzim, as the required reduction of the standard of living may be more than their members will tolerate.

Still another alternative is for farmers to cover their debt from non-farm sources. This is possible in the moshavim where most farmers are part-timers, but it is not clear that they can be forced to do so. The kibbutzim have to cover debt incurred by manufacturing and service activities as well as by their farming sector. They have no outside sources of significant magnitude that can be diverted to the redemption of their capital.

Aftershocks

Two recent developments markedly changed the economic environment of agriculture and in particular of cooperative farming.

The first was a ruling of the Supreme Court (actually two similar rulings) that a cooperative association cannot distribute its debt to its members against their will. The basis for the ruling is that a cooperative is, like a corporation, a limited liability association; members are responsible only for their share of equity capital. Lenders should know that they cannot collect from the private shareholders to cover the association's debt. This was a revolutionary ruling. Before it the assumption was that the majority of the members could decide democratically on the distribution of the association's losses to its members. The ruling made this practice unlawful. In the past, with easy finance, losses could always be covered with new loans, there was no need to make members actually pay cooperative debts, and distribution of losses was therefore never challenged. The crisis and the reorganization implemented in its wake forced clarification of the legal basis of the functioning of the cooperatives.

The decision of the Supreme Court did not apply to debt covered by mutual guaranties to which members were signatories. But this "shortcoming" was also, at least partly, soon to be amended.

Lenders accept in debt settlements certain costs in an attempt to rescue the borrowers (and the capital lent) from immediate default. This recontracting does not eliminate all risks; certain aspects of risk are even intensified. Lenders now have to balance their readiness to assist borrowers in difficulty against the danger of throwing good money after bad. Borrowers may be tempted to moral hazard behavior in an effort to improve the conditions of the settlement agreement and to induce further debt forgiveness. These tendencies were particularly apparent in the farming sector in Israel: the agreements were widely conceived as "a plan to rescue the banks" and not the farmers; many could not or would not accept the reduced role of the government in bailing agriculture out of difficulties; the fact that the government was party to the original agreements made it subject to political pressure to improve their conditions. The backlash was particularly strong in the moshavim.

With the widespread belief that the settlements may be improved, many members in the moshavim opted for a policy of wait and see and delayed the implementation of the agreements. Politicians could then point to the small volume of implementation as an indication that the agreements were unrealistic. Since members in the moshavim are diversified politically, it was not too difficult to rally a wall-to-wall coalition in their support, particularly in an election year. In March 1992 the Knesset (parliament) passed, against the expressed will of the government, a law defining a new debt settlement for the moshavim (several private farmers and a few small and newly established kibbutzim were also included). The law grants more generous forgiveness and many improved conditions compared to the original agreements. In particular, the law nullified retroactively mutual guarantees that members signed for the debt of their cooperative associations.

Following the enactment of the new law, several of the banks in Israel are now writing-off significant parts of their equity capital as lost debt. Fearing that the new law may now apply to future loans as well, the banks are also withdrawing credit offered to members in moshavim.

For several reasons, the implementation of the settlement agreements in the kibbutzim has faced fewer difficulties than in the moshavim. The kibbutzim are well organized, and the strong ones support the weaker units; being larger enterprises and lacking outside sources, the kibbutzim cannot afford to sever their relations with the banks. The majority of the members in the kibbutzim vote for Labor and left-wing parties, and they cannot hope for the kind of wide-based political support the moshavim got. As a result, the implementation of the settlement agreement, though slow, is proceeding gradually in the kibbutzim.

However, while individual kibbutzim are joining the agreement, it is becoming clearer that they many will not be able to fulfill their obligations. The improved efficiency parameters incorporated into the settlements were too optimistic, and the outlook is now gloomier than it was at the time the sector-level agreements were signed.

Evidently, the crisis is not over yet.

Implications

The crisis and its aftermath had devastating effects on cooperation in the family-farm sector. Most cooperative associations in the moshavim and at the regional level ceased functioning, and many farm operators now prefer to work individually and to avoid cooperation. Yet at the same time many recognize the advantages of collective action, and new cooperatives are springing-up in moshavim. The new cooperatives are generally narrower in scope, their members join to perform specified functions such as milk marketing or the provision of feed, and they operate on cash basis or with limited sums of outside debt. Consequently, the interest of the membership is less diversified than in the comprehensive moshav cooperative, free riding is easily spotted and stopped, and the operation is smoother. It will be interesting to see how widespread and stable this new form of cooperation can be.

