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**Challenges of Agricultural and Rural Finance  
in CEE, NIS and Baltic Countries**

by

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## Challenges of Agricultural and Rural Finance in CEE, NIS and Baltic Countries

Glenn Pederson and Tamar Khitarishvili

Strengthening rural financial markets in Central and Eastern Europe (CEE), the Newly Independent States (NIS), and the Baltic countries is challenging.<sup>1</sup> Previously, financial institutions in those countries carried out fiscal functions: distributing state subsidies, making loans based on need, and supporting production plans. Agricultural reform efforts in the early and mid-1990s have focused on redistributing the ownership of property and dissolving (or transforming) the large production units.<sup>2</sup> In this process several problems have surfaced for the financing of farms and agribusinesses. Restructuring of the production units has proven to be a slow and complex process which has left the pattern of ownership unclear. The financial system has been undergoing privatization, restructuring and redirection toward a role of intermediation without adequate capital resources and expertise for the task. Governments have intervened in various ways, creating additional instability in an already uncertain macroeconomic environment.

It is our view that the fundamental challenges to strengthening rural financial markets in the transition economies are at the center of the economic reform process. In this paper we make the assumption that the objective of government policy reforms is to increase the level of rural financial intermediation as a means for achieving an increase in economic growth and efficiency, and in order to stabilize the sector.<sup>3</sup> We agree with the generally held view that reforms are needed to bring about a significant reduction in the barriers (i.e., transaction costs) faced by rural financial intermediaries. We see these as necessary conditions for improved efficiency and greater capacity for risk-taking in rural financial markets. Yet, these reforms alone will not be sufficient to augment the level of financial intermediation because the effective demand for these financial services is quite low. Through the implementation of broad economic reforms which increase the profitability of agriculture and increase the effective demand for credit at market rates of interest, sufficient conditions are more likely to be achieved that will increase and sustain a higher level of rural financial intermediation.

We observe that rural finance has lagged behind the pace of other agricultural reforms in the CEE, NIS and Baltic countries. As evidence of this, the World Bank assessment of the status of reforms

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<sup>1</sup>The CEE region includes: Albania, Bulgaria, Croatia, Czech Republic, Hungary, FYR Macedonia, Poland, Romania, Slovak Republic, and Slovenia. The NIS region includes: Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. The Baltic countries include: Estonia, Latvia and Lithuania.

<sup>2</sup>Csaki and Lerman (1996) provide a useful appraisal of the restructuring of the state and collective farms.

<sup>3</sup>Financial intermediation refers to the provision of a broad set of financial services to private savers and investors: deposit accounts, working capital loans and mortgages, leases, insurance, investments, etc.

in mid-1996 places the reforms at a stage where banking systems are being restructured, but financial institutions serving agriculture have not yet emerged (see Table 1). This contrasts with the more advanced level of reforms in the areas of market liberalization and land reform. The World Bank status report also suggests that the pace of reforms in CEE countries has been more rapid than that in the NIS countries. In particular, Belarus, Uzbekistan and Turkmenistan reflect the slower pace of these reforms in the NIS region.

Several reasons could be cited for the slower pace of reforms and the low level of intermediation in the rural areas. First, there has been a high level of macrofinancial instability and uncertainty surrounding the restructuring and continued recapitalization of the banking sector.<sup>4</sup> This has created numerous problems for the financial intermediaries serving agriculture. Second, rural financial institutions (e.g., cooperative banks and credit unions) have lagged behind other sectors because they are typically not well-integrated into national financial markets. Third, problems of farm restructuring and changing asset ownership, low farm profitability, covariant risks, and unclear laws on collateral have reinforced the view of lenders that agriculture is a risky sector. In addition borrower attitudes toward using farm assets as collateral have limited the demand for credit. Perceptions of “high” interest rates and commodity market price uncertainty, coupled with a lack of farmer familiarity with financial institutions and high collateral requirements have meant that the effective demand for loans at market rates of interest has remained low.<sup>5</sup>

Initially, we explore the attitudes and perceptions of farmers and low farm profitability as potential constraints to rural financial intermediation and investment in agriculture. As part of this discussion we consider what is factual about the “access to credit problem.” Second, we summarize recent changes in agricultural finance and credit conditions in the CEE, NIS, and Baltic countries. The focus here is on observed financing patterns, sources of credit, and the set of constraints which are thought to affect the level of rural financial intermediation. Third, we consider how banks are adapting to the new farming structures. Fourth, we review the primary modes of government intervention in financial markets and the role of government in dealing with the bad loans problem by providing “soft credits” via the banks. We conclude by suggesting the means by which governments can foster development of effective rural financial markets.

### **Attitudes, Perceptions, Profitability and Access to Credit**

We begin with a review of the attitudes and perceptions of farmers relating to the level of interest rates and access to credit. This information provides rather clear evidence of the challenge facing the development of rural financial markets and agricultural credit institutions from the perspective of demand for credit.

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<sup>4</sup>The term macrofinancial refers to fiscal and quasi-fiscal deficits, and their financing by government.

<sup>5</sup>Underlying the lack of an effective demand for credit among new land owners is the fact that they are not eager to leave the collective farm structure and risk everything (Csaki and Lerman, 1997). Yet, as long as farmers do not leave the collective (or group farming) structure, the banks will also be hesitant to lend.

## *Interest Rates and Access to Credit*

Surveys have shown that from the perspective of farm borrowers the primary issue in rural financial markets has been the level of interest rates on loans. For example, a recent survey of farmers and farm managers in CEE countries reflects the general view that limited access is not the primary problem, rather interest rates are perceived to be simply too high (see Table 2).<sup>6</sup> It should be noted that, as interest rates have moderated in recent years due to macroeconomic stabilization, the interest rate problem has become less acute, but it still ranks high as a concern of farmers and others in the transition economies.

Although interest rates vary widely from country to country in the region and even within a given country due to volatile inflation,<sup>7</sup> a comparison of recent interest rate information provides some evidence that unsubsidized, real interest rates remain at significant levels. For example, in Poland and Slovenia real interest rates are at about 10-12% in latter 1997. In the Baltic countries hard currency loans carry interest rates of 12-14%. In the NIS countries and other CEE countries interest rates are heavily subsidized by the government, so it is not possible to observe market rates of interest for such a comparison of real rates.

It is important to understand the difference between farmers' perceptions of "limited access" and the problem of high nominal (and real) interest rates. The latter is really a reflection of a low effective demand for credit at market rates of interest. We define "limited access" to credit as; a situation where a borrower is not able to get the requested amount of credit, regardless of the willingness to pay a higher interest rate to the lender. Thus, limited access occurs when there is nonprice or "pure" credit rationing. The perception of high interest rates means something quite different. First, it implies that credit may be available at a price. Second, it reveals that private farmers and farm managers recognize that under existing macroeconomic and macrofinancial conditions the uses they have in mind for those funds are not expected to generate sufficient income to repay the loan at the prevailing market interest rate. Thus, one could argue that market interest rates in the transition economies may appear to be too high to borrowers, yet those rates may accurately reflect the combined premium for the underlying rate of expected inflation, liquidity risk, and default risk. Although we observe that agricultural credit is not flowing at market rates of interest, it does not necessarily mean that "market access" to credit is limited.

Yet, there is ample evidence that credit rationing does occur in these countries, and access to credit in agriculture is an issue which should be appropriately addressed. Financial institutions have traditionally used the willingness to pledge assets as a means of screening for creditworthy clients (i.e., those who have an acceptable likelihood of repaying the debt), as a strategy to manage the risk of default. For example, in CEE countries the level of collateral required for nonreal estate loans varies from 150% (of loan value) upwards, and for real estate loans it would be higher (if

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<sup>6</sup>Here we are abstracting from the important issue of whether farmers are evaluating the level of interest rates in nominal or real (inflation-adjusted) terms.

<sup>7</sup>For example, in Bulgaria inflation went from about 240% per month in February 1997 to just 4% in September 1997, due to the banking crisis.

those loans were available). This screening device is used even in well-developed credit markets, although the required levels of collateral are typically less onerous.<sup>8</sup> The real issue is not that the collateral percentage is too high. Rather, farmers complain that the value placed on their land and other assets for purposes of securing the loan is set quite low by the banks. Hence, the collateral requirement is high relative to the amount of property pledged. The problem with high collateral requirements is that they are in fact a form of pure credit rationing, which does restrict the market access of otherwise creditworthy customers.

Related to this point on collateral as a barrier to credit, it is useful to point out three important aspects of rural financial markets in the transition economies. First, the lack of functional rural asset markets (particularly farm real estate) is a significant problem, more important than imperfections in rural financial markets, in explaining the high level of assets required by banks to collateralize a farm loan. Second, a majority of private farmers indicate that they would not use land to secure a loan, even if it meant the difference between receiving and not receiving a loan. Third, the collateral issue is most acute in the long-term, real estate loan market. These three factors jointly restrict the flow of credit to farmers, particularly collateral-poor farmers. Farmers who would willingly pay higher rates of interest may not have sufficient assets to collateralize the amount of credit they are requesting. Secondly, farmers who have sufficient collateral may not be willing to pay the higher interest rates, or they are hesitant to pledge their assets as collateral to secure a loan. Thus, agricultural credit does not flow and the governments in these countries have intervened to provide short-term remedies to these problems by supplying credit at subsidized interest rates, or by providing loan guarantees to the lenders in order to circumvent the collateral problem.

### ***Access to Credit and Profitability***

Less well-recognized is the underlying profitability problem in agriculture and its relationship to; resource misallocation and pricing problems, reduced availability of credit, and lagging investment in agriculture. First, we look at profitability and access to credit. Second, we look at profitability and investment.

Low farm profitability is currently a major challenge to rural financial intermediaries in the region, since the determination of profitability of the enterprise is one of the primary factors in any financing decision. We hypothesize that low profitability in agriculture underlies low asset values and, both directly and indirectly restricts the demand for, and supply of, agricultural credit. The implication is that dealing with the various “inefficiencies” of rural financial markets may not be sufficient to increase the flow of agricultural credit. Rather, the reasons for low profitability in agriculture must also be addressed: low (or negative) profit margins on farm products (which reflect adverse pricing conditions), low levels of financial efficiency (which reflect the lack of effective farm restructuring), and inefficiencies in the agro-food processing sector and elsewhere in

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<sup>8</sup>For example, the typical collateral-to-loan value position among agricultural bankers surveyed in the Midwest region of the U.S. in 1997 was about 150%. That is, they would be willing to lend up to about 65% of the appraised value of the real estate.

the “agro-food chain” (which constrain the growth and development of markets for farm products).

