Chapter III: Rural Poverty, Land Reform, and Productivity

3.1. Role of agriculture in the Ukraine economy

Agriculture makes up a significant, though declining proportion of GDP. Ukraine has over 40 million hectares of agricultural land, of which 33 million hectares (about 80 percent) is arable. Accounting for 13 percent of GDP in 2002, agriculture is a major employer (23 percent of total employment in 2002) and gives Ukraine the potential to be a significant export earner.

The transition process has presented major costs to rural areas. Ukraine’s agriculture suffered from the impact of the dissolution of production and distribution networks that operated during the Soviet Union. Agricultural output declined through the decade of transition due to a number of reasons. In early transition (1989-1992) most of the agricultural decline was attributable to reduced modern inputs and weather variability (Kurkalova, et al, 2003a). The rest of the decade was also characterized by worsening agricultural output prices relative to input prices (ratio declined by about 80 percent between 1992 and 1999); reduction of government subsidies for capital investments and input supply (government expenditures on agriculture as a percent of GDP declined in Ukraine from 2 percent in 1995 to 0.2 percent in 1998); and recurrent weather anomalies. Between 1991 and 1999, agricultural GDP declined by 51 percent recovering in 2000 and 2001 and declined again in 2003 due to bad weather conditions (IERPC, 2003b).

Table 3.1: Macroeconomic view of Agriculture Sector in Ukraine

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
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<tbody>
<tr>
<td>GDP (UAH in current prices)</td>
<td>102.6</td>
<td>130.4</td>
<td>170.1</td>
<td>204.2</td>
<td>225.8</td>
<td>264.2</td>
</tr>
<tr>
<td>of which:</td>
<td></td>
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<td></td>
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<tr>
<td>Agriculture (as a % of GDP)</td>
<td>11.9</td>
<td>11.7</td>
<td>14.4</td>
<td>14.4</td>
<td>13.0</td>
<td>10.9</td>
</tr>
<tr>
<td>Real % change in Agriculture</td>
<td>-11.2</td>
<td>-3.7</td>
<td>12.5</td>
<td>10.2</td>
<td>2</td>
<td>-9.9</td>
</tr>
<tr>
<td>Real % change in total investment in Agriculture</td>
<td>-24.2</td>
<td>-8.3</td>
<td>-11.4</td>
<td>53.3</td>
<td>16.6</td>
<td>5</td>
</tr>
<tr>
<td>Share of employment in Agriculture as % of total</td>
<td>22.4</td>
<td>22.9</td>
<td>23</td>
<td>23.8</td>
<td>23.3</td>
<td>21.4</td>
</tr>
<tr>
<td>% Employed in personal farms</td>
<td>42</td>
<td>44</td>
<td>44.9</td>
<td>52</td>
<td>58</td>
<td>60.8</td>
</tr>
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</table>

Source: Ukraine: Statistical Appendix, IMF, 2004

3.2. Land reform and the restructuring of agricultural organizations

Ukraine adopted a gradual land reform process. To move from the former state owned enterprises into a private and competitive agricultural sector, Ukraine started changes in land ownership and entitlement as early as 1990, when the Land Code was adopted, in order to liquidate the state monopoly to create effective land management. In 1992 the State Committee of Ukraine on Land Resources was established to oversee the implementations of land reform. The period from 1991-1995 was characterized by transfer of agricultural land from state to collective ownership. The aim was not to establish private ownership of land, but to redistribute the land by providing land to citizens and collective agricultural enterprises (CAEs) under the right of

19 More than 50 percent of arable land is high quality black chernozem soil.
permanent use. The right of permanent use was also complemented by the right to pass land by inheritance, thereby creating a quasi-permanent structure of devolution of ownership of land from state to private hands.

**Even at the end of the decade of transition, collective farm structures still dominated agricultural units.** Following the abolition of the collective ownership of agricultural enterprises, the period between 1995-2000 was characterized by the transfer of land from collective to private ownership wherein land and property shares in the form of certificates (as against physical land shares) were given to each member of the CAE. These measures however, did not lead to change in ownership structure and led to minimal internal restructuring of the farm. The sector was still dominated by collective farm structures and land certificates could not be traded or leased and shareholders could not exit from collective farms easily.

**In 1999 the Government emphasized the role of agriculture by introducing land reform instruments to make it more efficient and to stimulate growth.** December 1999 marks the beginning of the second stage of land reform in Ukraine when the collective farm system was formally dismantled by requiring that all collectively owned farm enterprises be transformed into entities based on private property. In addition, the Presidential Decree guaranteed the right to exit from collective farm and declared this right unconditional (i.e. no permission from any authority or approval of other members of the collective was needed to do so). At the same time, land titles called State Acts for Land were issued to individual landowners in rural areas for clearly demarcated plots of land (Korchakova, 2002).

