Cover photograph: The cover shows a scene from the village of Pali in Rajasthan, India, where the main nonagricultural economic activity is cloth dyeing and printing. After the cloths are removed from a dye bath, they are hung from tall wooden frames to dry, in preparation for printing with stencils.

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CASE STUDY

10

Cooperative Credit in Agriculture—The Israeli Experience

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Cooperation in credit offers advantages in risk pooling through mutual liability and guaranty, but it also poses serious control problems. The debt crisis in the family farm sector of Israel, triggered in 1985 by anti-inflationary policies, revealed weaknesses inherent in the cooperative structure. Mutual liability encouraged overborrowing when possible and could not be enforced when needed. Cooperative credit could not survive in a highly unstable macroeconomic environment.

PENNILESS IMMIGRANTS WERE SETTLED on national land with public assistance in the early stages of agricultural development in Israel, thus creating what amounted to fosterage relations between the farm sector and the public agencies that looked after it. Modern Jewish agriculture had received substantial public support since its inception in the nineteenth century. Ideology and expedience made cooperation the preferred form of organization within the agricultural sector. Cooperative agriculture developed gradually in the 1930s and 1940s, and its growth accelerated dramatically in the early 1950s, when the newly established state directed arriving immigrants to agricultural cooperatives and furnished them with housing and farm tools. Today 80 percent of Israel's agricultural product comes from the cooperative sector, both family farms and the collective kibbutzim.

A major form of cooperation in agriculture has been financial. It flourished for a long time; but financial cooperation has found itself recently in deep trouble and will need massive public assistance to overcome its difficulties. It is now too early to predict what kind of cooperation, if any, will

emerge from the crisis. Yet important lessons can be drawn even from this incomplete experience. This chapter concentrates on Israel's experience with credit in farming villages run by cooperative associations, the so-called moshavim. In each moshav, all farms are family-owned and -operated and all farmers belong to the multipurpose, democratically run village cooperative. The communal sector—kibbutzim—will not be discussed in this chapter.

We summarize our observations in the following. Financial cooperation supported intensive development of the family farm sector when stable financial conditions prevailed. When credit supply expanded with inflation, and when it was augmented by government support, overextension was encouraged, particularly in the cooperatives. When credit expansion was slowed down, the cooperative sector found itself trapped in financial impossibilities. Now cooperation ties farmers and their organizations together and intensifies the crisis.

Inflation in Israel accelerated steadily from a yearly rate of 12 percent in the early 1970s to more than 500 percent (annualized) in the first half of 1985. It was then halted by an abrupt change of direction in policy, and since then inflation has been at approximately 20 percent per year. The rising prices were fueled by the expanding supply of credit. Interest rates lagged behind inflation, and real rates were negative for most of the decade ending in 1985. These conditions encouraged overinvestment and overborrowing and discouraged saving. But interest rates also lagged when inflation decelerated in 1985 and, as a result, real rates skyrocketed. Unable to service their debt, agricultural cooperatives collapsed.

Agriculture, and particularly cooperative agriculture, was thus the victim of inflation and the measures implemented to halt it. But the crisis reveals weaknesses inherent in the cooperative structure itself, as well as weaknesses in government lending policy to agriculture. Many businesses suffered severely when economic conditions changed with the introduction of the anti-inflationary policy in 1985. But it is only in agriculture that a whole sector—the cooperative sector—collapsed financially. Cooperative financial intermediation was founded on mutual liability arrangements and the crisis brought out clearly the failure of these arrangements. Mutual liabilities encouraged overborrowing when that was possible and could not be enforced when the need arose.

The Moshav and Second-Order Cooperation

In principle (practice varies) the cooperative association of each 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 productive enterprises. In addition, the association encompasses all municipal and many social functions in the village. Besides all these, the association also serves as a financial intermediary through which credit is channeled to the farmers. The moshav is therefore a supply, production, service, municipal, and credit cooperative.

Moshavim are members in two types of second-order (mostly regional) cooperatives: *supply cooperatives* (requisite societies, purchase organizations) set up to purchase farm inputs for their member-moshavim, and *regional service enterprises* (feed mills, slaughterhouses, transportation services, and others). The supply cooperatives act also as the spokesmen of their regions in the government offices. They engage in intensive lobbying and most have acquired a strong political standing.

