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**FARM DEBT IN TRANSITION COUNTRIES:
LESSONS FOR TAJIKISTAN**

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FARM DEBT IN TRANSITION COUNTRIES: LESSONS FOR TAJIKISTAN

Zvi Lerman and David Sedik

Farms in Tajikistan currently face a severe debt crisis. This is part of a more general problem, as many transition countries in the Commonwealth of Independent States (CIS) have been struggling with farm debt overhangs. Debt resolution discussions have been going on in Tajikistan for a number of years, but the general lack of political will and the prevailing unwillingness to make radical changes in the core of the inherited collective farm structure have typically resulted in temporary ad hoc solutions that fail to treat underlying causes.

The debt crisis in Tajikistan's agriculture has been caused by a combination of two factors typical of such situations in many countries: (a) the inability of the farms to make a profit under current conditions and (b) continued lending by the banks to cotton producers regardless of reduced payment capacity and lack of credit-worthiness. The accumulation of farm debt in Tajikistan is traceable to pervasive government intervention in both financing and production decisions, which has led to soft budget constraints and moral hazard behavior. In addition, the government has failed to create a conducive environment for radical restructuring of the inherited farm system and thus prevented improvements in profitability and efficiency.

The purpose of the paper is to inform the debate around the issue of cotton farm debt in Tajikistan by studying the experience of other countries that had to contend with farm debt overhangs in the 1980s and the 1990s. Five CIS transition countries (Belarus, Kazakhstan, Moldova, Russia, and Ukraine) and one market economy (Israel) are studied. The comparative analysis shows that the farm debt issue is not strictly a transition economy phenomenon. The problem can occur in market economies (e.g., Israel) if the state pursues policies directed toward the expansion of farm production without heed to creditworthiness of the farms and if the farm structure is incompatible with profitability and efficiency criteria. The basic reasons that led to debt accumulation in CIS and in Israel remain valid to this day, and the policy solutions implemented in these countries are relevant for Tajikistan.

An important common feature of farm debt in both transition and market economies – CIS and Israel – is that the problem encompassed a whole economic-social sector in each of the countries involved. As a result, it was unpracticable to seek standard debt resolution through liquidation and bankruptcy of the insolvent farms, as the entire agriculture was insolvent and traditional approaches would involve an unacceptable social cost for the rural population as a whole. The situation in Tajikistan may not have reached this dramatic level yet, but the farm debt burden is large and widely dispersed. The search for farm debt resolution mechanisms in Tajikistan therefore should purposely consider non-bankruptcy mechanisms that will help preserve and nurture the fragile fabric of rural society. The farm debt resolution program implemented in Moldova in 1998-2000, engineering debt repayment through the sale of collectively owned assets to the government and compensation of commercial creditors with long-term government bonds, provides an example of a particularly appropriate mechanism that could be applied in Tajikistan. The Israeli experience with rescuing the farm sector in the 1990s through a non-bankruptcy mechanism that forced banks, commercial creditors, and the government to share the burden of outstanding debt writeoffs and instituted strict monitoring tools to prevent accumulation of new debt is also highly relevant for Tajikistan's situation.

Cotton Debt Crisis in Tajikistan¹

Tajikistan's agriculture today consists of three main farm structures: agricultural enterprises and collective dekhkan (peasant) farms, the successors of former Soviet collectives that had dominated Tajikistan's agriculture before mid-1990s, and the booming sector of individual dekhkan farms, which are rapidly overtaking the traditional collective farms. Agricultural enterprises and collective dekhkan farms in Tajikistan are facing a severe debt crisis, which has been mainly documented for cotton producers, but is a general problem of structurally unreformed farms that have kept the traditional collective form of organization.

The financial performance of agricultural enterprises in Tajikistan has deteriorated drastically over time.² In aggregate agricultural enterprises in Tajikistan have run net losses since 1998, and the number of farm enterprises reporting losses increased from 27% in 1997 to 51% in 2001. Despite worsening economic performance, bank lending to agricultural enterprises has increased every year since 1991, so that their share in total bank debt in the economy rose from less than 10% in 1991-93 to more than 60% in 2002-05. Almost the entire bank debt in farms (more than 95%) is short-term debt for working capital financing. In addition to short-term bank debt farms are also indebted to input suppliers, which have accounted for more than one-third of farm debt in recent years. Thus, in 2005, farms owed 500 million somoni in accounts payable to suppliers on top of 750 million somoni that they owed to the banks, approximately \$400 million.

The reasons for the accumulation of cotton farm debt go back to the system for funding the cotton crop that was set up by presidential decree in 1998. The system was designed with the objective of alleviating the working-capital difficulties of cotton-growing farmers. Private investors ("futurists") were designated to conclude contracts with cotton farmers, which specified the inputs investors would supply to farms and the amount of cotton they would receive for their services. It has been repeatedly argued that "investors" grossly overcharged farmers for financing and inputs delivered, and underpaid for cotton received. These pricing problems combined with intrinsically inefficient farm production led to steady increase of indebtedness.

The debt of cotton farms to private investors increased steadily and continuously from less than \$50 million in 1999 to \$400 million in the end of 2007.³ In addition, farms have debt to the budget, tax authorities, and for utilities. According to the National Bank of Tajikistan, this non-investor debt totaled approximately \$62.2 million as of January 2006, and that after the

¹ This section draws on the authors' report *The Economic Effects of Land Reform in Tajikistan* (October 2008), prepared as part of the EC/FAO Food Security Programme—Phase II: Food Security Information for Action and published in Budapest and Dushanbe (in English and Russian).

² The financial performance statistics in this paragraph are from two official sources: *Tajikistan: 15 Years of State Independence*, statistical yearbook, State Statistical Committee, Dushanbe, 2006, pp. 473-474, 478-479, 485; *Agriculture in Tajikistan 2002*, statistical yearbook, State Statistical Committee, Dushanbe, 2002.