The above “profitability hypothesis” is based on two fundamental observations at the farm level. First, farm productivity and profitability are different - both conceptually and empirically. Changes in farm productivity may (but need not) lead to changes in farm profitability. Second, the productivity of farms in the transition economies may not have been significantly disrupted by the privatizing and restructuring of the farms, although farm product and input markets were significantly disrupted in the early 1990s. Thus, we find that the productivity of farms in the region has been relatively unaffected by the restructuring which has occurred to date, but “economic shocks” have led to a noticeable reduction in the average level of profitability in agriculture.

Farm productivity is an input/output relationship (i.e., productive or technical efficiency). Here, productive or *technical efficiency* is indicated by the production of outputs without wasting inputs and, therefore, is highly dependent on the level of production technology being employed. *Allocative efficiency* is achieved by using inputs in a cost-minimizing way. In contrast, farm profitability is a financial management concept which relates the level of assets to the level of sales, and the ability to price those products at a margin over their cost of production (i.e., *financial efficiency*). Greater financial efficiency is achieved by generating revenues, and this is done by effectively “turning over” assets more frequently in the form of sales. Thus, farm profitability may vary due to changing market price conditions and/or variations in the level of farm products actually sold, independent of the amount which is actually produced.

We find little evidence that the technical efficiency of farms in the transition economies has been significantly affected by the restructuring which has occurred in agriculture. However, the interruption of the flow of purchased farm inputs (fuel, chemical fertilizers, seeds, herbicides, insecticides, etc.) is likely to have had a significant impact on the allocative efficiency of the farms. In contrast the significant idling of resources (such as land and labor) need not be evidence of the loss of technical or allocative efficiency, since those resources may have been initially redundant and their actual resource costs may have been quite low. Further, we find that the effective level of farm restructuring which has occurred is quite minimal, and the allocative efficiency of farms has not been appreciably altered by the privatization of farm assets.<sup>9</sup> However, the financial efficiency (which is more directly related to allocative efficiency) of the farms appears to have declined. That decline is more likely the result of changing market price relationships of inputs and outputs and the intervention of governments in those markets, and not due to the restructuring of the farms.

We hypothesize that the sharp decrease in financial efficiency has been generally recognized by both farmers and agricultural lenders. Moreover, lenders and farmers have recognized the implications of reduced financial efficiency for lower farm profitability for reduced loan repayment capacity and the higher potential for loan default in agriculture. Thus, the lack of profitability in

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<sup>9</sup>Macours and Swinnen (1997) suggest that restructuring of the farms in CEE actually reduced allocative efficiency. Yet, they provide no logical rationale for the relationship, or clear evidence that their production function analysis in fact measured changes in allocative efficiency.



agriculture has reduced both the supply of, and the demand for credit and indirectly contributed to higher interest rates on loans provided to the sector.

### ***Profitability and Investment***

Here we indicate why lagging investment in agriculture is a problem which cannot be blamed on a lack of access to credit, and which cannot be adequately addressed by increasing the availability of credit through government intervention in rural credit markets. In policy discussions, the statement has been frequently made that the observed decrease in agricultural investment in the transition economies during the post-1989 era has been due to the lack of access to credit, and that government should intervene. Rather, it is our view that the response of farmers, agro-food processors, and others in agriculture has been to delay investments for reasons of low levels of expected profitability and high levels of uncertainty, not due to a lack of access to credit.

As an approach to this issue, we consider the major alternative theories which have been proposed for analyzing investment (Pindyck, 1991). Those key theories include: expectations theory, adjustment cost theory, and the real options theory of investment. Jointly, these theories help explain what we have observed in the transition economies.

According to the *static expectations hypothesis*, decision makers are profit maximizers who form fixed expectations about future input and output prices and the levels of fixed inputs. It is assumed that the optimal input decision changes only when actual prices and the level of fixed inputs change. This approach is equivalent to the traditional partial adjustment model of investment. The *rational expectations hypothesis* assumes that decision makers use all relevant information, including the prices of inputs and outputs and the level of fixed inputs in order to determine the optimal level of capital stock. It is assumed that the capital investment plan is revised periodically based on new information.<sup>10</sup>

The asymmetry of *adjustment costs* theoretically derives from an underlying marginal cost of adjustment function (Pindyck, 1982; Abel). If the function is concave (adjustment costs increase nonlinearly with the size of the investment), the result is that investment declines when price uncertainty increases. Even though there is no unanimity on how adjustment costs affect actual investment at either the microeconomic or aggregate levels, adjustment costs would appear to logically influence the decision to invest, as well as the size of the investment response.<sup>11</sup>

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<sup>10</sup>Thijssen tested these two alternative models for Dutch dairy farms. The static expectations model is found to provide a better explanation of investment decisions than the rational expectations model (which did not produce results which are consistent with the theory). Several reasons were identified: the role of asymmetric adjustment costs, nonindependence of financing and investment decisions, and the availability of internal investment funds.

<sup>11</sup>Vasavada and Chambers and Lopez invoke the assumption that increasing (asymmetric) adjustment costs affect dynamic investment demand and result in a lagged investment response to changing prices. This form of input adjustment is observed in U.S. agriculture and the Canadian food processing industry. In the food processing industry, the capital stock adjustment (to an optimal level) is found to take slightly over two years. In U.S. agriculture the greatest lags are found to occur in labor and capital

Dixit and Pindyck suggest that decisions to invest in real assets are similar to decisions regarding investment in financial options. According to the *real option theory*, investment decisions are characterized by three primary features: irreversibility, uncertainty and timing. Irreversibility is a feature which results when some of the costs of an investment are sunk. Thus, the decision to invest (or not invest) involves a form of asymmetry in which an investor bases that decision on an assessment of the “value of waiting” (an option value).

Waiting for a period of time enables an investor to avoid potential decreases in revenues due to shocks over the planning horizon, while realizing the upside potential of an investment (if revenues rise at a later time). The opposing cost of waiting is the loss of potential profits from having not invested. When current revenues reach a sufficiently high (trigger) level, it no longer pays to wait. Thus, in the real options approach to investment, the value of waiting derives from an intertemporal trade off between present risk and future risk. In this approach the effect of waiting is that observed investment exhibits economic *hysteresis* (or inertia). That is, observed investment does not respond quickly, even when significant changes occur in underlying current economic and financial market conditions.

There are alternative specifications of the real options model depending on the sources of the demand shocks. Those shocks can be firm-specific, industry-wide (sectoral level), or both. In this case the price of the firm’s output can be written generally as,

$$P = F*S*D(Y)$$

where F is the firm-specific shock, S is the industry-wide shock, Y is the current output flow, and D(Y) is the industry inverse demand function. In this model, P can also be interpreted as profit. Thus, two forms of demand shocks (firm-level and industry-level) exist which affect price and translate into asymmetric profit shocks. Those two types of shocks affect willingness to invest in different ways.

An F-shock translates into price uncertainty and, therefore, increased profit uncertainty for the firm. If the firm waits to invest, the profit shock is reduced (i.e., the downside profit risk is reduced) which translates into an increase in expected payoff. In this case the expected value of waiting increases with rising uncertainty in F. Therefore, the effect of uncertainty is to increase the “option value premium” for waiting. If an S-shock were to occur, firm entry (or exit) may occur. This implies that price changes will be less than proportionate to changes in output (i.e., the upside profit potential is reduced). Therefore, greater uncertainty in S reduces the expected value of investing relative to waiting, and the firm requires a higher level of current profit in order to undertake the investment (i.e., greater uncertainty reduces the value of investing relative to that from not investing at all). When firm-specific and industry-wide shocks occur in combination, the effect is to reduce the current level of investment.

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markets, and relatively shorter lags occur in the land and intermediate materials markets.

Both industry-wide and firm-level demand shocks can have significant effects on the value of waiting (to invest). As an example, both types of shocks occurred in Poland in the early 1990s (Pederson). One of the most significant industry-wide demand shocks in Polish agriculture was the loss of eastern markets for agricultural exports. Other shocks included monetary and financial instability, as reflected by: uncertainty about the costs of financing investments, limited access to external funds through the banking system, and volatile exchange rates.<sup>12</sup> Firm-level shocks have been felt in a number of different ways due to unexpected changes in the availability and prices of inputs. As a result of those shocks, profitability was reduced and agricultural investment fell in absolute and relative terms throughout the early and mid-1990s. For example, in 1993 the investment of private sector farms (including cooperative farms) was about 2.8% of total private sector investment. By 1994 private farm investment had fallen further to 2.7% of total private sector investment. In 1995 investment expenditures were estimated to reach only \$180 per farm and \$24 per hectare, both of which are below comparable numbers in 1992. Similarly, investments in public sector agriculture (state farms) have remained at a low levels in the post-1993 period. Expectations of continued low and uncertain farm profitability and economic shocks in the other transition economies in CEE, NIS and Baltic countries have contributed in similar fashion to significant reductions in the observed level of agricultural investment, independently of the ability to access credit.

### **Rural Finance and Credit Conditions**

Our appraisal of the rural finance and credit conditions in the region includes consideration of financing patterns (self-financing and external financing), the sources of credit (banks, government programs and agencies, and other lenders), and the set of potential constraints. This appraisal is hampered by the lack of detailed information in several countries on the lending activities of the banks and the governments. Even less information is typically available on informal financing (by relatives, friends and other individuals) and nonbank financing activities (e.g., input suppliers and leasing companies).

The emphasis here is not on the “adequacy” of the alternative sources of agricultural and rural credit.<sup>13</sup> Rather, given the lack of information on the actual demand for operating and investment credit/capital in these countries, our discussion focuses on describing the sources and flows of agricultural financing and credit and the various institutional, policy, and credit/capital market constraints which apply to those flows. Due to a lack of complete country-specific information on financing conditions in agriculture, we use various recent country reports and studies of agriculture in the region to complete the appraisal.

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<sup>12</sup>One could add political uncertainty to the list of factors which contributed to an overall uncertain environment for Polish agriculture.

<sup>13</sup>Adequacy of credit ignores the problem of fungibility of money and it abstracts from a careful consideration of the role of interest rates in determining the willingness to pay. As an average concept, adequacy is different from the economic concept of excess demand, where the latter is a quantitative measure which one can (with considerable effort and data) derive at different levels of interest rates.