Starting with back-to-back transfer of suppliers' credit to their members, both the moshav and the supply cooperative expanded into full-scale financial intermediation. In the two decades preceding the eruption of the crisis in 1985, the associations in the moshavim and the supply cooperatives were first and foremost credit associations. Moshavim were settled on national land; it was practically impossible for lenders, particularly suppliers and commercial banks, to repossess farms. This deficiency—that land and buildings could not be used as collateral—was the principal economic justification for the evolution of the moshav cooperative as a credit intermediary and for its mode of operation.

Financial Intermediation

The pivotal role of credit intermediation in the activities of the moshav association and the regional supply cooperative is demonstrated in their balance sheets in table 10-1 (for additional details, see Lerman 1989). Members' debit balances—accounts receivable from members—are by far the largest asset the associations hold: 76.6 percent of the total in the moshav and 60.9 percent in the regional supply cooperative. The moshav and the regional coop raise debt capital from outside sources and lend to their members. The associations also function as clearinghouses, accepting deposits from members with financial surpluses (members' credit balances in table 10-1) and lending to members with credit shortages. The supply coop and its moshavim are closely linked: through credit, as can be seen in table 10-1 where 76.9 percent of the moshav's liabilities is short-term credit from the supply coop, and through joint ventures in the regional service enterprises.

The government was the major source of long-term credit and the major lender in the early stages of the development of the moshavim.[1] Government credit was generally supplied on concessionary terms and the

Table 10-1. *Balance Sheets of a Moshav Association and a Regional Supply Cooperative, September 30, 1981*
(percentage of total assets)

Assets			*Liabilities*		
	Moshav	*Supply cooperative*		*Moshav*	*Supply cooperative*
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
Inventories	4.0	n.a.	Short-term loans	0.6	34.5
Accounts receivable					
Nonmembers	12.2	3.6	Short-term loans from supply cooperative	76.9	n.a.
Regional enterprises	n.a.	18.3	Suppliers' credit	4.1	21.8
Members' debit balances	76.6	60.9	Members' credit balances	13.5	21.2
Total	100.0	100.0		100.0	100.0

n.a. Not applicable.

Note: The data for the moshav are for an average association in a sample of thirteen moshavim, all members of the regional supply cooperative. Balance sheets are prepared in historical values, not adjusted for inflation. The financial reports in the moshav are for the *cooperative association*, not for the whole village. Information on individual farms is not included and is generally not available.

Source: Zusman (1988).

minuscule share of long-term (mostly government) credit in table 10-1 is a reflection of both inflationary erosion of unindexed debt and the growing availability of alternative sources of finance.

The balance sheet is prepared in historical values, and as a result equity capital in table 10-1 is understated. It was estimated that if adjusted to current values, equity would reach between 15 and 30 percent of the associations' liabilities. But even with fully revalued equity, items reflecting financial intermediation still dominate the cooperatives' balance sheets.

The regional supply cooperatives thus established for their members the moshavim—and they in turn for their members the farm operators—financial services with steady lines of credit and convenient saving facilities. Because of proximity and familiarity, asymmetric information was not a significant problem in cooperative agricultural credit in Israel. Still, interlinkage of credit and marketing was practiced (Bell 1988): farmers were expected to channel the proceeds of their marketed products through the moshav association and it, in turn, through the supply coop. Interlinkage formed part of the institutional setup that replaced collateral for loans.

Financial Cooperation

The "classical" discussion of the theory of cooperatives (LeVay 1983) struggled with the definition of the goals of the cooperative firm and its behavior. Difficulties created by the cooperative's egalitarian democracy were recognized but not formulated explicitly and not examined analytically. In the modern approach (Vitaliano 1983; Royer 1987; Zusman 1988), the cooperative is viewed as a collection of individuals, each guided by personal preferences but committed to joint performance of certain economic functions. The modern approach enhances our understanding of two central facets of the cooperative mode of action. First, laws and regulations governing cooperative life are often compromises and are not necessarily first-best, Pareto-efficient. For example, the optimal cost allocation rule is generally marginal cost pricing; but unable to agree on the distribution of side payments, the moshav most often settles for average cost pricing. This subject is treated at length in Zusman (1988). Second, members in cooperatives—in our case, farmers in a moshav or moshavim in a supply coop—are not subordinates in a centrally managed hierarchy; they are free to act within wide limits. By treating explicitly individual behavior and group decisions, the modern, contractual perception of cooperation throws new light on the advantages of cooperative credit intermediation and particularly on its weaknesses.