³ Van Atta, Don (2008): "The failure of land reform in Tajikistan," Paper for the 13th Annual World Convention of the Association for the Study of Nationalities, Columbia University, New York (April 11). Based on data from IMF (1999) and National Bank of Tajikistan (2000-2007).

government had written off \$38.5 million in December 2003.⁴ In total, the farm debt to investors and non-investor creditors accumulated by January 2006 was about equal to the total amount the World Bank and the Asian Development Bank, taken together, had lent and given Tajikistan since they began operations in the country.

Recent survey results⁵ illustrate that the primary source of financing for cotton producers is the “futurists,” non-bank private financiers that advance farm inputs in exchange for the cotton crop. Practically all cotton growers among family dehkan farms (90%) sign forward contracts for cotton deliveries, and again practically all of them (83%) sign up with “futurists” (FAO 2008 survey). For small farmers, investors (“futurists”) financed (sometimes in combination with other sources) about 70% of the production costs for the 2007 cotton harvest (**Table 1**). Commercial banks contributed another 12% of production costs, while 14% was self-financing. Most farmers (72% of the respondents) used a single source of financing, which in more than half the cases was the investor. Self-financing is the second-ranking source, reported by 30% of farmers who finance from a single source (ADB 2008 survey).

Table 1. Cotton financing sources for small farmers in 2007

Financing source	Share of 2007 production costs financed from this source, % (n=323)	Farmers resorting to this source, % (n=323)*	Farmers financing from a single source, % (n=233)
Investors	68	62	54
Banks	12	14	11
Self-financing	14	46	30
Other	6	9	5
Total	100	--	100

*Numbers add up to more than 100% because farmers use multiple sources of financing.

Source: ADB 2008 survey.

In general, larger farms have to turn to investors at least for part of their financing, while the smaller farms rely on self-financing. Among farmers with a single source of financing (**Table 2**), those with least land (11 hectares under cotton) rely on self-financing, while those with most land (46 hectares under cotton) finance through investors (the differences between the two extreme groups are statistically significant). The same general tendency is observed when we compare the area in all farms that use investor financing (whether as a single source or as one of multiple sources) with the area in all farms that use self-financing: the average land under cotton in investor-financed farms is 44 hectares, while the average land under cotton in self-financed farms is 20 hectares (bank-financed farms fall in the middle with 40 hectares).

Table 2. Relationship between financing modes and land

	Area in cotton, ha	Total cropped area, ha
Single financing source	33	48
Multiple financing sources	36	64
For farms with a single financing source:		
Investor	46*	64*

⁴ EuropeAid Project on Support to the Development, Implementation and Evaluation of Agricultural Policy of the Republic of Tajikistan, “Notes for a Strategy for the Agricultural Sector of Tajikistan” (processed, 2007), pp. 29, 49, 50.

⁵ This paper makes use of the results from two surveys conducted by FAO and by ADB in 2008. For details see the report cited in footnote 1.

Bank	30	39
Self-financed	11*	19*
All financing sources:**		
Investor	44	67
Bank	40	76
Self-financed	20	33

*Difference between investor-financed and self-financed farms statistically significant by both Anova and Wilcoxon tests. **Differences cannot be tested for statistical significance because of data structure.

Source: ADB 2008 survey.

Two main reasons appear to be responsible for lack of profitability and the accumulation of debt among cotton farms – primarily collective dehkan farms, but also many of the remaining farm enterprises: inefficiency due to inadequate reorganization and continued lending by “futurists” to farms irrespective of the ability of farms to service debt. The government’s insistence on setting targets for cotton production (so-called “state orders”) is a major reason for both lending without due regard to debt repayment capability and an incentive for farms to use the services of “futurists”. The state deprived Tajik farmers of freedom of choice in decisions involving the product mix on their farms, locking them into a rigid cropping and production pattern. Charged with the responsibility of meeting state orders for cotton, district authorities (hukumats), in addition to enforcing cotton sowing targets, began to demand that farmers accept financing by private “investors” outside the banking system in the guise of alleviating working capital problems. The dehkan farmers had to comply with these “recommendations” because the hukumats have the power to confiscate land for “irrational” use (which includes non-compliance with state orders).

Policies to address debt accumulation in Tajikistan

Farm debt resolution is a national priority in Tajikistan not only because of the burden it imposes on the financial system, but also because it constitutes an obstacle to the implementation of farm restructuring. The goal of moving toward a market-oriented agriculture with higher productivity and more efficient resource use requires a radical change in farm structure and operation, as the successors of large collective and state farms differ radically from the farms that actually exist in market economies. Farm debt is a serious constraint for the implementation of meaningful restructuring and resource privatization in CIS agriculture in general and in Tajikistan in particular. First, it prevents the exit of individual farm members from the collective structure, because they are responsible for a portion of the debt and may not be able to borrow on their own through financial institutions to meet the operating needs of their new farms. Second, debt obstructs restructuring of the traditional collective enterprises into new viable entities, because the designated shareowners – the members of the farm enterprise – face uncertainty regarding the net value of the assets they potentially control and thus the creditworthiness of the new legal entities being created from the collective.

Several decrees and resolutions have addressed the problem of cotton farm debt in Tajikistan since 2003, proposing to no avail debt settlement mechanisms, appropriate accounting techniques, and timetables for debt rescheduling and repayment. The growing farm debt problem stimulated the government of Tajikistan to issue Government Resolution 111 entitled a “Plan of Measures for Cotton Farm Debt Resolution in the Republic of Tajikistan for 2007-2009.” This resolution included policy measures aimed at creating a better enabling environment for cotton

producers, such as a provision prohibiting district authorities from confiscating land for use “not according to purpose” and provisions guaranteeing no interference in farmers’ freedom to farm. The document also called for the “design [of] procedures on farm debt resolution” by April 2007.

The enabling measures outlined in Government Resolution 111 have not been fully enacted and no procedures to resolve the problem of farm debt have been issued so far. In fact, many of the provisions of Resolution 111 are effectively abrogated by the latest version of the Law “On Land Use Planning” passed in January 2008. An interventionist streak runs through the entire law indicating that the government intends to continue its intervention in farm-level production decisions through the tools of land use planning.