## *Overview of Financing Conditions*

The financing pattern we observe in the CEE, NIS and Baltic region tends to vary somewhat by country, due to the set of rural financial institutions which existed prior to centralization of the banking system, collectivization of agriculture, and nationalization of agro-industry. Yet, the current set of general conditions can be briefly summarized. First, self-financing and informal financing tend to dominate the source of funds in private agriculture and agro-industry. Thus, capital investments are frequently postponed until sufficient investment funds have been accumulated internally through savings. Second, commercial and cooperative banks tend to ration short-term credit and frequently serve as conduits for government credit schemes. Third, government credit programs have been developed to supply targeted operating and investment loans to agriculture at below market interest rates. In addition the governments provide financial support to agriculture through a number of noncredit alternatives. Governments in the region often subsidize agricultural inputs (e.g., fertilizer and fuel), defer tax payments, support domestic prices, and provide investment grants in addition to extending “soft credit.” Fourth, leasing and supplier credit as financing alternatives are severely underdeveloped.

The constraints in credit and capital markets in the region are systemic in that they affect both the supply of, and the demand for, funds. These constraints are generally more severe in the rural areas because rural financial markets are less-integrated into national capital and credit markets and they pose special challenges to policy makers.<sup>14</sup> We group them into four sets of factors: the lack of a favorable environment for credit, the lack of competitiveness and efficiency of the financial institutions, the lack of financial capital and institutional capacity, and the lack of an effective demand for rural credit.

### *The Credit Environment Constraint*

The lack of a conducive environment for rural credit is associated with economic shocks and the relatively high level of market uncertainty surrounding the agriculture sector and general macroeconomic and macrofinancial instability in the region. We can also identify several countries which have recently experienced economic crisis. The restrictive legal framework for credit is a condition which is due to unclear laws on property, collateral and bankruptcy. The continuation of weak farm asset markets and legal uncertainty contribute jointly to the lack of a viable rural credit market. What emerges in most countries in the region is an “agricultural lender’s dilemma.” The dilemma is that commercial banks seeking to lend to agriculture are confronted by general uncertainty about farm profitability due to price, output and covariant risks in the sector. But the process of transition has introduced additional uncertainty in the area of debt collection and costs of rural intermediation due to changing farm organization and ownership structure. Finally, heavily-subsidized and “soft” credit from government interferes with the conditions by which credit is extended to agriculture and the perception of borrowers concerning their obligation to repay.

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<sup>14</sup>Tuck (1997) suggests that the special challenges of rural finance in the CEE region include factors such as: high costs of delivery, high levels and covariance of risks, seasonality, and the inherent trade-off between reducing transactions costs and diversifying the risks.

### *The Competition and Inefficiency Constraint*

The lack of competition between rural financial intermediaries and their general inefficiency derive from the slow pace and incomplete status of banking and financial sector reforms in most countries. The result is continuing segmentation and centralization of the banking system which reduces efficiency. For example, until recently most of the old agroprombanks continued to operate much as they had in the past, since they were being heavily subsidized. These banks are often dominant in the agricultural sector, yet they do not operate on a “level playing field” with the other commercial banks. Thus, they do not compete with other segments of the financial sector, hence, they continue to be highly inefficient. Due to this unreformed rural banking structure, rural financial markets remain incomplete in terms of the availability of financial services and the set of financial instruments which are used. These incomplete capital and credit markets are a primary source of inefficiency and the high cost of rural credit delivery.

### *The Bank Capital and Capacity Constraint*

It is well-recognized that capital positions of the state-owned and private banks in the region are quite weak. In recognition of that fact many governments have allowed for increasing foreign bank ownership, and other governments initiated bank restructuring programs by which they recapitalize the banks through the injection of public funds (as quasi-equity) into the banks’ balance sheets. The upside of this policy is that it provides capital for the banks to continue to operate and take on the risks associated with lending, and it may prevent a liquidity crisis. The downside is that it increases state ownership and the role of the state in managing the banks, making them less autonomous. The weak capital positions of the banks are generally a direct consequence of their high levels of nonperforming loans and the slow pace at which the banks have been allowed to deal with the problem. The lack of operational capacity of the banks is another problem. This lack of capacity reflects their lack of technological infrastructure and MIS development. In addition the banks lack banking expertise and other qualified personnel. which further constrains the ability of the banks to serve the agricultural sector.

### *The Effective Demand Constraint*

As we have argued, the lack of effective demand for rural credit is primarily a consequence of low and uncertain profitability in the agricultural sector, and the underlying lack of effective farm restructuring in the region. Two other factors qualify as constraints on the demand side. First, by following a policy of creating many small farms, several countries forced a mismatch between the financial institutions and the small loan size which was to be expected. Thus, the demand for credit and financial services in rural areas of the region is often a demand which is difficult to serve efficiently, even by well-developed financial markets. The clients are dispersed and the costs of delivery are high, costs which rural clients may be reluctant to absorb. Secondly, many farmers in the region lack experience with commercial banks or formal financial institutions generally. Thus, the demand for rural financial services may be starting from a low level in many countries in the CEE, NIS and Baltic countries.

## *Conditions in the CEE Countries*

### *The Czech Republic*

Bank financing of agriculture (farmers and processors alike) remains quite limited in the Czech Republic (OECD, 1997e). In part this has been attributed to low sector profitability, but also to the problem of high collateral requirements by the commercial banks. As a result, self-financing in the sector and government credit programs are the primary sources of funds in agriculture. The Czech government has been a primary lender to agriculture since 1994. The Support and Guarantee Fund for Farmers and Forestry (PGRLF) has provided about 90% of all credit granted to agriculture in recent years. The PGRLF was established to provide farmers with access to short-term loans to finance seasonal and working capital requirements and longer-term loans to finance capital improvements. It accomplished this through loan guarantees to the commercial banks and through the provision of interest rate subsidies. Initially, the PGRLF was allocated 2.65 billion CZK in 1994, but the allocation for 1997 is projected to be about 3.8 billion CZK. As recently as 1995, the interest rate subsidy was 10% of the commercial bank rate. In addition to interest rate concessions, the government has provided liquidity assistance to the farmers who delivered their products to downstream processors but had not been paid in a timely fashion. To do this the government has purchased the receivables of the farmers (i.e., the payables of the processors) for 60-80% of their value.

The level of support for agriculture through various state fiscal efforts has gradually declined in nominal terms from about 21 billion CZK (in 1989) to about 7.7 billion CZK (in 1993) and has remained near that level through 1996. After adjusting for inflation the level of support has clearly fallen. About 2/3 of the total support to agriculture during the early 1990s has been in the form of subsidies, and about 80% of that amount was in the form of interest-free loans.

The expansion of input supplier credit has not occurred because of the large volume of uncollectible debts owed by the state farms to the suppliers. Thus, one constraint to modernization of the agricultural credit market has been the level of bad debts of the state farms.

### *Poland*

In the past, the private farms in Poland largely self-financed their operations. The level of farm debt is rising among individual farmers as they are able to obtain more preferential credit through governmental programs, and as the cooperative banking system increases its role as a rural intermediary.<sup>15</sup> The primary agricultural bank in Poland is the Bank for Food Economy (BFE). About 90% of all formal credit volume to agriculture flows through the BFE and the related regional and local cooperative banks (LCB). The BFE portfolio is highly concentrated in the food processing industry and it remains the primary lender to the state farms, while the LCBs are more

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<sup>15</sup>The aggregate level of individual farmer debt outstanding increased from about \$800 million in 1995 to about \$1,460 million in 1996.

directly involved with lending to private farmers. Input supplier credit and lease financing is significantly underdeveloped.

During 1993-1996 the proportion of preferential loans to agriculture and the food industry increased as a share of total bank loans outstanding from 58% to about 70%. This reflects the high level of governmental involvement in agricultural financing. A high proportion of the interest subsidies on these loans went to the agro-processing sector in support of their commodity purchasing activities. Virtually all of the investment credit flowing to private farms is subsidized through the Agency for Restructuring and Modernization of Agriculture (ARMA) with interest rate subsidies varying from 20-50% of the National Bank refinancing rate (OECD, 1997i). The loans are granted through about 33 participating banks (the largest of which is the BFE). Planned budget support for ARMA interest rate subsidies increased significantly in 1997. When all state interest subsidies to agriculture are included, the total amount of interest subsidy in the 1996 plan was about 979 million PLN.

The cooperative banks which serve the rural areas in Poland have remained a highly fragmented system.<sup>16</sup> The BGZ and many of the LCBs have adequate deposits, but they are undercapitalized, they lack efficiency in their operations, and they have significant nonperforming loans. These factors impair their ability to serve agriculture in an efficient manner and have translated into reduced availability of investment credit and larger interest rate spreads on their loans. The problems of the LCBs are significant, particularly for the medium- and small-sized farms which rely on them.<sup>17</sup> The majority of loan funds available to individual farmers is of relatively short maturity.

### *Hungary*

Farm financing in Hungary remains largely from internal sources. Agricultural credit is provided by six major banks (often as participants in a government credit program) and numerous rural savings cooperatives.<sup>18</sup> Those banks also supply credit and financial services to other sectors. Agriculture (particularly farmers) continues to represent only a small part of the loan portfolios of the commercial banks. Historically, the banking system in Hungary has been oriented toward large-scale production cooperatives. As in other countries in the region, the emergence of small-scale private farms has created the problem of delivering financial services to those many small clients. The Kereskedelmi Bank and the Magyar Hitel Bank account for the largest volume of loans to agriculture and the food industry. Lending by these and other banks has been influenced to a great extent by the provision of state interest subsidies and loan guarantees. Subsidized crop production lending by the commercial banks has increased, while investment lending has been slow to expand. Similarly, lease financing activity has been minimal in agriculture.

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<sup>16</sup>Dabrowski and Jamrozik (1997) point to the problems and delays in the implementation of the 1994 Act which was to accomplish a restructuring of the rural banking system.

<sup>17</sup> Our estimate places the proportion of small farm credit obtained through the cooperative banks at about 80%.

<sup>18</sup> Those banks include: Kereskedelmi Bank, Magyar Hitel Bank, Budapest Bank, National Savings Bank, Mezobank and Agrobank.

In response to the decline of agricultural investment and the lack of bank lending, the government created the Agricultural Development Fund (ADF) in 1992. Through the ADF farmers are entitled to investment grants, as well as loan interest-rate subsidies. The ADF has been targeted to small- and medium-sized farms for investments in production and infrastructure.