The situation in the kibbutzim is different. Financial cooperation in the regional and national level was eliminated, but other forms of collective action — such as in regional enterprises — continue and in many cases successfully. The kibbutz is still a commune, though some changes aimed at increasing members' awareness of outside economic signals were introduced. Despite the apparent stability and functional continuity, particularly compared with the land-slide effect of the crisis on the moshavim, the kibbutzim face real dangers to their existence. A moshav will still be a moshav even if its members become private farmers. The kibbutz will cease to exist if its members leave.

Concluding Remarks

Israel's farmers are skilled and highly motivated. College education is the norm in the kibbutzim, and many in the moshavim are also professionals with thorough understanding of their work. Farmers are also used to act together; cooperation and involvement in public affairs come naturally to them. They react speedily to economic and technological changes, adopt new varieties and methods, and reach record yields. But they are also fast to seize opportunities which may turn out to be misguided: when the rate of interest was negative and credit seemed to be in unlimited supply, farmers invested excessively. When water prices are low, farmers make the best use they can of this resource and they also find the way to cooperate politically for the expansion of the low cost supply. On the other hand, when growers received pooled prices for citruses and quality was only partly rewarded, farmers curtailed production and did not reveal their technical ability in this line.

As I read the record of agriculture, its potential is very high. Past achievements testify to this assessment, but the risk that it will be misguided is also high. This is particularly true for the cooperative sector where the strength of interdependence carries with it the dangers stemming from moral hazard behavior. A major responsibility rests therefore with the government. It must have the wisdom and the power to limit its involvement in agriculture, to let farmers be responsible — for better and for worse — for their acts, and to follow only sustainable policies. Given the diversified political forces that shape its actions, it may be an illusion to think that the government can be expected more often than not to follow responsible policies.

Farmers will act rationally and responsibly as individuals, but they will easily follow myopic, even irrational behavior, collectively. This difference between the individual and the collective perspective stems from a natural limited ability to internalize external effects and just refusal to let everybody else be the free rider. The examples we considered demonstrate these lessons, of particular relevance is the financial crisis.

Inflation created a special opportunity for agriculture in Israel. With negative real interest rates and erosion of loans, agriculture could increase its equity capital and emerge from the inflationary period economically stronger. This did not happen; financial leverage increased in agriculture, returns to capital and probably also saving were negative, farmers sank deeper in debt, partly to finance investment in production assets (often with overcapacity), partly to finance housing and consumer durables, and partly to increase current consumption and the standard of living. Considerations of short-run inflationary gains dominated long-run economic health.

The crisis is a clear example of the consequences of cooperative myopia. But the cooperatives were not the only ones at fault. Credit was provided by the commercial banks; it was their money that was lent and it was their responsibility to secure the loans and to control their use. Evidently they neglected this responsibility. Learning from experience, they relied on the government and did not realize that the scale of the problem was in the 1980s beyond its ability to solve.

It was the government's responsibility to see the impeding crisis, just as it is the government's responsibility to guard water, Israel's most precious natural resource. And it was the government which failed. By its policy, which was a result of its effort to accelerate development and its yielding to political pressure, it created the false impression that it would bail agriculture out of any difficulty. Moreover, the government carries the major blame for over-capacity in agriculture. Farmers and regional government officers naturally tend to increase their share in aggregate capacity. Since the funding of most of the development projects was with government approval and assistance, it was the duty of the government to examine the aggregate picture and to balance the desire to invest against the needs. This was not done; the decisions of the policy makers and even the recommendations of the Planning Authority of the Ministry of Agriculture encouraged over-investment. The crisis in cooperative agriculture is therefore largely the outcome of favoritism it enjoyed for a long time.

Cooperation has many advantages and significant weaknesses. There are two preconditions for cooperation to survive the market test. The first is that members must have high levels of cooperative ethics, and they must be ready to give up short-run gains for the long-run benefits of cooperation (Zusman, 1993). The second is that in the final analysis, members must be responsible for their actions, individually or collectively. This means that there must be a maximum degree of internalization of externalities. In Israel mutual liability must be constrained to levels that members in cooperatives — farmers in the moshav and moshavim and kibbutzim in the regionals — can actually cover. Private ownership of land should now be established so that farmers may have more to lose if they fail. They may have then more to gain if they succeed. It seems that the organization of agricultural cooperation will now be rationalized in Israel. The crisis made the need for reforms clear for everyone to see. The question still remains whether there will be much cooperation left after such a traumatic experience.

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