Experience with Farm Debt in CIS⁶

The rapid accumulation of farm debt in Tajikistan since 1999-2000 looks like a repetition of the previous scenario that unfolded in other CIS countries between 1992 and 1998. As in Tajikistan, farm debt accumulation in other CIS countries was driven by two main factors: (a) inadequate farm profitability and (b) pervasive soft budget constraints made possible by government policies and irresponsible lender behavior.

Nature of farm debt and repayment capacity

The farm debt situation in the CIS had two characteristic features: first, the real debt of the farm sector rose steady since 1990 (Figure 1); second, the term structure of debt shifted almost entirely toward short-term, current liabilities (Figure 2). The old long-term debt, never a major component of farm liabilities, was completely wiped out by the galloping inflation of the early 1990s, and in the absence of appropriate indexation mechanisms all sources of new long-term lending evaporated at that time. The growing farm debt in the region was thus generally new and fairly recent debt, not debt inherited from the Soviet period.

Standard financial ratios calculated for the CIS countries from aggregate balance sheets and income statements of the farm sector reveal deterioration of financial situation as debt levels increased over time. Yet the values of most ratios were not dramatically high. Thus the ratio of debt to total assets and even the ratio of debt to current assets were both comfortably less than 1 (Table 3). This means that, in conventional terms, the CIS farms were not bankrupt at all: they had enough assets (even only current assets) to cover the outstanding debt with a sufficient safety margin. The ratio of debt to sales measuring the ability to repay debt from current revenues was not alarming either (Table 3): farm debt was of the order of annual sales, which means that one year of sales revenues was sufficient to repay the entire farm debt in CIS. Debt levels of one credit-year are not regarded as catastrophic anywhere in the world.⁷

⁶This section is based on a regional farm debt study carried out in 1999-2000 in Belarus, Kazakhstan, Moldova, Russia, and Ukraine. The results were summarized in Z. Lerman, C. Csaki, and S. Sotnikov, *Farm Debt in CIS: A Cross-Country Analysis*, World Bank, Washington, DC (2001), with supporting country background papers.

⁷ The numbers in Table 3 are based on sector averages for each country, and do not allow for the distribution of farms over the entire spectrum of ratios. Yet tentative distributional analyses indicate that the percentage of farm enterprises with critically high indebtedness levels (relative to assets and sales) was on the whole very low.

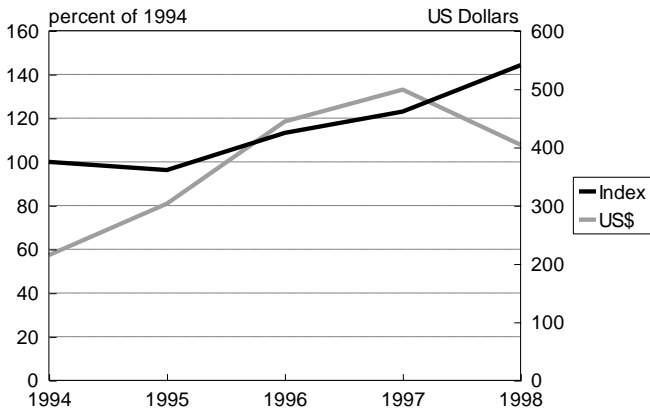


Figure 1. Real debt per farm (volume index and US dollars).

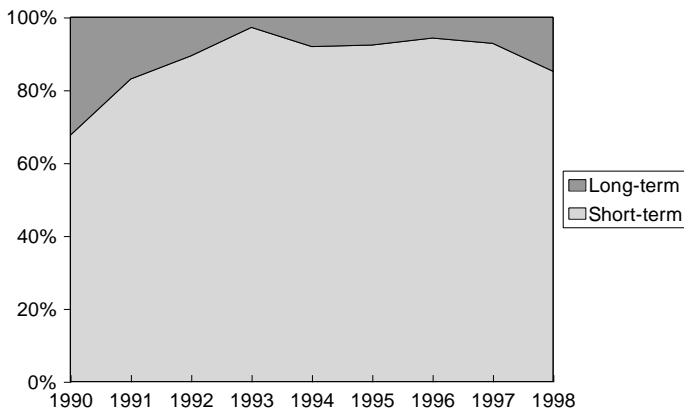


Figure 2. Term structure of farm debt.

Table 3. Selected financial ratios: average for four CIS countries (excluding Kazakhstan)

	1990	1994	1998	US (1998)
Debt to sales	0.16	0.49	1.20	0.40
Debt to total assets	0.10	0.17	0.15	n.a.
Debt to current assets	0.28	0.60	0.89	0.35
Debt to liquid current assets	0.58	2.27	4.27	1.50

All four basic ratios measuring the capacity of farms to repay their debt – the ratio of debt to sales, the ratio of debt to total assets, the ratio of debt to current assets (including inventories), and the ratio of debt to liquid current assets (the quick or acid ratio excluding all inventories) – increase over time, which is a definite sign of rising indebtedness (Table 3). Yet while the values of the first three ratios are not particularly alarming by world standards, the ratio of debt to liquid current assets rises to stratospheric levels. On average in Russia, Ukraine, Belarus, and Moldova this ratio rose from 0.6 in 1990 to over 4 in 1998. This means that the liquid assets, when converted into cash at their full book value, would cover less than 25% of current farm debt. The corresponding ratio for US farms was 1.5, i.e., liquid assets of US farms cover 67% of current debt. Moreover, for US farms all three ratios remained perfectly steady over the years: there was no deterioration in the solvency of US farms, while CIS farms have become much less solvent over the decade of transition.

While all four ratios point to increasing indebtedness, it is particularly the ratio of debt to liquid assets that confirms the existence of a serious problem in CIS farms: farms can only repay a small fraction of their debt from cash and near-cash reserves. To repay the bulk of their debt, they have to rely on sale of inventories and liquidation of fixed assets, which is a proposition with dubious and uncertain outcomes even in established market economies.