The total ADF subsidy to farms in 1993 was just 2.58 billion HUF. By 1994, the government had amended the requirements of eligibility and increased funding to 12 billion HUF. In 1996, farmers received about a 30% interest-rate subsidy, but in 1997 the interest-rate subsidy was increased to 40% of the Central Bank refinancing rate. Interest rate subsidies on short-term credit accounted for about 8% of government budget support in 1996. Over time the shift in government intervention has been toward investment subsidies, which have increased from 14.8% in 1994, to about 18.2% of total budget support for the sector in 1996. Under the interest subsidy program for grain producers, "integrators" of farm production qualify for an interest subsidy on "loans" extended to farmers. The integrators act as intermediaries as they extend credit to farmers in the form of inputs. When the production is marketed the loan is repaid.

Collateral has been cited as a barrier to investment financing through the banks. Since the banks have commonly required high collateral/loan positions to approve agricultural loans, many farm organizations and individual farmers were prevented from obtaining credit due to depressed asset values and insufficient equity capital. In an effort to stimulate bank lending for agricultural investment the government created the Rural Credit Guarantee Foundation (RCGF). The RCGF provides a 50% guarantee of the loan principal and the first-year interest expense to partially offset the high collateral ratio requirements of the banks. In another effort to stimulate long-term bank lending, a land mortgage institution was first considered by the Parliament in 1994. The proposed mortgage institution is a bank with state ownership and share capital. The mortgage institution was recently approved by the Parliament.

### *Slovenia*

The agricultural sector in Slovenia obtains credit through the banking system (primarily the Agricultural and Cooperative Bank) and a network of 61 Savings and Loan Services (SLS) offices (OECD, 1997m). The SLS is the primary lender to agriculture. At the end of 1996, the total loan volume advanced by the SLS was about 13 billion SIT, mostly for cattle-raising activities. In addition to mobilizing rural savings, the SLS funds short-term loans through programs of the government which provide for interest rate subsidies. In 1996, the funding of farm projects to which the SLS made loans included about 40% from the farmers own resources, 40% from SLS, and 20% from other sources. Thus, agriculture in Slovenia is not as heavily dependent on internal funds as in other countries in the region. The observed decline of government interest rate subsidies on farm loans also reflects the decline of interest rates in recent years and the fact that farmers have commercial financing alternatives.<sup>19</sup>

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<sup>19</sup>Interest rate subsidies as a percent of overall support to agriculture declined from about 37% in 1992 to about 21% in 1996.



A primary constraint to the flow of agricultural credit in recent years has been the unwillingness of Slovenian farmers to use credit for investment purposes due to low levels of expected profitability. Thus, reduced demand for credit is a primary factor.

### *The Slovak Republic*

In the Slovak Republic, farmers met about 60% of their operating and investment capital requirements internally in 1996 (OECD, 1997). Loans accounted for about 20% of the total financing used. In addition agriculture is supported by the government through three channels: government funds which extend new loans at subsidized rates of interest and loan guarantees, subsidies on “old” credits, and guarantees for “green” loans through the Slovak Guarantee Bank. These programs are administered through the State Fund for the Protection and Enhancement of Agricultural Land and the State Support Fund for Agriculture and Food Industry (SSFAF). The SSFAF has been more involved in subsidizing the financing of long-term investments in agriculture and the food industry. Old debt financing of “permanent turnover inventory” and investments are a smaller programs, although they have existed since 1990 and 1992, respectively. “Green” loans are the largest single category of loans supported by the government. These are loans to finance the operating requirements of agricultural producers and processors.

Most of the loans through the banks are to fund short-term, seasonal capital requirements. The volume of loans provided to agriculture for production purposes has declined in recent years as the banks have applied more stringent credit criteria (e.g., rates of return and security offered by the borrower). In addition the banks have reduced their willingness to lend to agriculture as they try to reduce their bad loans and default risk exposure. There has also been some diversion of bank credit away from farms toward agribusinesses. The high proportion of loss-making farms in recent years has been one of the primary constraints to the availability of bank credit.

### *Romania*

Romania’s agricultural and rural credit markets remain largely underdeveloped and farmers rely on internal financing for their operations. The dominant institution is Banca Agricola, which is the second largest bank in the country. While the BA has grown rapidly in the last 5 years, the primary source of that expansion has been through directed credit of the central bank. The BA has also pursued an aggressive policy of deposit mobilization, but it remains a highly-centralized institution (Vogel and Adams, 1996). In addition to the BA there is a network of cooperative banks, which make small loans to private farmers and village communities. The cooperative credit banks are more active than BA in lending to agriculture and more innovative. Banc Post has also been successful in mobilizing rural deposits and making small loans in the rural areas. The Romanian Development Bank has been the primary lender of operating credit to agro-industry using funds obtained through the IBRD and EBRD.

A primary constraint has been the distorting effect of massive defaults on previous state-subsidized agricultural loans. Directed, subsidized credit was provided to agriculture in the form of refinancing credits to cover seasonal borrowing requirements in the sector. These refinancing credits were channeled to a select and privileged set of state-owned enterprises, bypassing private

farmers and private agro-processors and marketing agents. There has been massive delinquency on the repayment of these lines of credit. Due in part to the distorting effect of the subsidies, the establishment of alternative financing mechanisms and institutions for agriculture has been inhibited.

In recognition of these distortions, the administrative concept of “need for credit” is losing credibility in the government, and there are legislative proposals to change the policy toward one which reduces the use of refinancing credit through the National Bank and moves toward a commercial market rate basis for the extension of credit to agriculture (OECD, 1997j). Since this is a policy which will take time to implement, the Government has approved a transition scheme which provides operating credit through a revolving credit institution (Agricultural Special Fund) for the acquisition of agricultural inputs in 1997. These funds (primarily for planting and wheat procurement at harvest) are to be channeled to agriculture via participating banks without the involvement of the National Bank. The participating banks will assume the credit risk.

The constraints to financing the farm and agro-food processing sector are systemic in Romania, much as they are in other countries in the region. They include: lack of competitive input and product markets, price controls and export restrictions, and lack of a level playing field for state banks and state-owned enterprises which receive special concessions from government. The lack of farm restructuring and problems defining the ownership of farm assets also constrain the use of property to secure loans from the banks.

#### *FYR Macedonia*

Financial and credit markets in the Former Yugoslavian Republic of Macedonia (FYRM) are small and highly concentrated in Skopje and other urban areas. The result is a general lack of competition or provision of financial services in the rural areas.

Farmers outside the “social sector” of agriculture have found it difficult to obtain credit through the banks, and have continued to self-finance their operations. In addition the flow of credit to private farmers through the “agro-kombinats” has nearly ceased due to internal profitability problems of the agro-kombinats and their own reduced access to bank credit. In fact private farmers who have delivered commodities to the agro-kombinats in the past have actually financed these inefficient operations through an increasing level of payment arrears.

The Stopanska Banka has the largest network of rural branch offices in the country, but they have been operated quite inefficiently and little restructuring has occurred. Also, there is a noticeable lack of expertise in the banks to evaluate agricultural credit and provide rural financial services. In addition many of the major banks have been illiquid in recent years. Among other things, the banks have suffered from a widespread loss of public confidence due to the past freezing of foreign exchange deposits and the resulting fear of bank failures. One consequence has been reduced availability of funds for lending either directly or indirectly in the rural areas. In turn, the banks have shown a preference for lending to the state and collective farms, and have not been serving private agriculture.

Bank lending to private agriculture has remained low due to: credit restrictions imposed by the government, widespread bank illiquidity, the perceived high credit risk associated with farm loans (and a reported lack of sufficient guarantees), lack of profitability in agriculture, and problems with legally enforcing lender claims on debtor assets. In the case of rural residents, the availability of banking services has also been restricted by the high cost of delivery to small, individual customers.

### *Bulgaria*

Bulgaria has been experiencing an economic and banking crisis since 1996. In 1996 GDP fell by 8-9%, while inflation soared to over 300% (OECD, 1997c). The Bulgarian Lev was pegged to the Deutschmark in 1997, and tight monetary controls have been introduced in an effort to slow inflation. Stabilizing the economy is necessary, but it will not fix the problems of the illiquid banks, and bank failures are expected. The central bank has sought insolvency on 15 local banks since early 1996, and general economic chaos has made it difficult to carry out normal banking activity.

The government has attempted to create commercial banks which would serve primarily serve agriculture, but they either quickly converted to universal banks or went bankrupt during the 1996 crisis. While the financial resources of the banking system have clearly been inadequate to serve agriculture, there is also a noticeable weakening of demand for credit in 1996-97, due to persisting uncertainty about land ownership and the future of producer cooperatives. New agricultural investment is primarily being made by people who accumulated capital outside of agriculture, or by agricultural processors and traders. Short-term credit from suppliers and commodity purchasers is just beginning to develop. Farm credit has primarily been disbursed through preferential credit schemes which operated through the banking system. In those cases the subsidized credit was directed toward working capital for crop farms and the procurement of those crops by processors.

It is clear that the unstable macroeconomic environment in Bulgaria has been one of the main impediments to developing credit alternatives for agriculture. As in so many other countries in the region, Bulgaria suffers from the problem of weak collateral laws which make enforcement of security interests in property so difficult and costly. The new Law on Special Pledges, which was passed in 1996, is meant to alleviate that problem for agricultural output, yet the problem remains for other classes of agricultural property where ownership is still not clearly defined.

### *Croatia*

Improvement in rural financing and agricultural credit markets was identified as a strategic priority by the government in 1995 (OECD, 1997d). However, progress toward that objective has been slow in spite of moderating interest rates due to low rates of inflation (which has been about 4% during the past three years). Although there are many commercial banks in Croatia, few lend to private agriculture in part due to their lack of familiarity with the sector. In addition the banks are currently struggling with large bad debt problems in their loan portfolios, much of it associated

with previous loans to the social sector and state-owned enterprises.<sup>20</sup> In 1996 total credit provided to the agricultural sector (farms and processors) was about 2.4 billion kunas (about \$390 million). About 87% of that total was provided by banks (primarily to processors) and the remainder was from budgetary sources and provided through various government programs.

Apart from direct support to agriculture via the state budget and the State Directorate for Commodity Reserves, the government has developed three initiatives to assist in the financing of agriculture: the Croatian Bank for Reconstruction and Development, a revolving Special Account for Development of Agriculture (SADA), and direct lending through the Ministry of Agriculture to assist in purchase of tractors and machinery. In 1996 the SADA was established for the purpose of targeting credit to small family farms and about 190 million kunas (\$31 million) was been disbursed in 1996-97. Due to the subsidies which apply to loans through the SADA (6% compared with about 32% at the commercial banks) requests for loans were about 4 times the available level of funds in 1997.