Advantages

With cooperation, members in the moshavim and moshavim in the supply coops enjoy economies of scale in loan processing and professional financial management—particularly important in a high inflation, high tax economy such as Israel—and a stronger bargaining position in the credit market (as well as in other markets).

Perhaps the greatest advantage of cooperative credit, both in the moshav and in the supply coop, lies in risk pooling, implemented in two ways. In the short run, the association can use its own resources to smooth over the credit needs of its members. Outside lenders do not have to deal with transitory difficulties of individual borrowers.

A more fundamental mode of risk pooling is mutual liability and guaranty. Members in the moshav sign mutual guaranty agreements for the moshav association and representatives of moshavim pledge similarly for the loans raised by the supply coop. This creates explicit and implicit peer monitoring. The social pressure to comply with cooperative norms is strengthened under mutual liability arrangements, and in general the probability of the association's default is reduced. Banks evidently recognized the advantage inherent in this arrangement, as credit to cooperative associations was often conditioned on renewal of mutual liabilities.

Weaknesses

Several kinds of structural difficulties afflict the moshav. First is *moral hazard*—members may tend to invest in excessively risky projects on their farms, safe in the knowledge that mutual liability will bail them out should the investment fail. *Free riders* pose another difficulty—a member in the moshav may market the product of his farm privately, thus weakening the association's standing in the credit market. *Agency costs* are another problem—banks and other lenders view the cooperative associations as their agents and expect them to protect their interest (by limiting credit to failing farms, for example), but the associations are guided by their own interests, which are not always identical to those of the lenders. Similarly, officers in the associations may be tempted to expand operations and to assume risks that prudent members on their own would avoid. Finally, there may be *horizon problems*—members may support policies favoring short-term gains in expectation that in the long run they may exit, leaving those who stay to carry the cooperative's liabilities (Vitaliano 1983).

Enforcement of the moshav's norms and rules (which in practice implies enforcement of the collective marketing interlinkage arrangements) is critical to its continued functioning as a credit cooperative. However, compliance with the moshav's code requires high standards of cooperative ethics ("sympathy" in the usage of Sen 1966) and willingness to enforce the rules. Interdependence of the degree revealed in table 10-1 and close monitoring due to interlinking of credit with product marketing could be expected to allow effective control. However, this was not the case. Particularly where interdependence was strong, the moshavim and the farm operators who belonged to them had only limited access to alternative sources of credit and, consequently, the supply cooperatives were committed to continue funding their member moshavim, however weak and close to failure. Their elected officers could hardly afford the dire financial, social, and political consequences of members' bankruptcies.

These enforcement difficulties are reflected in the behavior of members of cooperatives. A rough measure of the financial exposure of a member is the ratio of outstanding debt to monthly sales through the cooperative ("credit months"). During the period 1977–81, thirteen of the twenty-four moshavim in the regional supply cooperative of table 10-1 exceeded twelve credit months (Zusman 1988). Moshavim with fifty-five and forty-two credit months were observed in another supply coop (Kislev and Marvid 1988). More than a few farm operators owe their moshav cooperative associations several times their yearly production capacity. Moshavim or individual farmers with such heavy burdens of debt compared to their production capacity will never be able to repay their loans or service them adequately. Heavy debt burden does not happen overnight; it evolves gradually.

Moshavim or individuals with dozens of credit months testify to the weakness of their cooperatives, a weakness that breeds permissiveness and lax financial discipline.

Moral hazard behavior and other weaknesses increase the risk to the lender and may even outweigh the advantages of cooperative credit. This indeed is observed in the aftermath of the recent crisis—lenders that were not previously involved are reluctant to extend credit to moshavim and to regional and national cooperatives.

Regional Enterprises

Regional service enterprises were ordinarily organized as limited liability cooperative associations and their establishment was financed mainly by government investment grants and subsidized loans. Their membership consisted of moshav associations, mostly potential patrons of the service offered. Often the regional supply coop was also a member and in all cases it provided the enterprises in the region with short-term financing and purchasing services. Strong economic relations developed between the two kinds of regionals—the supply coop and the service enterprise—a relationship that proved detrimental when the financial crisis erupted at the end of 1985.