Why is there a contradiction between the ratio of debt to liquid assets, which presents a grim picture of debt repayment capacity, and the ratio of debt to sales, which optimistically suggests that debt can be repaid from just one year of sales revenue? The reason, quite simply, is that farm sales in CIS do not produce profits. The proportion of farms reporting losses had increased markedly since 1994, and well over 60% of farm enterprises were unprofitable in the late 1990s. Sales revenue was entirely absorbed by wages and other production costs, and farms were losing on average almost 40% on each ruble of sales revenue. Farm operations did not generate net income that could be used to repay debt, however small.

Debt and profitability

Declining profits (and increasing losses) appear to be the major determinant of debt accumulation in CIS farms. The level of debt increased in inverse proportion to the level of profits: as profits declined and losses grew the real level of farm debt increased. This result was observed both for the entire farm sector over time and across thousands of farms in one year (1998). So the debt problem in CIS was clearly attributable to lack of profitability.

To explain debt accumulation, we thus need to understand the decline in farm profits. There are two broad groups of reasons for the growing losses in CIS farms: internal farm-level reasons, and external policy-related reasons.

The *internal farm-level reasons* are all related to the traditional collective farm structure, which basically did not change in CIS during the 1990s:

- The farm enterprises did not reduce their size to more manageable dimensions;
- Farm managers remained committed to provide all members with jobs, regardless of cost-efficiency considerations;
- Farm enterprises were obliged to maintain the social infrastructure in the village, including the traditional free support to household plots;
- Farm operations remained largely production oriented, with no overriding emphasis on markets, consumers, and sales: farm managers remained production maximizers, not profit maximizers;
- Member-workers continued to function in a traditional collective environment, without any direct accountability for the results of their effort or their contribution to profits and losses.

All these internal reasons were obstacles to improving the cost-efficiency of farms, and necessarily led to suboptimal profits. As long as CIS farms continued their strategy of formal reorganization, avoiding radical internal restructuring prescribed by market principles, they were not able to improve their efficiency and profitability.

External factors affecting profitability: The impact of government policies

During the Soviet era, CIS farms were generally profitable. However, the example of farms in Novgorod, a typical non-chernozem zone oblast, demonstrates that this profitability was merely an illusion (Figure 3). In the past, the government traditionally injected massive subsidies into farm enterprises, which compensated them for low product prices and relatively high costs. Without subsidies, Novgorod farms were losing all through the early 1990s, and their reported profitability was sustained entirely by subsidies. Subsidization of agriculture was a serious burden on the state budget, but this burden was deemed necessary to ensure low food prices for the population. After 1990, however, the economic and political environment changed, the subsidies all but disappeared, and without their masking effect the proportion of farms with losses increased dramatically. Today the farms face an entirely different set of external factors linked with government policies, which have a very strong impact on profitability. Without subsidies, farms became unprofitable *given the existing production structure and management strategy*. In a market economy, farms must actively respond to reduction in government support by changing their objectives, by restructuring their operations, by reorganizing and realigning with market principles to achieve greater cost efficiency and eventually return to profitability.

With the elimination of producer subsidies, the main external policy-related factor that continued to depress farm profits in CIS was the government policy of maintaining low food prices for the population. While prices for manufactured commodities, including farm inputs and machinery, had been liberalized and brought to world market levels, the prices received by farms remained low. Deteriorating terms of trade for agriculture are a universal phenomenon observed in all market economies. Farms in market economies respond to deteriorating terms of trade by reducing their costs and increasing the output, i.e., improving their productivity and efficiency. As long as CIS farms fail to improve their productivity, they will continue to suffer from the squeezing effect of the “price scissors,” even if the government stops its intervention in food prices.

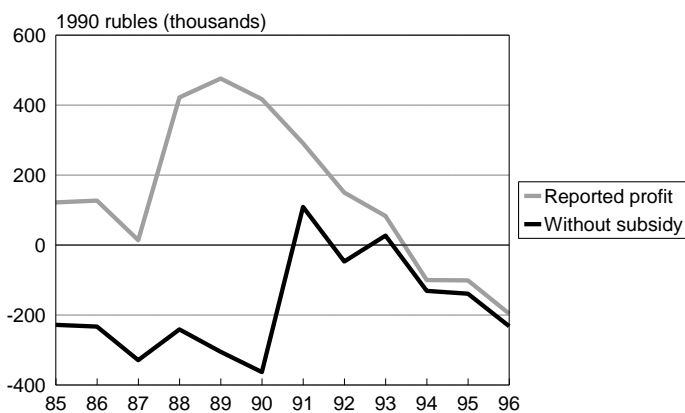


Figure 3. Impact of subsidies on profit for farms in Novgorod Oblast (gray curve – reported profit, black curve – profit excluding subsidies).

Thus, although external factors related to government policies certainly affect farm profitability, the ultimate solution to improving profits and reducing the burden of debt is basically internal. In response to changes in the economic and political environment, the farms must reorganize and

restructure for greater cost efficiency and higher productivity. This is what farms in market economies do to remain profitable in a changing world.

Who were main creditors of CIS farms?

All through the 1990s, about half the farm debt came from the government and banks and the other half from supplier credit and wage arrears (**Table 4**). The exact role of the banks in the early years of the decade is unclear: some of the debt recorded as bank loans (especially long-term loans) may in fact have been government debt channeled through state controlled agricultural banks. During the recent years, when the division between commercial banks and the government became much sharper and clearer than in the past, the share of bank lending in farm debt shrank to a minimum, and debt to the government became a dominant component.

Table 4. Sources of farm debt: four CIS countries (excluding Kazakhstan)

	1990	1994	1998
Institutional credit	57	46	50
Commercial banks	39	19	7
Government	18	27	43
Wage arrears	21	22	16
Supplier credit	22	33	35

Another clear feature in the development of farm debt over the last decade is the substantial increase in the share of suppliers' credit, which nearly doubled from about 20% of total debt in the early 1990s to 40% in recent years (Table 4). This may be interpreted as a clear sign of progress toward commercial normalization of financial transactions in agriculture. Wage arrears are not and have never been a significant component of sources of farm credit.

What could be done to resolve the farm debt problem?