The war in Croatia is the most important factor to consider when evaluating the various problems which the agricultural sector has had to overcome. Although the banks have gradually increased their involvement in agricultural lending in recent years, it remains at a low level and both the network of rural banks and staff expertise in the banks is still quite limited.

### *Albania*

The Albanian banking sector has been slow to develop in spite of efforts to restructure the banks during the past four years. This has left the rural sector without financial services, a condition which is likely to persist for several years in the future. Three state banks dominate the financial sector, but all suffer from problems of weak loan portfolios, political interference, and a lack of staff expertise (OECD, 1997a). The Rural Commercial Bank is technically insolvent and in urgent need of restructuring. The weak condition of the banking system has become all the more critical due to the recent collapse of the informal financial pyramid schemes in which depositors lost large amounts of their savings. Donor funds have been used to support rural lending activity during 1992-94, but those funds have been depleted by low loan repayment rates and a cessation of lending by donors has occurred recently.

Most agricultural activities are self-financed from own family resources, remittances, and the informal credit market. In recognition of these continuing problems, the World Bank began a village credit scheme. The Agricultural Development Fund was initiated to develop new alternatives for the mobilization of savings and the distribution of credit through solidarity groups. Although the World Bank initiative represents a significant step toward developing rural financial institutions in the country and has achieved high levels of loan recovery, it remains quite a small program.

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<sup>20</sup>Reciprocal share-holding arrangements with these enterprises by some of the major banks has aggravated this problem.

While Albania sank into a deep economic crisis in 1997, severe market and infra structural constraints in the rural areas have existed since independence. In Albania, the strategy was to create small farms on a massive scale after independence without developing the infrastructure and markets to serve the farming sector. At this stage it is unclear how large the effective demand for farm credit really is, given the severity of those input and commodity market constraints. The impediments in the rural credit market include; lack of a legal framework for securing and collecting loans, the attitude of borrowers who view loans through State-owned banks as grants, and high costs of financial transactions in the rural areas.

### *Conditions in the NIS Countries*

#### *Armenia*

Funds for farm production and investment in Armenia come predominantly from own savings and informal credit sources. Own savings represent about 67% of all sources, and informal sources account for another 25%. These informal sources of funds are primarily for short-term funds and less than half of the farmers use informal sources for investment. Commercial banks are not considered to be a source of credit because interest rates are perceived to be excessively high and because of general rationing of commercial credit to small farmers. Government credit is not currently available to peasant farmers.

The creation of a new financial intermediary system for food and agriculture is progressing slowly. Restructuring of the Agrobank is in progress and the creation of a new network of rural credit cooperatives has been initiated along with the creation of the Agricultural Cooperative Bank of Armenia (ACBA).

Lack of bank liquidity and limited availability of credit is one of the most severe problems in the sector. As a reflection of that problem, the government provided no new credit to agriculture in 1995. The problems with forming the credit cooperatives have included: a lack of start-up capital, difficulties with mobilizing savings, and slow registration of the cooperatives.

#### *Belarus*

An effective private agricultural banking system has not emerged in Belarus. As a result, the agricultural enterprises use their own resources and extra budgetary funds provided by the government to finance their production activities (OECD, 1997b). In 1996 own resources accounted for about 87% of total funds used in the farming sector. The remaining sources were: 10% from the state budget and extra budgetary sources and just 2% in loans from various sources. Long-term credit comprised only 0.5% of the total funds. This has been the pattern of financing since 1990. Over time the sector has become less capable of financing itself internally due to the decline in sector profitability.

To a significant degree the reliance on own funds and weak involvement by the banks has persisted in recent years due to an economic crisis which originated in the country's credit and banking

policies and high rates of inflation.<sup>21</sup> In 1995-96, gross credit to agriculture remained high through an expansion of refinancing credit from the central bank to the Agroprombank. A disproportionate share of this soft credit went to loss-making agriculture during these high inflation years. Massive refinancing credit and the fact that interest rates to agriculture were just half of the auction rate, indicate that the government was misusing the central bank to bail out loss-making farms and agro-processing enterprises.<sup>22</sup> In this regard, it is important to note that credit has been used by the government to offset the losses it has been imposing on agriculture. Low-interest credit has been used to subsidize high-cost agricultural enterprises operating in “unfavorable natural conditions,” and the government has used low-interest credit to compensate for the costs of procuring, processing and storing products purchased by the state.

To the extent that bank lending occurs, it is predominantly with short-term loans. Working capital loans represent about 90% of all bank loans outstanding, while investment credit account for the remaining 10%. Primary agriculture and agroprocessing enterprises have serious liquidity problems and rely on the government for special credit allocations and directed-credit which is channeled through the banking system. State-owned enterprises and collectives have captured over 80% of total bank loans, while less than 5% of these funds have gone to private enterprises. Directed (government) credit represented about 50% of total National Bank credit in 1996, while auctioned credit was just 24% of the total.

### *Georgia*

Funds invested in farming are predominantly from internal savings. For example, 78% of total investment in farms in 1995 was self-financed, another 21% of funds was borrowed from relatives and acquaintances. None of the funds invested were raised in the form of bank credit or received as support from government sources. Although farmers have virtually no debt, about half of the farmers indicate that they are seeking credit for their farming operations. About 75% of farmers expressed a desire to borrow in order to finance production in 1996. The average amount of credit was relatively small at 5,000 lari (about \$4,000) per farm. About 15% of the farmers indicate they seek long-term loans (for periods of 2-10 years). Since farmers do not borrow from the banks, issues of collateral have been largely irrelevant up to this time. Yet, unclear laws on collateral are a problem in Georgia, just as they are in other countries in the trans-Caucasus region and other NIS countries.

Primary agriculture and agro-processing firms in Georgia continue to have serious liquidity problems, although macroeconomic stabilization has improved the economic conditions in the country. Yet, the existing rural financing system is at a rudimentary state of development and ill-prepared to satisfy the liquidity requirements of agriculture and other sectors. Moreover, the restructuring of the Agrobank is currently in progress.

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<sup>21</sup> Only Turkmenistan experienced more rapid inflation than Belarus and Ukraine in the early 1990s.

<sup>22</sup>The Agroprombank (with less than 4 % of the share capital of the banking system) absorbed about 80% of the refinancing credit made available through the central bank.

## *The Kyrgyz Republic*

Four banks could be considered as agricultural lenders through their extension of credit to primary agriculture (state, collective and private farms), farm commodity and input procurement agencies, the food-processing industry and various input suppliers.<sup>23</sup> The formal agricultural credit system remains highly concentrated within a few banks. Supplier credit is virtually nonexistent and purchased farm inputs are typically sold only through cash transactions.<sup>24</sup> Kyrgyz farmers continue to rely on internal savings to finance their farming operations. In addition they have frequently resorted to barter exchange in order to obtain inputs during recent high inflation years.

In 1993, the Agroprombank accounted for over 89% of all outstanding, short-term bank credit to primary agriculture, which it delivered through about 50 branches. However, the Agroprombank is currently undergoing liquidation due to insolvency and a massive build-up of nonperforming loans.

Reforms within the banking and rural credit system have been slow to evolve. The banks have operated as cash managers, not financial intermediaries. Long-term, investment credit represents an extremely small share of total bank lending activity. Large volumes of directed credit have been extended at preferential interest rates to state and collective farms in the past to complete the fall harvest and to cover sharply higher costs of fuel. Bank refinancing of existing farm debt has been done to compensate for the government's commodity pricing and procurement policy. As in other countries in the region (Kazakhstan, Turkmenistan, Tajikistan, and Uzbekistan), the Kyrgyz Republic's property laws have been inadequate to clarify the security interests of the banks in pledged assets. Thus, unclear collateral and lien laws and high inflation rates in the early 1990s, have meant that long-term loans and mortgages were not available in to agriculture in the region.

## *Moldova*

Bank loans currently represent about 12% of total farm liabilities in Moldova. This indicates that farmers have working relationships with the banks, although the Agroindbank (AIB) is the only one which provides a significant amount of credit to the sector. In 1996, the AIB had loans outstanding of just \$45 million, most of it short-term loans. About half the farm managers in Moldova report that they borrowed money from commercial banks in 1996. Farmers continue to borrow primarily for working capital purposes and, because of financial difficulties, on-farm investment has nearly ceased. About one-third of the farms continued to invest in 1996, with investment flows for these farms averaging just 14% of sales revenues. Long-term investment credit is limited for agriculture. The creation of a new system of financial intermediaries has progressed slowly. In the meantime, the government has radically reduced the flow of subsidized

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<sup>23</sup>Those include: Agroprombank, Kyrgyzstan Bank, Promstroi Bank, and Dyikan Bank.

<sup>24</sup>The previous Soviet system of financing agriculture made it unnecessary for supplier credit institutions to develop, and the development of viable agricultural supply institutions which extend credit to farmers has not occurred.

credit even though the commercial banks have not shown an interest in lending to farms and other rural enterprises

Collateral has become an established factor in agricultural lending arrangements. Increasingly, collateral requirements of lenders are cited as constraints to borrowing. Virtually all of the farms, that borrowed from banks in 1996, were required to provide collateral. Harvested crops was the typical form of collateral (provided by 80% of borrowers), while livestock, buildings and machinery are less commonly used forms of collateral (reported by 16-20% of the farmers). Land is the least frequently used form of collateral (reported by just 7% of the farmers). Use of land as collateral is provided for by the Regulation on Collateral. However, the law is not sufficiently detailed on the procedures for foreclosure in the case of default, so the banks have not provided mortgage credit to agriculture.

### *Ukraine*

Reform of the banking sector in the Ukraine has proceeded at a relatively slow pace, and the financial sector consists of a complex set of small, unregulated and inexperienced organizations (OECD, 1997n). There are no credit unions or credit cooperatives operating in the agriculture sector of Ukraine. Bank Ukraina is the primary agricultural bank with over 600 branches in the country, but it has provided a relatively small amount of credit to the sector. In part this is due to the decline of government credit flowing to agriculture through the bank. For example, budget subsidies on agricultural credit dropped from about \$1.4 billion in 1994 to about \$200 million in 1996. In 1996-97, the role of the state in financing agriculture has been limited to providing advances on its commodity procurement contracts.