Zealous pursuit of rural development by public agencies, easy access to credit through the supply cooperatives, and strong political regional lobbies resulted in overexpansion of the service enterprises. These trends were particularly prevalent in the 1970s, when credit was in ample supply and economic optimism ran high. Not unlike firms in a cartel, regionals scrambled to grab their share in the service enterprises, with all the expected ensuing benefits. Consequently, in the early 1980s many service enterprises operated under capacity: 50–60 percent by the estimate of the state comptroller. The final outcome was that many of the enterprises could not even cover their operating costs.

The supply cooperatives, assuming the role of the financiers of last resort, found themselves financing not only operating losses but also the debt service of the regional enterprises. In 1981, the share of credit to the service enterprises in the assets of the supply coop in table 10-1 was already 18.3 percent; it grew substantially thereafter. In one case (Kislev and Marvid 1988) we found that a regional slaughterhouse that started operation in 1981 with equity representing 25 percent of its inflation-adjusted capital[2] began accumulating losses, and by 1985 its debt reached 2.5 times the value of its assets, most of that short-term loans from the supply coop. This was an extreme case but not atypical; when the service enterprises began failing in 1985, they took many of the supply coops down with them.

Cost of Debt

Perhaps the greatest damage that inflation inflicted on the Israeli economy was the distortion of the cost of capital. Real interest rates varied markedly due to both market and administrative lags in adjusting nominal interest to the rate of price changes. Cost of borrowing in some channels was at times very high, while at other times and for other loans it was negative. For more than a decade, since the early 1970s, real rates of interest on most sources of credit were negative, primarily due to government intervention in cost of debt for preferred uses. Particularly well subsidized were government-supported development loans until they were linked to the price index in 1979. Moreover, as both interest expenses and indexation linkage of the principal were tax-deductible, taxpaying farmers and cooperatives enjoyed a negative effective cost of capital even for index-linked loans or for loans with interest rates fully adjustable to the rate of inflation. It was only in 1982 that tax regulations were introduced requiring inflation-adjusted accounting and thus eliminating loopholes that inflation created.

In a preliminary survey of eight cooperatives, both village and regional, we found that the *average* effective real cost of outstanding debt was zero in 1971 and it declined gradually thereafter; it was *minus* 40–50 percent per year in 1984. When inflation was halted in 1985, interest again lagged and real rates jumped to *plus* 15–20 percent. Current cost of credit varied even more: the real rate of interest on directed short-term credit in 1984, with inflation at its peak, was *minus* 59 percent. In 1985, the real cost of overdraft facilities was *plus* 100 percent per year.

Credit Supply to Agriculture

It has often been claimed in Israel that agriculture suffered from credit shortage. Examination of the available information reveals, however, that credit has been in ample supply. The share of agriculture in the net domestic product of the business sector has been 6–7 percent; but over the past two decades, its share in the volume of credit was higher than 10 percent. With inflation, financial leverage increased, particularly in agriculture. In 1986 the ratio of outstanding economy-wide credit to gross national product was twice its 1969 value; in agriculture the same ratio increased by a factor of 3.8. The ratio of credit to net capital stock increased in agriculture between 1969 and 1986 by a factor of four, while in industry it rose over the same period by only 20 percent. As we have seen, credit was under-priced and the low, even negative real rates of interest evidently contributed to the feeling of shortage.

Another claim often made in Israel was that the maturity structure of loans did not match capital needs. Not enough long-term loans were available and investment projects had to be financed with short-term credit, creating a financing gap between the expected life of the assets and the duration of the loans. Again, with negative real interest rates and easy access to short-term credit, many farmers and cooperatives knowingly financed investments with short-term loans and knowingly created financing gaps.[3]

Whatever the origin of the financing gaps, farmers always turned to the government when financial stress became a cause for concern, usually with forceful lobbying and political backing. There were many cases, almost one a year until 1985, of "conversions" (rescheduling of loans): short-term credit was replaced by long-term loans, mostly on concessionary terms. The recurrence of the conversion episodes, sometimes general and sometimes specific to certain farms or regions, was one of the major reasons for the widespread belief that agriculture would not be allowed to fold. The remedy was, however, not always effective. In many cases farmers and cooperatives returned to the preconversion maturity structure just several years after rescheduling.