Accumulation of farm debt in CIS was caused by two sets of factors: external factors related to government policies that produced a non-conducive economic environment for farm operation, and internal factors related to farm organization and structure that led to low productivity and growing losses. Effective resolution of farm debt required addressing both sets of factors.

The easiest and most obvious option for resolving farm debt would be to follow the practice of market economies and the experiences of some countries in Central Eastern Europe (e.g., Hungary and the Czech Republic). Insolvent farms would be declared bankrupt and go into liquidation, clearing the stage through debt restructuring for the creation of new financially viable units. Indeed, many experts recommended following this path in the CIS countries as well. However, the standard bankruptcy-based procedures could not offer a desired solution given the specific circumstances in the CIS.

- A very large number of farms (in some countries more than 50%) were technically bankrupt in the sense that they reported losses and could not repay any debt;
- The special structure of farm assets in relation to debt and the economic state of the farms made asset-driven debt restructuring difficult: farm fixed assets were grossly overvalued due to repeated indexing and not saleable;

- There was little effective demand for the farm assets which may be offered to creditors in a liquidation process;
- The status of land ownership was not clearly settled in most countries, and land generally had no value for debt settlement.
- There were no effective bankruptcy courts, and very few bankruptcy cases had actually been brought to completion.

Given the actual conditions in the CIS and the experience of all transition countries, the optimal approach to resolving farm debt had to start with the creation of an incentive system and a macro-policy framework for agriculture that would allow efficient agricultural producers to make profits and to invest. First, all remaining government intervention in agricultural markets had to be removed, farmers should be allowed to make their own production decisions, and prices for farm products should be set by free negotiation between producers and buyers. Internal and external trade restrictions and foreign exchange controls needed to be abolished. The freer the trade flows, the greater the benefit to everybody, including the farms. Governments do not have to withdraw from the markets as buyers, but governments must act on equally competitive terms with all others. If the government's offer is sufficiently attractive, producers will sell to the government. Otherwise, it is in the national interest to let producers sell elsewhere.

The history of farm debt in the CIS countries provides many examples of attempts to resolve the problem of farm debt. These included debt write-offs, moratoria, debt rescheduling and restructuring. These attempts have not been successful.⁸ They did not stop the accumulation of debt because they had been treating symptoms, and not the true causes of the problem. The conventional measures have not changed the macroeconomic and incentive framework around the farms, and they have left the inherited farming and ownership structures intact. The key to the solution of the farm debt problem is improvement of the incentive framework combined with genuine restructuring and privatization of farms. It is only in the context of these external and internal institutional measures that a targeted resolution of farm debt is likely to succeed.

Integration of debt settlement with farm restructuring: the experience of Moldova

The linkage of debt settlement with farm restructuring and privatization offers many advantages under the current conditions in the CIS. An example of successful implementation of such an integrated program is provided by the experience of Moldova in 1998-2000, which resolved its farm debt problem not through blanket bankruptcy procedures, as some experts recommended at the time, but through a one-time comprehensive out-of-court debt settlement linked with farm restructuring and privatization. The framework for this integrated approach had the following main features:

- The major objective of the one-time intervention was to create new farm entities that would be free of past debt burden and have the potential to become economically viable. The goal was not reorganization of existing enterprises, but actual creation of new entities compatible with market principles of operation.

⁸ They have not been successful in Israel either, as debt quickly returned to the original level (or higher) after each sporadic write-off or rescheduling attempt for a particular region or farm. See the section on the Israeli experience.

- The decision to launch the debt settlement process in each farm enterprise and the choice of the form of the new entity was left to farm members. The decision-making process was supported by sufficient information outlining in detail all implications and alternatives, informing the members of the basic market principles of farm organization and management.
- The outstanding debt was settled primarily from the assets of the farm enterprise. Land remained outside the debt settlement procedure. The non-land assets were divided into three groups: (a) machinery and livestock, which was earmarked for distribution to farm members and was excluded from the process; (b) inventories, cash, receivables, other current assets, and all production fixed assets (i.e., storage, farm buildings, processing facilities, etc., excluding housing and social infrastructure), which were used for settling the debt of commercial creditors; (c) social assets and non-privatized housing, which were used for settling the debt to the government and to payroll.
- The debt settlement process was implemented with the full support of the government, and the budget was called upon as a last resort to reach a full settlement of all residual amounts remaining after the farm assets were exhausted.
- The land, as well as farm machinery and livestock previously assigned to individuals in the form of property shares, were not subject to the debt settlement procedure. These assets remained in the hands of the individual farm members. To strengthen this guarantee, the first step of the debt settlement procedure included issue of legally binding land titles.
- The wage arrears were settled by transfer of the non-privatized housing stock to individual farm members. In cases when the book value of the housing stock was insufficient to cover wage arrears, the previously calculated value of individual property shares was adjusted to reflect unpaid wages.
- The debt to all state and government agencies was settled through transfer of social assets to local municipalities. If the social assets of a particular farm were not sufficient to cover the debt to the state, the residual was written off by the government. If the social assets exceeded the obligations, the balance of their book value was purchased by the municipalities with the aid of the state budget and the proceeds were used to repay other debt.
- The full settlement of debt to commercial suppliers was an integral part of the process. All assets under lien were automatically transferred to the entitled creditors. The residual farm assets, excluding the portion distributed to farm members and used for settlement of wage arrears and government debt, was offered to the creditors up to the limit of the debt. The unsettled debt was taken over by the state budget and used as a future tax credit for the suppliers or converted into long-term bonds.⁹
- The process ended with the full liquidation of the old entity, without any legal successor, and registration of new entities by the former farm members.
- The process had a clearly specified completion date for each farm (four-five months duration). The overall time frame for the entire project nationally was also set in advance.