As a consequence of the declining flow of credit through the state, Ukrainian farmers have either relied on self-financing, or they have obtained credit through other commercial financing alternatives. Purchase of farm machinery or equipment is practically the only purpose for borrowing and a relatively small proportion (20%) of private farmers reported outstanding debt in 1995-96.<sup>25</sup> Moreover, about 90% of credit in agriculture is still short-term, and it carries a relatively high real rate of interest. For example, the commercial bank loan rate was about 50% in mid-1997, compared to the National Bank of Ukraine refinance rate of 21% (which is slightly above the current rate of inflation), implying a real rate of about 30%.

One of the primary credit constraints in Ukrainian agriculture is the weak legal framework for securing loans. This has persisted in part due to the lack of land titling and the unclear status of property ownership in the privatization process. The perception of high commercial risk in agriculture is an additional factor which has discouraged commercial banks from becoming more involved in making loans to the agricultural sector.

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<sup>25</sup>The short-term (seasonal) nature of the farm borrowing may explain the relatively low percentage of farmers reporting debt.



## *Russia*

Although bank credit in Russian agriculture remains at a low level, the commercial banks have begun to expand their level of lending to the agro-food sector in 1997 (OECD, 1997k). In part the increase in bank lending to agro-industry has occurred due to the restructuring of the Agroprombank. The Stolichny Bank Sberezhny (SBS or Capital's Bank of Savings) is a newly established bank which has become the owner of the agricultural bank, and now operates as SBS-Agro with primary lending authority in the agro-industry sector.

Due to declining profitability of the farms and rising inflation in the pre-1995 period, conditions were such that little credit was extended to agriculture outside of government channels. In response to the financial crisis in Russian agriculture in 1995, the government simply wrote-off the accrued interest on debts from the 1992-94 period. An additional 5 trillion rubles of outstanding commodity loans were written-off also by presidential decree in 1995. At the time, this was a "lethal blow" to the establishment of a credit system in agriculture. The government also experimented with "tovarny" (or in-kind) credit schemes during 1995 and 1996, to provide for the seasonal working capital requirements of the farming sector.

While preferential credit continues to be provided to Russian farmers by the government in 1997, the commercial banks are taking on more of the role of financing the sector. The government's Special Fund for Agriculture will continue to extend credit to farmers through the arrangements it had made through the restructured Agroprombank and Alpha-bank at interest rates of 1/4 the central bank rate. The total amount of government credit will be reduced from 7 trillion rubles in 1996 to about 4 trillion in 1998. Other means of financial support for the sector will continue: price supports for grain and livestock products, input subsidies, import tariffs, and tax concessions.<sup>26</sup>

## *Conditions in the Baltic Countries*

### *Estonia*

In general the commercial banks have limited interest in rural lending, and the farmers frequently self-finance their operations. To address the credit gap created by the reluctance of the banks to lend to agriculture, specialized funds have been established (OECD, 1997f). This has occurred in spite of the government's strategy to maintain as little intervention as possible in the sector. These funds are almost entirely budget financed and lending occurs at subsidized interest rates. For example, the Rural Life Credit Fund (RLCF) obtains interest-free funds through the budget and onlends to the banks at 5%. In 1996 the funds were auctioned to the participating banks. About 80% of the credit goes to farmers, agricultural service providers, and processors. Counterpart Funds have been also established and funded by the sale of food aid in 1993. These funds were loaned to farmers through the Union Bank. Input supplier credit and financial leasing of assets are not available.

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<sup>26</sup>These support programs are primarily administered at the district and rayon levels of government.

A lack of long-term credit institutions has been a constraint in the rural economy. The banking system has undergone a radical reform since independence, which has acted also as a constraint on the rural credit market. The Estonian Land Bank was formed from the State Agricultural Bank, and then split into 14 independent commercial banks, which later were reorganized into the new Estonian Land Bank and the Union Bank. To encourage the banks to lend to agriculture, the RLCF was created. The lack of collateral and low profitability in the sector have also been cited as constraints to increasing the level of commercial lending in agriculture. The government has begun to assess the potential for replacing the subsidized credit schemes of the past with loan guarantees to the banks and investment grants to farmers to stimulate long-term investment. A loan guarantee fund is being established in 1997, through the assistance of EU-Phare and the World Bank.

### *Latvia*

Latvian farmers have continued to self-finance their operations due to the lack of an effective rural banking system. The factors cited for this condition include past high and uncertain rates of inflation and the perception that agriculture and the agro-food sectors were too risky. Creation of a new private financial intermediary system has progressed slowly. Thus, the government of Latvia initiated two new institutions: the Agricultural Finance Company (AFC) and the State Land and Mortgage Bank (OECD, 1997g). The AFC was established with the assistance of the World Bank as a state credit agency to channel funds at commercial interest rates. The borrower contributes 15-30% of the funds and provides collateral. In 1996, about \$11.3 billion had been committed to finance agriculture, small-scale agroprocessing and service firms. The State Land and Mortgage Bank was created in 1993, but has had limited activity due to delays in land registration. In addition, the Rural Development Fund was a limited effort of the government to channel funds to agriculture at subsidized rates.

Although privatization and restructuring of the banking sector was concluded in 1995, and branches have been established in the rural areas, limited medium- and long-term investment credit has been a constraint on investment in the rural economy. The government has radically reduced state-sponsored, subsidized credit programs. However, the commercial banks have not expressed an interest in lending to agriculture and other rural enterprises. It appears that low profitability continues a significant factor which is constraining the demand for agricultural credit at the current market rates of interest.

### *Lithuania*

In spite of significant progress toward restructuring and privatization of the banking sector in Lithuania, the Agricultural Bank remains the second largest bank in the country and continues to be the dominant institution which makes loans to agriculture and agro-industry (OECD, 1997h). The Agricultural Bank accounts for over 70% of the loans extended to agriculture, yet loans to agriculture represented less than 7% of overall bank credit in 1997. The common practice of the commercial banks with adequate lending capacity is to bypass agriculture with the view that it is a risky sector with small markets.

The government has intervened in the rural financial sector by creating the agricultural Support Fund, the Farmers' Support Fund, and a Counterpart Fund (supported by grain sales). Since 1993, these funds have extended loans at subsidized interest rates to rural districts and farmers based on agricultural land area, enterprise purchase of products, and agro-servicing enterprise purchase of inputs. In 1994-96 this represented about 15% of total loan funds available to agriculture. In 1997 the Countryside Funds was created to supersede the previous funds. Yet, all of these governmental efforts have been relatively small (just \$99 million in 1997). As a result, the farm sector continues to rely on internal funds as a financing source.

There has been an almost complete absence of medium- and long-term credit in the agricultural sector. In response the government initiated a guarantee fund for agriculture in 1997, by which longer-term bank loans will receive an 80% guarantee of the principal.

### **Profitability Problems of Farms in Russia**

Low profitability may be reflected by the inability of farmers to repay existing debt or the lack of demand for new credit. In this section we review the evidence that low profitability derives to a significant degree from a lack of financial efficiency in the farms.

Two factors have been identified as reasons for relatively low and uneven profitability of agricultural enterprises in Russia (Pederson et al., 1997). First, rates of asset turnover (sales/total assets) are generally low and quite variable. Second, profit margins (net income/sales) are low (or negative) and also quite variable. Higher turnover of assets in the form of sales and increases in unit profit margins both contribute directly to increased profitability.<sup>27</sup>

While there is evidence of relatively low debt levels in the agricultural enterprises in 1994, there is also significant variation in the ability (or willingness) of the enterprises to repay that debt out of earnings and operating cash flows. Current liabilities relative to current assets indicate that the enterprises are in relatively strong working capital positions generally. In contrast, the level of total liabilities relative to net profits varies considerably. For example, many enterprises could not repay their debts due to negative profits. Thus, it appears that an "excessive debt burden" (if one exists) is not due to an asset liquidity problem, but is due to the inability of the enterprise to generate adequate profits to service that debt. In turn, low profitability (as reflected by a low rate of return on assets, ROA) reflects both the higher unit costs of inputs and a lack of enterprise financial efficiency. Pederson et al. find that inflationary increases in direct materials expense is an area where there are large differences in profit margins between enterprises (see Table 3). That factor has a large, adverse effect on profit margins and, consequently, on the ability to repay debts out of net profits. Evidence of large variations in asset turnover also illustrates the variations in financial efficiency which underlies low profitability in many agricultural enterprises (see Table 4).

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<sup>27</sup>Pederson et al. (1997) find that enterprises which generate higher asset turnover also do a better job of controlling their operating expenses and of marketing their products and services.

## **Decomposing the Problem**

The decomposition analysis of the rate of return on equity (ROE) capital among enterprises reported by Pederson et al. points out the relative frequency of these financial problems.<sup>28</sup> About three-fourths of the 206 enterprises generated negative ROEs in 1994, and were in moderate-to-severe financial stress. About half of those financially-stressed enterprises were experiencing problems due to a low ROA. The problems of the other half of the financially-stressed enterprises were due to either high interest rates on debt or excessive use of debt. The most frequent debt-related problem among enterprises was high interest rates. The analysis of profitability confirms that debt problems experienced by the financially-stressed enterprises was jointly the result of high interest rates and low profitability (i.e., low ROA).<sup>29</sup> It is important to recognize that enterprises with debt problems also exhibited lower unit profit margins and lower rates of asset turnover.

The ROE decomposition indicates that among the 160 enterprises with severe financial stress, 79 enterprises (49% of those with negative ROE) tended to have a “debt problem” (see Table 5). That debt problem was either due to the use of excessive financial leverage or due to the high interest rate paid on debt. In comparison, the remaining 81 enterprises (about 51% of the enterprises with negative ROE) had a “rate of return problem,” i.e., a low rate of return on assets. Those enterprises tended to generate losses and/or low levels of profitability from operations which resulted in negative ROE.

Pederson et al. found that the private farms in Russia also experienced a significant decrease in overall profitability levels in 1994, as a result of a sharp increase in the cost of purchased inputs (as reflected by the rise in direct materials expense) and an increase in interest expenses relative to farm revenues. This led to a severe liquidity problem for low-revenue, low-profit farms. Evidence of financial stress was found among 25-50% of the private farms, while loss-making farms accounted for over 40% of the private farms in the analysis. A significant percentage of those farms reported losses due to a lack of sales (i.e., low asset turnover).

We conclude that the profitability problems of many agricultural enterprises and private farms in Russia in recent years have been the result of a lack of financial efficiency (low asset turnover) and reduced (negative) profit margins. Jointly these factors explain the observed low level of profitability in a significant segment of the agricultural sector.