Government

Cooperation in agriculture was encouraged by the government as a matter of policy: new immigrants were settled in moshavim; land and water were allotted to the moshav and distributed equally among the members; production quotas in milk, eggs, broilers, fruits, and other products were allocated on a village basis and the moshav decided on internal distribution; government agencies usually consulted with the cooperative association in the moshav on the allocation of long-term loans to farm operators.

Over time many of the newly settled operators acquired farming skills and cooperation became well established. Yet the view—held not only by farmers—that it was the government's role to maintain the welfare of the farming sector persisted, and the expectation that the government would actually shoulder this responsibility did not wane.

Government (in the wide sense of the term) is responsible for the laws and regulations of cooperative activity. Two instances of interest to our discussion can be mentioned. First, attempts to pass a "law of moshavim," strengthening the power of the association over individual members and improving their ability to control financial activities, failed because the law was deemed to infringe on the freedom of the members. Second, a regulation was recently issued that a cooperative cannot force members to participate in covering its losses. The argument is that a cooperative is a limited liability entity and members are responsible only up to the value of their shares (in principle, the limitation does not apply to cases of mutual guaranty). A judge already applied the new regulation in one dispute and the case is now on its way to the Supreme Court. If upheld, it will mean a revolution in the mode of farm cooperation in Israel.

The most profound public involvement in agriculture was in credit.[4] By deciding on the allocation of subsidized credit, the government influenced regional development, lines of production, and farmers' income. The dependency on the government and the expectation that it would bail out farmers and moshavim in trouble created moral hazard problems, not unlike those that mutual guaranty created in moshavim and regional cooperatives. Lacking the usual mechanism of collateral, the government turned to close monitoring in the form of "concentrated credit": under this system, a moshav or a kibbutz concentrated all of its financial activity in a single bank; credit for both investment and short-term needs was granted only with the approval of a steering committee consisting, among others, of representatives of the bank and the Ministry of Agriculture.

Participation in the concentrated credit scheme was voluntary and moshavim were attracted by the additional loans they could get. Indeed, the program, which started in the early 1960s, covered in a few years most of the moshavim in the country. However, the increased credit supply in the 1970s, and particularly the convenient alternative sources offered by the supply cooperatives, eliminated the advantages of concentrated credit from the point of view of the moshavim and the program folded in mid-1970s. Thus the problem of moral hazard in the moshavim was recognized and tools to mitigate it were devised, but the will to maintain a strict policy could not withstand the flood of available credit. Concentrated credit is now proposed again in reaction to the current crisis.

Crisis

The crisis erupted at the end of 1985 once creditors realized that agriculture, particularly cooperative agriculture, could not continue to service its debt in view of the exceedingly high, post-reform real interest rates and the inability of the government to continue to bail the sector out. Private lenders and commercial banks refused to extend additional credit and insisted that loans be repaid. This was impossible and most regional cooperatives and many of the associations in the moshavim collapsed. Farm production has continued, often with private credit arrangements (wholesalers, for example, pay in advance for farm products) and the farmers' personal resources. But this cannot be a complete solution to the crisis: (a) in most cases, the available sources will be insufficient for investment in equipment and machinery and farmers will find it hard to renew their production assets; and (b) banks and other creditors are still demanding repayment of the outstanding loans. For most farmers, the heavy burden is not their own debt but their share of the mutual liabilities—their share in covering the debt of several heavy borrowers in the moshav and the debt of the regional service enterprises.

Agriculture cannot repay or service its debt in full; the question now is how to distribute the losses. Once this was realized, the government stepped in offering support in an effort to reach a debt settlement between the banks and the moshavim. An agreement was formulated in 1988, but its implementation has been slow because farmers still hope that they can gather political support for a more favorable settlement.

Recapitulation

Inflation created a special opportunity for agriculture in Israel, particularly for cooperative agriculture. With negative real interest rates and erosion of debt, agriculture could have increased its equity capital and emerged from the inflationary period economically stronger. This did not happen; as we have seen, financial leverage increased in agriculture: farmers sank deeper into 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 standards of living. Considerations of short-run inflationary gains dominated those of long-run economic health.

Myopia is common, but it afflicts cooperatives more strongly than individuals and private enterprises because of the cooperatives' internal politics and because of its incentive structure, which leads to moral hazard behavior, free riding, agency costs, and horizon problems. Still, the cooperatives were not the only ones at fault. Credit was distributed 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.