⁹ The total debt assumed by the government was estimated at 325 million lei (US\$26 million). Out of this amount, farms contributed 32% (103 million lei) by surrendering to the government their excess social assets and other redundant facilities. Private creditors absorbed 8% (25 million lei) through tax offset arrangements. The government had to issue bonds for the remaining 60% (197 million lei, or US\$16 million), to be repaid over 5 years in amounts gradually raising from 10 million lei (less than US\$1 million) in year 1 to 60 million lei (US\$5 million) in year 5. See D. Dumbraveanu, R. Flick, A. Muravschi, S. Shapa, and C. Tanase, "Moldova," background paper for *Farm Debt in CIS: A Multi-Country Study of Major Causes and Proposed Solutions*, ECSSD Environmentally and Socially Sustainable Development Working Paper No. 27, September 2000, p. 26.

Certain conditions were essential for the success of the framework implemented in Moldova in 1998-2000:

- legal framework for land ownership and titling was in place;
- procedures for farm privatization had been adopted;
- there was political consensus in favor of a complete and comprehensive approach to farm privatization and farm debt settlement;
- the technical implementation was feasible (e.g., adequate donor support);

The principles of the Moldova approach are valid for all CIS countries, including Tajikistan. The regional approach provides a solution even for the larger countries, such as Russia and Ukraine: comprehensive programs are to be implemented first in the most progressive regions. The experiences of the regional approach can be enlarged to a national program at a later stage.

The most obvious indicator of success in farm restructuring and debt settlement is the future financial performance of the new restructured farms. The efforts to resolve the debt problem are not finished with the formal elimination of past debt. First, the macro-economic incentive framework and the internal farm organization must ensure that farms can potentially be profitable and viable. Second, a working bankruptcy system needs to be put into place immediately after restructuring and debt settlement. Bankruptcy procedures need to be consistently and impartially enforced in the future to avoid accumulation of new debt and to facilitate further restructuring toward greater productivity and efficiency in the farming sector. The experience in Central and Eastern Europe indicates that restructured agriculture, once relieved of the past debt burden, needs to be supported by a non-distortional transparent and efficiency-focused incentive system, as well as a well-designed government strategy to facilitate investments, achieve quality improvements, and enhance competitiveness. A discussion of these measures, however, goes far beyond the scope of the present paper.

Resolution of the Farm Debt Crisis in Israel¹⁰

Unlike the CIS countries, Israel has always been a free market economy, although with a layer of government intervention superimposed. Government intervention was very strong in the 1950s and the 1960s, especially in agriculture and capital markets, but it has significantly declined over time. The government's goals in agriculture were and to a certain extent still are to support farm incomes, to improve food supply, and to maintain the rural population.

The main feature that made the Israeli market agriculture similar to the CIS farm sector was the prevalence of soft budget constraints and moral hazard behavior. Over the years, the government, by its paternalistic behavior toward agriculture, created the impression that farm debt was secure

¹⁰ This section draws on the work carried out between 1988 and 1992 by Yoav Kislev, Zvi Lerman, and the late Pinhas Zusman at the Hebrew University in Israel (with partial support from the World Bank's Agriculture and Rural Development Division). It relies on Y. Kislev, Z. Lerman, and P. Zusman, "Recent Experience with Cooperative Farm Credit in Israel," *Economic Development and Cultural Change*, 39(4):773-789, July 1991; Y. Kislev, Z. Lerman, and P. Zusman, "Cooperative Credit in Agriculture - The Israeli Experience," in: K. Hoff, A. Braverman, and J. Stiglitz, *The Economics of Rural Organization: Theory, Practice, and Policy*, Oxford University Press, New York, 1993, pp. 214-227; and an unpublished paper written by Yoav Kislev in 2001 regarding the experiences with agricultural cooperatives in Israel.

and that farms would not be allowed to fail. This encouraged banks to lend to agriculture without applying the standard screening measures of creditworthiness and repayment capacity. Furthermore, farms themselves felt that they could take advantage of credit facilities to finance investment and even consumption without regard to financial prudence as long as the government was there to bail them out in an emergency. This combination of soft budget constraints and moral hazard led to extreme over-borrowing and was at the root of the Israeli farm crisis that erupted in the late 1980s.

Government policies in Israel prior to the mid-1980s encouraged over-borrowing and over-investment and indirectly fueled the inflationary pressures. The government's inevitable decision to implement essential anti-inflationary policies after 1985 immediately brought the lending spree to an end and caused the credit bubble to burst. The magnitude of the debt overhang put the entire agricultural sector at risk of default and required active involvement of the government in debt settlement negotiations.

Cooperative structures in Israeli agriculture

Agriculture in Israel is agriculture of cooperatives. Eighty percent of Israel's agricultural product comes from the cooperative sector, both family farms in moshavim and the collective kibbutzim. Cooperation in agriculture was encouraged by the government as a matter of national policy. Government's paternalistic attitude created the general feeling – and not only among farmers – that it was the government's responsibility to maintain the welfare of the cooperative farming sector.

The cooperative structure in Israel is basically organized on two levels: the local village level constituted by individual members in moshavim and kibbutzim and the regional level constituted by the first-level cooperative villages. The regional cooperatives are supply and marketing cooperatives for moshavim and kibbutzim, including a system of regional processing enterprises. Zealous support of rural development by public agencies, easy access to credit through the supply cooperatives, and strong political regional lobbies all resulted in overexpansion of most of the regional processing enterprises in the 1970s. Consequently, in the early 1980s, many service enterprises operated at less than full capacity and did not cover their operating costs.

*Financial intermediation*¹¹

Israeli cooperatives – both the moshavim and the regionals – provided a wide range of input supply and product marketing services to their members. Yet the most important service they provided was financial intermediation. Farmland in Israel is nationally owned and moshavim and kibbutzim could not use it as collateral. Lack of collateral spurred the development of financial cooperation, which started as a simple mechanism for exploiting economies of scale to raise supplier credit and bank loans at beneficial terms for farmers. The supply cooperatives gradually expanded into full-scale financial intermediation, raising credit from both suppliers and

¹¹ This section describes financial intermediation as it was practiced before the 1985 crisis. One of the consequences of the crisis has been a substantial reduction in the financial interconnections between cooperatives, especially among the moshavim.

commercial banks for the benefit of their members – the moshavim and the kibbutzim. The moshav in turn acted as a source of credit for its member-farmers by borrowing “wholesale” from banks and lending to its members. Interlinkages between cooperative credit and marketing of farm products through the cooperative created the institutional guarantees for repayment that replaced collateral for loans in cooperative agriculture.