## **Bank Financing and Farm Restructuring**

As the process of farm restructuring continues, the financial support provided by the banks to these emerging farm units has become an increasingly important component of the agricultural reform

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<sup>28</sup>The ROE decomposition approach allocates farms into three general classes: those with a low rate of return on assets problem, those with an excessive debt problem, and those with a high interest rate problem.

<sup>29</sup>Although the focus of the financial analysis was on profitability, the observed low levels of debt imply that the availability collateral in the agricultural enterprises would not have limited their access to credit.

process. How are the banks adapting to the new farming structures? It appears that the changing ownership, organization and structure of the farms is presenting a major problem for rural financing institutions. The basic problem derives from changes in land ownership and how farm resources are being managed. The problem of analyzing the implications for bank financing of agriculture is that the current picture of the farming sector in the CEE, NIS and Baltic countries is also far from uniform. Different approaches have been taken to privatization of the land and other productive assets and to reorganizing the farms, and the countries are at different stages of the restructuring process.

The majority of the CEE countries did not have to deal with the problem of reclaiming the ownership of land from the state to the individuals, since the full nationalization farm land never occurred. However, this issue had to be addressed in the NIS countries. Land distribution was approached differently as well. Most CEE countries have distributed the land to the former owners, while the NIS states have transferred the ownership of the land to agricultural workers and, in some cases, to the rural citizens. These issues along with the availability of land for private farming have affected the development of private farming and led to the creation of several alternative forms of farm restructuring: reconstitution of a collective structure based on individual ownership of land and asset shares, transformation of the collective structure into a joint-stock corporation based on individual shares, division of the collective structure into autonomous profit-oriented entities based on individual investment of land and asset share and operating within an association or a service cooperative, separation of independent entities from the collective structure (family farms, partnerships, or production cooperatives), and cooperation of independent entities (Csaki and Lerman, 1997).

As a result, three basic types of farms appear to have emerged: private collective (or cooperative) farms, private individual farms, and state farms. While the reformation has occurred on paper, the majority of the state and cooperative farms, especially in the NIS countries, has not been de facto restructured. Thus, most of the farms are still large-scale, unchanged operations. One of the economic reasons for such a concentration of large-scale farming structures is the higher risk associated with becoming an independent, individual farmer and losing the social safety net provided by the cooperative farm structure. Private farmers must contend with higher production risk in their farming operations and price risk when they negotiate with highly centralized input suppliers and processors. In addition the lumpiness of equipment and machinery purchases can be a severe economic barrier to the adoption of improved production technology.

It is still early in the farm restructuring process to draw conclusions about the productivity of these different organizational structures. Csaki and Lerman (1997) find no evidence that the productivity of the new private farms is higher than the productivity of the traditional cooperatives and collectives. To the contrary, Macours and Swinnen (1997) find that privatization of assets has had both positive and negative effects on technical efficiency depending on the country. They also suggest that the economic transition has generally had “disruption effects” on farm productive efficiency.

Can we expect to find significant improvements in farm productivity if actual restructuring has not occurred on a large scale? The answer depends on whether an effective reallocation of resources

has in fact occurred. We find the arguments more convincing that there has been no significant change in farm productivity at this point. Since most farms still operate as either cooperatives or state farms, a majority of the resources is still managed collectively. We conclude that there has not been an effective redistribution of farm resources in most of the CEE, NIS and Baltic countries. In addition little is known about the mechanisms by which the returns are distributed in the various farm entities.

While farm productivity is important, the ability to repay and farm profitability would appear to be a more immediate concern to rural lending institutions in their decision to finance a farmer. Volatile prices of farm inputs and low output prices contribute to low farm profitability and debt-servicing problems, which discourages banks from lending to agriculture. Thus, there is a clear economic rationale for the low supply of credit to agriculture based on expectations of future profitability and repayment capacity. Similarly, farmers may express a “need” for funds to undertake capital investments, yet low cash rates of return and high uncertainty (regarding the ability to service a loan) lead to a low effective demand for borrowed funds.

Due to general uncertainty about farm profitability, the banks in the CEE, NIS and Baltic countries have resorted to increasing their collateral requirements. Yet, there remains a significant degree of ambiguity in the current legislation of many countries regarding asset ownership, the ability to pledge assets as collateral, and the claims of lenders to the pledged assets which are collectively managed. The banks want to know who is responsible for repaying the loan and, in the case of a business failure, who is the one who has the legal right and obligation to forfeit the collateral without delay. There are other sources of uncertainty in agricultural credit markets that increase the risks of the financial institutions and magnify the importance of uncertainty associated with these changing farm structures. They include the unpredictability of weather, intervention by governments in commodity markets, and poorly established markets for product distribution and input supply. These generally fall into the category of “covariant risks” which lenders (particularly those which are quite localized and/or highly specialized in agriculture) must consider.

### **Government Intervention: Policies and Programs**

There is no unanimity on the issue of whether governments should (or can) effectively intervene in rural credit markets to increase efficiency or not, and there is much less consensus on which modes of government intervention would be least distorting (Stiglitz, 1993; Besley, 1994). The dominant issue in the debate is the degree to which the markets are inefficient due to: constraints, the existence of market failures, problems of imperfect information, and/or credit rationing. One perspective is that the role of government is to increase economic efficiency by reducing distortions and market imperfections.<sup>30</sup> However, there exist quite different views of the justification for intervention in financial markets based on the concept of market failure.<sup>31</sup>

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<sup>30</sup>Rashid and Townsend (1994) refer to these as *barriers to trade*.

<sup>31</sup>Stiglitz (1993) identifies several *market failures* in financial markets and argues that government interventions can be designed to address these problems. Besley finds no compelling rationale for intervention based on the market failure approach.

## *Interventions in Credit Markets*

Governments have intervened in agricultural credit markets in the transition economies in four primary ways: by extending credit subsidies, by supporting specialized credit institutions, by establishing loan guarantee schemes, and by providing “soft credits” to state-owned enterprises.

### *Credit Subsidies*

The arguments against credit subsidies (in the form of preferential interest rates) are well-known. First, since the subsidies must be financed by the government they lead to government borrowing which may be inflationary, and can cause crowding-out in the country’s financial markets. Although a government may go “off-budget” to hide this effect, the long-term impact on the economy is the same.

Second, interest rate subsidies tend to start as short-term responses to credit crises, but tend to become permanent programs due to: the establishment of heightened expectations by recipients that the programs will continue or be repeated in the future, the creation of a constituency for those subsidies which makes it politically difficult to discontinue their use, the fact that the economic rents associated with their use in financing factors of production are bid into the prices of those goods and assets.

Third, interest rate subsidies tend to keep rates to borrowers at abnormally low levels, leading to little demand for loans at market rates and little incentive for developing alternative sources of credit (e.g., supplier credit and new private financing institutions). The result is a lack of effective competition in rural credit markets. Low interest rates also give the wrong signal to enterprises which need to undertake reform and restructuring by allowing for a postponement of that difficult task.

Fourth, because money is fungible, the provision of credit at subsidized rates of interest may cause a substitution to occur of cheaper borrowed funds for own-funds in the financing of projects. Thus, the subsidy may cause no additionality to occur in the financing of some types of rural investments.

Fifth, unless collateral problems and other imperfections in credit markets are addressed, the provision of interest rate subsidies will have no effect on the incidence of credit rationing.

The proponents of interest rate subsidies argue that, as long as the collateral problem is addressed, the credit subsidy will reverse or offset the tendency for agricultural output (and employment) to decline to unacceptable levels due to a sudden decrease in the level of purchased inputs during the

transition.<sup>32</sup> Swinnen and Gow (1997) suggest some ways in which governments can control the adverse effects of credit subsidies during the transition period.

### *Specialized Agricultural Credit Institutions*

Intervention of governments through the creation of new specialized credit institutions has not been a primary mode of intervention in the CEE, NIS and Baltic countries. More common has been the continuation of a sectoral banking structure (e.g., agricultural, trade, and industrial banks) and a continuation of subsidization of the banks due to their continuing problems with bad debts (nonperforming loans) and operating losses. An example of this is the continued operation of the Bank for Food Economy in Poland, but other examples can be found such as the Agroprombank in the Kyrgyz Republic and in other countries where similar agriculture sector banks still operate with the support of government subsidies and repeated capital infusions.

### *Loan Guarantee Funds*

Loan guarantee programs have been used in many high-income countries to stimulate lending, most often to small businesses (Levitsky and Prasad, 1987). Through risk-sharing these programs cover a portion of the losses of lenders due to loan default. In theory, participating lenders increase their supply of loans under guarantee to borrowers who would otherwise be subject to some form of credit rationing. An underlying assumption of these programs is that they create "additionality," i.e., that the loan volume with the guarantee program exceeds the loan volume which would have occurred without the guarantee.<sup>33</sup>

The guarantee funds which have been established in several CEE countries during recent years have been intended for a similar purpose. However, they have also been justified as a response to the perceived excessive collateral requirement problem in the banks. These guarantee schemes have been frequently part of an overall "directed credit approach." It has been suggested that these guarantees "soften" the budget constraints for lending institutions and, therefore, for borrowers (Swinnen and Gow, 1997). The primary guarantee programs in the CEE countries are quite similar (see Table 6). There is currently far less use of loan guarantees in the NIS and Baltic countries. The programs in the CEE region are typically small relative to the total volume of capital required in agriculture, even though the programs (such as the one in Hungary) are a significant share of total bank credit extended to the farms.

One of the arguments raised in opposition to guarantee schemes is that they may in fact increase the level of defaulting loans due to incentive problems. That is, loan guarantees remove part of the

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<sup>32</sup>Swinnen and Gow also cite arguments that: 1) credit subsidies substitute for other forms of agricultural support which are in conflict with GATT agreements, and 2) subsidies may lead to less crowding-out of private farmers in credit markets by state enterprises undergoing liquidation and/or restructuring. We see these as weak arguments for the use of interest rate subsidies.

<sup>33</sup>A related assumption is that there is little substitution of funds within the lending institution and among lenders as a result of the loan guarantee provision and, thus, more additionality occurs (Vogel and Adams, 1995).



penalty for making bad loans, so the participating banks have less incentive to carefully screen and monitor their clients. This is a form of “moral hazard” problem which increases the risk exposure of the government. Other arguments are that guarantee programs may negatively impact the development of the rural financial system, because they discriminate against the creation of other viable sources of credit and they induce lobbying by guarantee recipients and crowding-out effects in the credit market (Swinnen and Gow, 1997).