However, cooperation is not the sole cause of the crisis. Government, by its policies to accelerate development and by ultimately yielding to political pressures, created the impression (which has since proven false) that it would bail agriculture out in case of difficulty. Government also carries the major blame for overcapacity in agriculture. Farmers and regional officers naturally tend to increase their share in aggregate capacity. Because most of the development projects were funded with government approval, it was the duty of the government to consider the aggregate picture and to balance the desire to invest against the needs. This was not done; policymakers and even the Ministry of Agriculture Planning Authority encouraged over investment. The crisis in cooperative agriculture is to a large extent the outcome of the favoritism it enjoyed for a long time.

Structural weaknesses in the moshavim and irresponsible behavior on the part of the government and the commercial banks reinforced each other in precipitating the crisis. It is impossible to apportion the blame at this stage and it is probably not important. The significant question is what inference can be drawn from the analysis about the future of agricultural cooperation.

Although cooperation in general, and financial cooperation in particular, has many advantages, it also suffers from inherent weaknesses. It is not clear if cooperation—unless heavily assisted by public funds—can succeed or, in the long run, even survive the economic test of competitive markets. But the test of the crisis is much harsher. Even if cooperation is basically viable, it may now be destroyed because of the particular crisis conditions. Much will depend on the willingness of the members to maintain cooperation in agriculture and on their ability to make the required structural modifications that will increase the stability and reduce the probability of failure of cooperatives.

Lessons and Recommendations

The failure of cooperative agriculture was a failure of control. If cooperation in agriculture and particularly cooperation in credit is to survive and succeed, control has to be tightened. But control is expensive and often inconvenient. Both incentives and appropriate structures are needed to assure optimal control.[5]

First and foremost, the government cannot and should not take explicit or implicit responsibility for agriculture or for cooperatives. Then both farmers and lenders will know that they are the sole residual claimants of profits or losses. It will be in their direct interest to tighten control and to follow prudent economic policies. Mutual guaranties should be severely limited to reduce moral hazard behavior at the farm and in the village and regional cooperative association, and external market control of cooperatives should be established wherever possible.

A necessary condition for efficient control is availability of accurate and timely information. Financial reports, including balance sheets and income accounts, need to be prepared and published regularly. The reports should be adjusted for inflation; prices are still rising in Israel at 15–20 percent per year.

Supply coops should be limited to commercial activity; they should not act as financial intermediaries. The regional service enterprises should be incorporated as limited liability companies and the members of the owner-moshavim should receive marketable shares. Moshavim and their members should be free to patronize service enterprises of their choice, whether in their region or elsewhere.

Members in the moshavim should be free to leave their cooperatives and operate privately or to form alternative organizations. Exit is expensive—it raises the average cost of services to the remaining members, and the exiting farmer may forfeit his allocation of land and water and, in addition, his production quota and development loans. But exit is often the only way for patrons to enforce efficiency and for minorities to voice their opposition (Hirschman 1970). Lack of control may be more expensive.

The structural changes that we are proposing—and in many cases we adopt proposals that have already been made in Israel—are not easy to implement. Exposing the regional service enterprises to market competition may seem extremely painful in the short run; and indeed the Debt Settlement Administration is attempting to cure the enterprises by erasing their debt and assuring capacity operation through tying moshavim to their services. In the long run this is a recipe for inefficiency. The implementation of the changes we propose will require modifications of both law and attitude.

Notes

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1. We lump together government and other public institutions.

2. A major share of the accumulated equity was due to the inflationary erosion of unlinked loans during the construction period, from 1976 to 1981.

3. In part, however, the government was also responsible for the financing gaps. For example, government-approved development loans were often dispensed with delays, forcing reliance on short-term bridging finance. In periods of inflation, delays create not only temporary but also permanent gaps in financing because of the inflationary erosion of the real value of the loans that were late to arrive.

4. Thirty to forty percent of the credit in Israel is supplied by banks from their own sources and allocated to borrowers at the banks' discretion. The rest is under government control—either originating from the government budget and the central bank or from bond issues and deposits administered by commercial banks but designated as funds for earmarked, government-approved projects. Public involvement in credit supply to agriculture is even larger, with more than 80 percent government-directed.

5. We focus on the Israeli experience with its particular characteristics; chapter 3 discusses the problem in the context of developing countries.

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