In addition to credit–marketing interlinkages, the lack of collateral was overcome by a system of mutual guarantee arrangements that operated on several levels. All members of a moshav mutually guaranteed the loans that the moshav cooperative raised – for joint ventures or to be distributed to individual farms. Similarly, moshavim and kibbutzim were guarantors to loans their regional cooperative associations took. Thus, virtually all members – individual farmers, moshavim, and kibbutzim – were parties to mutual guarantee arrangements and all were mutually responsible for loans raised by their cooperatives.

The purpose of mutual guarantees was to reduce the risk banks incurred in lending to cooperative farms and their secondary cooperatives. Practical experience reduced the subjective risk as perceived by the creditors even further: again and again, particularly in the 1950s and the 1960s, the government bailed out kibbutzim and moshavim that had run into financial difficulties. The remedy by government intervention was not long-lasting, however. In many cases farmers and cooperatives returned to the same problems just several years after rescheduling. Nevertheless, the recurrence of these debt rescheduling 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 collapse. Banks were not only willing to lend to agriculture, but they were actually eager to have cooperatives among their clients. These factors created a dangerous combination of soft budget constraints, whereby farms were allowed to borrow without regard to repayment capacity, and moral hazard behavior, whereby farms were willing to take on more and more debt without regard to returns on investment.

The consequences of inflation and negative interest rates

Israel experienced a wave of galloping inflation in the mid-1970s, which accelerated steadily from a yearly rate of 12% in 1970 to nearly 500% on an annual basis in the first half of 1985. The rising prices in the 1970s-1980s were fueled by an expanding supply of credit, much of it imported from recycled petro dollars.

As is common in inflationary environments, the nominal interest rates lagged behind inflation and the real rates remained consistently negative for more than a decade between 1974 and 1985. The negative real rates and easy access to credit encouraged overinvestment and discouraged saving. The secondary regional cooperatives borrowed easily on the strength of mutual guarantees and channelled large volumes of credit to their members. Part of the debt financed investment in productive assets (often contributing to overcapacity), part financed housing and consumer durables, and part was spent to increase current consumption.

The government had to intervene to halt the accelerating inflation. The change of policy came on 1 July 1985 and inflation was quickly brought down from 500% to 20% per year. The new policy involved the introduction of strict monetary and fiscal measures: price increases were

stopped, a severe credit squeeze was enforced, and interest on short-term credit was raised to unprecedented levels (up to 100% per annum). A great part of the credit channelled through the secondary cooperatives to kibbutzim and moshavim was short-term and it had to be rolled over at the new high rates. No business could survive such sky-rocketing rates and most of the kibbutzim, moshavim, and regional cooperatives became insolvent almost overnight. By mid-1986 it was clear that cooperative agriculture was in a deep financial crisis.

The crisis reveals weaknesses inherent in the cooperative form of organization. Many businesses suffered severely when economic conditions changed with the introduction of the anti-inflationary policy in 1985, but it was only in agriculture that a whole sector – the cooperative sector – collapsed financially. Overborrowing had been driven by a combination of moral hazard and mutual liability arrangements, which could not be enforced when the need arose.

The crisis

The crisis erupted at the end of 1985 once creditors realized that agriculture could not service its debt because of the very high real interest rates and the unwillingness of the government to continue bailing out the sector. Private lenders and commercial banks refused to extend additional credit and insisted that loans be repaid. For most farmers, the heavy burden was not their own debt but their share of the mutual liabilities – their share in covering the debt of a small number of heavy borrowers in the moshav and the debt of the regional service enterprises. While the crisis was triggered by the anti-inflationary policies of July 1985 and took the form of financial insolvency, it had deeper roots. Four interrelated problems surfaced at that time.

a. *Lack of control.* Secondary cooperatives and associations in moshavim transferred credit to their members disregarding the ability to repay loans on the terms received. Members in cooperatives, who mutually guaranteed loans taken by their associations, did not exercise appropriate control over the actions of the officers running their financial affairs. Banks continued to extend credit even to cooperatives that could not demonstrate stable economic and financial standing. Banks and other agents continued to rely on the government's implicit safety net and neglected sound financial practices. This lack of control is a facet of what is usually referred to as soft budget constraints in the context of financial behavior in transition countries.

b. *Diminished ideological commitment.* Originally, members in moshavim, and particularly in kibbutzim, were highly motivated ideologically and strictly adhered to the cooperative norms. Once the State of Israel had been established and its economy stabilized, the national argument for cooperation lost its force, particularly with the second and third generations who took the moshav and the kibbutz for granted and did not have their parents' devotion to the original ideology. Reduced ideological commitment led to a reduction in the adherence to old norms. Thus, members found it relatively easy to renege on the interlinkage arrangements promising to market all their products through the moshav association in repayment of the loans they had received. Marketable products leaked to outside marketing channels, and the moshav debt remained unpaid.

c. *Moral hazard behavior and free riding.* Ample credit supply, mutual guarantees, and reliance on the government to bail out failing cooperatives encouraged moral hazard behavior: farmers,

cooperatives, and kibbutzim readily borrowed to finance both production and consumption investments even when repayment was uncertain.

d. *Poor economic performance.* Easy credit and inadequate control led to overinvestment and hence to poor economic performance. Political and social considerations took precedence over efficiency and income. Survival was deemed secured with the government safety net. Consequently, when inflation was halted and rates of interest rose, many of the cooperatives discovered that they were operating at a loss. Many of their economic activities were unprofitable and the debts they accumulated were enormous and rising as interest charges continued to accrue.

Agriculture could not repay or service its debt in full; the question was how to apportion the losses. Once this had been realized, the government intervened in an effort to reach a negotiated debt settlement between the banks, on the one hand, and the moshavim and kibbutzim on the other.