### *Soft Credits*

As reflected by the different modes of intervention by governments, one of the primary motivations for intervention has been to soften the budget constraints faced by borrowers and their lending institutions. These “soft credits” are in many cases liquidity loans which are used to cover the refinancing requirements of state-owned enterprises and other borrowers who are unprofitable and unable (unwilling) to repay their loans on schedule. While it is useful to consider the alternative ways in which soft credits are effectively provided, it is more important to consider the implications of these soft credits for financing agriculture.

Governments have often used soft credits to compensate agriculture for policies which keep farm prices low and for the effects of procurement policies of the state. In this case the use of soft credits has substituted for the higher earnings which agriculture might have derived from selling its products in an open market. Thus, soft credits have reduced the ability of the sector to self-finance. In addition, the use of soft credits has introduced a significant distortion into the set of incentives for borrowers to repay debt and for lenders to collect, since the threat of bankruptcy is either removed or it is not credible. Whether these soft credits provide greater benefits to the banks or to their borrowers is difficult to say categorically. Clearly, the costs are borne by the public. Soft credits must be financed by the government, which is expected to be inflationary if it involves deficit financing. Alternatively, if the subsidies are financed through the tax system, the direct costs are borne by those who pay taxes.

### **Concluding Remarks**

There exist multiple challenges to developing viable and effective rural financial systems in the CEE, NIS, and Baltic countries. We have organized them into two sets - the conditions which are necessary and the conditions which are sufficient for raising the level of rural financial intermediation. In economic terms these conditions roughly equate to the shifting out of the supply of loanable funds and the demand for loanable funds, respectively. The policy challenge is to do this in a simultaneous fashion (synchronizing the restructuring of agriculture with the reforming of the financial markets and institutions) and to identify a less-interventionist role for government which improves the chance for success.

Achieving the necessary conditions requires that efforts be made to augment the supply of rural financial services (credit, deposit, and insurance) and increase the efficiency of the institutions supplying those services. When coupled with macrofinancial stabilization and reductions in the expected rate of inflation and the level of government intervention in credit markets, market interest rates also are expected to decline. Government can effectively promote this augmentation

of supply by: assisting in the reduction of transactions, information and delivery costs of rural lenders (by reforming collateral laws, instituting a land registry, developing an efficient information technology and infrastructure to serve rural areas, training to improve bank expertise), increasing competition among financial institutions serving agriculture and rural areas (establishing a “level playing field” for banks and nonbank intermediaries, assisting in the development of a single financial market which integrates rural intermediaries into national financial markets, developing a complete set of financial markets (e.g., insurance, warehouse receipts, supplier credit, and mortgage lending).

Attaining the sufficient conditions for significant improvements in the level of rural financial intermediation requires that the effective demand for rural financial services be expanded at market rates of interest. Farm profitability will need to be raised in the CEE, NIS, and Baltic countries. In addition changes will need to occur in the willingness of farmers to use farm assets as collateral and their perceptions of the role of rural financial institutions. The improvement of farm profitability depends on an effective restructuring of the farms, improved efficiency of farm asset markets, and reduced intervention of the governments in farm commodity markets. Governments can play an important role both in improving market efficiency and facilitating the farm restructuring process.

**Table 1. Overview of the Status of Agricultural Reforms in CEE and NIS (mid-1996)**

Country	Market liberalization	Land reform	Privatization of services	Rural finance	Institutional framework	Overall score
<i>CEE countries (incl. the Baltic states)</i>						
Czech Republic	4	4	4	3	4	3.8
Estonia	5	3	4	3	4	3.8
Hungary	4	4	5	3	3	3.8
Slovenia	3	5	4	3	4	3.8
Poland	4	4	3	3	4	3.6
Slovak Republic	4	3	3	3	3	3.2
Latvia	3	4	3	3	3	3.2
Lithuania	3	3	3	3	3	3.0
Bulgaria	3	3	2	3	3	2.8
Romania	3	3	2	3	2	2.6
Average score	3.6	3.6	3.3	3.0	3.3	3.36
<i>Selected NIS countries</i>						
Armenia	3	4	3	3	3	3.2
Georgia	4	3	3	3	2	3.0
Russia	3	3	3	3	3	3.0
Moldova	3	3	3	3	2	2.8
Ukraine	4	2	3	3	2	2.8
Belarus	2	1	2	2	2	1.8
Uzbekistan	2	2	1	2	2	1.8
Turkmenistan	1	2	1	1	2	1.4
Average score	2.7	2.5	2.4	2.5	2.3	2.48

Key to Numerical Ratings: 1 = Centrally planned economy 5 = Completed market reforms

Score	Market liberalization	Land reform	Privatization of services	Rural finance	Institutional framework
1	Direct state control of prices and markets	System dominated by large-scale farms	Monopolistic state owned agro-processors and services	Soviet-type system, with "Agrobank" the sole financing channel	Institutions of a command economy
2	Deregulation with indicative prices, and price controls	Legal framework for land privatization and farm restructuring in place, implementation launched only recently	Spontaneous privatization and mass privatization in design or early implementation	New banking regulations introduced	Modest restructuring of government and public institutions
3	Mainly liberalized markets constrained by absence of competition.	Advanced stage of land privatization, but farm restructuring is not fully completed	Implementation of privatization programs in progress	Restructuring of banking system, emergence of commercial banks.	Partly restructured central and local government institutions
4	Liberal markets and liberal trade policies with partially developed domestic markets	Most land and farming privatized, but titling is not finished and land markets not fully functioning	Most agro-processors and services privatized	Emergence of financial institutions serving agriculture	Government structure refocused; research, extension, education being reorganized
5	Competitive markets with minimal government intervention	Farming structure based on private ownership with active land markets	Privatized agro-processors, marketers, input suppliers	Efficient financial system for agriculture, agro-industries, and services	Efficient public institutions focused on the needs of private agriculture

Source: Csaki and Lerman (1996).

**Table 2. Perceptions and Attitudes of Private Farmers and Farm Managers in CEE Countries, 1995<sup>a/</sup>**

Item	Albania	Bulgaria	Hungary	Poland	Romania
Private Farmer Perception of Access to Loans					
<i>Good Access</i>	20.0	16.0	15.0	8.2	19.0
<i>Limited Access</i>	11.3	1.7	3.1	3.8	4.5
<i>Interest Rate Too High</i>	67.5	80.7	81.2	86.1	76.0
Farm Manager Perception of Access to Loans					
<i>Good Access</i>	7.7	30.0	34.6	18.2	36.6
<i>Limited Access</i>	--	10.0	--	9.1	5.6
<i>Interest Rate Too High</i>	92.3	56.7	65.4	72.7	57.8
Private Farmer Willingness to Borrow at Market Rates					
<i>Yes</i>	12.1	7.3	8.4	8.7	15.1
<i>No</i>	65.4	31.2	77.7	42.8	65.4
<i>Maybe</i>	20.4	59.8	13.2	13.0	17.6
Private Farmer Willingness to Use Land as Collateral					
<i>Yes</i>	19.6	40.5	16.0	14.4	26.0
<i>No</i>	61.7	42.5	70.0	66.4	66.2
<i>Undecided</i>	18.3	13.6	12.2	17.3	7.8

a/ Numbers reported in the table are percents of respondents.

Source: Euroconsult (1995)

**Table 3. Low- and High-Profit Enterprise Profitability Ratios<sup>a/</sup>**

Profitability Ratios	Low-Profit Enterprises	High-Profit Enterprises
Gross Profit/Sales	-1.13	0.27
Net Profit/Total Assets	-0.066	0.068
Cost of Prod. Sold/Sales	2.13	0.74

a/ Enterprises are categorized in low-profit or high-profit quartiles after ranking by the gross profit/sales ratio.

Source: Pederson et al., 1997

**Table 4. Low- and High-Profit Enterprise Turnover Ratios<sup>a/</sup>**

Turnover Ratios	Low-Profit Enterprises	High-Profit Enterprises
Sales/Curr. Assets (average)	0.83	1.72
Sales/Curr. Assets (ending)	1.11	2.33
Sales/Net Fixed Assets	0.08	0.32
Sales/Total Assets	0.06	0.24

a/ Enterprises are categorized in low-profit or high-profit quartiles after ranking by the gross profit/sales ratio.

Source: Pederson et al., 1997

**Table 5. General ROE Decomposition Results for Russian Agricultural Enterprises**

<b>Rate of Return on Equity<sup>a/</sup></b>	<b>Leverage Problem</b>	<b>Interest Rate Problem</b>	<b>Return on Assets Problem</b>	<b>Return on Equity Problem</b>
Quartile 1	5 (3%)	35 (22%)	0 (0%)	40 (25%)
Quartile 2	0 (0%)	32 (20%)	8 (5%)	40 (25%)
Quartile 3	0 (0%)	7 (4%)	33 (21%)	40 (25%)
Quartile 4	0 (0%)	0 (0%)	40 (25%)	40 (25%)
Column Sum	5 (3%)	74 (46%)	81 (51%)	160 (100%)

a/ The rate of return on equity quartile ranges are based on all 160 financially stressed enterprises: Quartile 1 (-0.42 to -0.14), Quartile 2 (-0.14 to -0.08), Quartile 3 (-0.08 to -0.05), Quartile 4 (-0.05 to 0.00).

Source: Pederson et al., 1997.

**Table 6. Credit Guarantee Programs in CEE Countries**

<b>Country</b>	<b>Program</b>	<b>Description</b>
Czech Republic	Support and Guarantee Fund for Farmers and Forestry	Formed in 1994. Provides short- term (up to 50%) and long-term (up to 80%) guarantees through the commercial banks.
Hungary	Rural Credit Guarantee Fund	Formed in 1991. Provides short- term and long-term guarantees to agricultural enterprises (up to 50% of principal and first-year interest)
Poland	Agency for Restructuring and Modernization of Agriculture	Formed in 1994. Provides guarantees to farmers (up to 80%) and food processors (up to 70%)
Romania	Guarantee Fund for Rural Credit	Formed in 1994. Provides guarantees to farmers on medium and long-term loans through the banks (up to 60% of loan amount plus interest)
Slovak Republic	Slovak Guarantee Bank (SGB) and State Support Fund for Agriculture and Food Industry (SSFAFI)	The SGB provides guarantees on “green” credits for farmers and processors (up to 80%). The SSFAFI provides grantees to farmers and food processors (up to 70% of project expenses).

Source: Adapted from Swinnen and Gow, 1997.

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