The debt settlement

When the crisis erupted, most farmers in the moshavim and many of the kibbutzim found that either they were heavily in debt themselves or they were guarantors of debt incurred by others—their peers and especially the secondary regional cooperatives to which they belonged. Mutual guarantees were useless in circumstances of a system-wide collapse: nobody had the resources to repay anybody's debt. The government found itself in a dilemma. On the one hand, it could not simply bail out the cooperatives as it had done previously—the magnitude of the crisis was beyond the ability of the state budget and the public would not tolerate spending large sums of public money on the small farming sector. On the other hand, if unattended, the crisis could destroy cooperative agriculture and with it bring down three of Israel's largest banks. The government had to step in. The question was how to allocate the losses and at the same time secure continued functioning of agriculture.

The core of the debt settlement agreement reached in 1988 was a combination of partial writeoff with rescheduling based on ability to pay. The settlement consisted of two parts:

- assessment of the income potential of the farms (“ability to pay”) and rescheduling of the portion of debt judged to be repayable;
- forgiveness of the debt that could not be repaid.

Once the ability to pay had been assessed, it was decided in 1989-1990 to write off close to a third of the outstanding debt and reschedule the remainder for a period of 15-20 years. In the kibbutz sector, where the debt was larger than in the family farms in moshavim, the government absorbed approximately one-third of the writeoff; two-thirds of the writeoff was assumed by the banks and other creditors. The same principle of sharing between the government and the banks was applied to the written-off portion of the debt of moshavim, although the exact shares were different.

Some numbers will help to visualize the magnitude of the task. By the estimates available in 1988, agriculture's debt was NIS 6.5 billion, and the value of net capital was then NIS 6 billion

(\$4.1 billion and \$3.8 billion respectively at NIS 1.6 to the dollar). By these figures agriculture had negative equity: all its capital was financed by debt. Erasing a third of the debt and rescheduling the remainder of NIS 4.3 million for a period of 20 years at 4.5% in real terms, the annuity would be NIS 331 million. This would be just possible to pay if agriculture continued to operate at the same level of profitability as in the 1970s, when operating profits were upward of NIS 300 million (in 1987 prices). If agriculture's debt were actually repaid in this way, the sector would rebuild its equity over the next twenty years. However, repayment was by no means guaranteed, because the profitability of agriculture was falling in the 1980s and shortfalls might have to be offset by efforts to increase efficiency (through restructuring) or by income generated from off-farm activities.

The farm by farm implementation of the settlement agreements is not completed after twenty years, but the acute crisis atmosphere disappeared once the agreements had been signed. The immediate consequence of the crisis was a significant change in the financial environment facing cooperative agriculture. Kibbutzim and individual farmers in moshavim now have to deal directly with commercial banks; they cannot rely anymore on "in-house" financial intermediaries, nor can they look to the government for rescue. Operating on national land, they cannot use land as collateral and credit is now extended only to operators who demonstrate sound economic performance. Farmers have to show financial accountability and follow strict financial discipline, observing hard budget constraints. The new system does not tolerate moral hazard behavior and soft budget constraints are gone.

The debt crisis experience of Israeli agriculture suggests that poor policy and bad institutions cause considerable damage. This is particularly true for the cooperative sector, because the dangers of moral hazard and free riding inherent to cooperatives are compounded when the government intervenes to relieve farmers of their accountability and commercial banks do not monitor the creditworthiness of the borrowers. A major responsibility therefore rests with the government and the lenders. The government must have the wisdom and the power to limit its involvement in agriculture, and let farmers be accountable for their actions. The lenders must know when to refuse new loans.

Conclusion

Tajikistan, like many other CIS countries, is struggling with the problem of debt overhang in farms. Many of the CIS countries have made attempts to solve the problem and similar discussions have been going on in Tajikistan for a number of years now. However, the general lack of political will and the prevailing unwillingness to make radical changes in the core of the inherited collective structure have resulted in temporary ad hoc solutions in other CIS countries. Instead of treating the underlying causes, these ad hoc measures typically address the symptoms and actually lead to further deterioration of the rural financial situation, including demonetization of the farm sector. A similar indecisive ad hoc attitude prevailing in Tajikistan has blocked all possible progress toward farm debt resolution in this country.

Table 5 outlines the main factors that emerge from our analysis as the causes of farm debt accumulation. To resolve the farm debt problem effectively, governments need to apply measures that address the combination of all these factors, including the non-conductive

economic environment of the farms and the inherited unproductive internal organization. Effective resolution of the farm debt problem will remove one of the major bottlenecks in the process of agricultural reform.

Table 5. Major reasons for accumulation of farm debt

	Tajikistan (1999-2007)	CIS countries (1990-1998)	Israel (1986-2000)
Lack of farm profitability	Farms unprofitable	Farms unprofitable	Low and declining profitability
Organization	Collective dehkan farms, enterprises	Corporate farms in various organizational form	Cooperative farms
Government intervention	Investor/futurist financing mechanisms imposed; hukumat enforcement eliminates “freedom to farm”	Pervasive soft-budget constraints sustained	Soft budget constraints, moral hazard (readiness of the government to bail out failing farms)
Lack of transparency in accounting	Disputed information on origin and levels of debt	Disagreements between farm financial statements, bank records, and statistics	Banks unable to explain interest and inflationary linkage accruals

The magnitude and breadth of the cotton farm debt problem in Tajikistan rules out the application of standard bankruptcy-based resolution procedures. Instead the government should purposely look for non-bankruptcy mechanisms that will not damage the delicate social fabric of rural life. World experience suggests two examples that the government of Tajikistan should closely study: Moldova and Israel. The farm debt resolution program implemented in Moldova in 1998-2000 engineered farm debt repayment through the sale of collectively owned assets to the government and compensation of commercial creditors with long-term government bonds. Coming from a CIS country with a similar institutional heritage, this mechanism is particularly appropriate for application in Tajikistan. Israel rescued its heavily indebted farm sector in the 1990s through a non-bankruptcy mechanism that forced banks, commercial creditors, and the government to share the burden of outstanding debt writeoffs and instituted strict monitoring tools to prevent accumulation of new debt. The Israeli experience is also relevant for Tajikistan.