**State and collective farms were transformed into a wide variety of legal farms.** Following the Presidential decree of 1999, most of the State farms were converted into entities such as Cooperatives, Agricultural Companies, and Private Enterprises. Agricultural companies are business entities whose Statutory Fund is divided into shares the size of which is defined in the Founder’s Agreement. The number of founders fluctuates from two to over 100. Ownership and management in agricultural companies are clearly separated from labor participation. Private enterprises are entities usually founded by the former manager of a collective agricultural enterprise. In small private enterprises management, ownership and labor are, as a rule, not separated. The owner of the private enterprise makes all business decisions unilaterally. Cooperatives are collective agricultural enterprises that followed the least demanding path of restructuring and emerged as a result of cooperation of the former members of the CAE. Management, ownership and labor are not separated in cooperatives, i.e. members are also employees of the cooperative. Thus, each legal form is characterized by different management, ownership and labor relationships and must create a different set of incentives for efficient production (Galushko, 2004).

**By early 2002 only 4 percent of the arable land was still owned by the State.** About 30 percent of land was privately owned and used by rural residents for subsistence farming while members of farm enterprises owned the rest 65 percent (World Bank, 2004b). By February 2002 nearly 2.4 million land shareholders had received land titles in exchange for their land shares, while an additional 1.2 million land titles were in various stages of preparation. As a result of

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20 These certificates gave the right to the member to an un-demarcated parcel of land equal in value to the parcels received by all other members of the CAE.
21 One of them is the Presidential Decrees “On Stimulation of Agricultural Development for 2001–2004.”
22 Land itself was allocated free of charge, but the cost of a state deed for land is 60-80 hryvna
land titles being awarded, the market for lease, and consolidation through sale and purchase of land, has been created.

Private household plots, some of which were managed by Agricultural Companies, played an important role in agriculture, producing more than half of the agricultural output. The private sector in Agriculture in Ukraine can broadly be categorized into large Private farms and Household Plots. According to the draft law, farms larger than 2 ha not registered as legal entities (i.e. partnerships, cooperatives etc) are defined as independent private farms. The number of independent private farms has grown from 82 in 1991 to more than 43 thousand in 2003, also increasing in size from an average of 24.3 ha to 66 ha. The other categorization of individual private farms is household plots, which are widely distributed throughout Ukraine. There is a great incentive to focus on the distribution, utilization, and productivity of Private household plots. In 2002 they produced almost 60 percent of the gross agricultural output. According to the State Committee for Land Resources of Ukraine, as of Jan 1, 2003 there were 62,148,000 household plots, and they farmed more than 3.2 million ha of agricultural land (Korchakova, 2002).

Figure 3.1: Ownership Structure in Agriculture 1998-2003

Source: Ukraine Statistical Appendix, IMF, 2004

While employment in agriculture has fallen, productivity has improved. As a result of the restructuring of state owned enterprises, about 1 million people were separated from agricultural units between 1998 and 2003. At the same time, the number of people employed in family farms increased by 0.7 million. Productivity, however, as measured by Total Factor Productivity (TFP) increased by 6.6% annually between the period 1996 to 2002.23 Interestingly, this growth in productivity is largely driven by the technological innovations and not efficiency gains. Since the land reform was initiated technical efficiency of agricultural enterprises has not improved, which suggests that land reform has not led to effective significant restructuring and a more efficient allocation of resources.24

Productivity gains were more pronounced in the eastern regions of Ukraine. Eastern oblasts of Ukraine enjoyed the highest TFP growth over 2000-2002, which is quite surprising considering that restructuring took place in the Western Ukraine first. Several factors contributed

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24 This section draws heavily from Galushko (2004).
to this. First, the restructuring in the East, even though it started late, primarily involved transformation into private enterprises or agricultural companies, which are much more efficient than cooperatives. The Western oblasts, on the other hand, followed the least demanding path of restructuring: many of the collective agricultural enterprises were transformed into cooperatives that weren’t much different from the State enterprises. Second, the major industrial centers including fertilizer producing plants, agricultural machinery buildings are located in the East. After the state’s withdrawal from the input supply markets the Eastern oblasts had better access to agricultural inputs markets and, thus, had better opportunities for productivity improvements. The rest of the oblasts have experienced TFP growth, with the growth being slower in the Western part of Ukraine and higher in the South. Measured in average annual changes in TFP, Rivne oblast showed the poorest performance.

**Figure 3.2: Regional Productivity in Ukraine**

**Private Agricultural organizations are, on average, the most efficient.** The transformation of collective and state enterprises into private enterprises yielded noticeable improvements in terms of economic efficiency and technical change. Transformation into cooperative ownership form is characterized by a lack of effective restructuring, including both management reform and operation adjustments. Contrary to the expectations, the agricultural companies are on average the most efficient, followed by private enterprises, cooperatives and state-owned enterprises. For example, in the Steppe zone, enterprises that were transformed into Companies moved their technology frontier to the right, while those that transformed into Cooperatives actually became less efficient and moved their technology frontier left (see Figure
A plausible explanation for agricultural companies being the most efficient ownership pattern is that many limited liability companies (and we suspect that these companies form the frontier) are actually private enterprises owned by 2 or 3 persons, who are all family members. Thus, these companies are in their essence private enterprises except for the formal name.

**Figure 3.3: Efficiency gains by ownership of enterprise**

![Figure 3.3: Efficiency gains by ownership of enterprise](image)

Enterprises that were transformed into Companies in the Steppe zone

Enterprises that were transformed into Cooperatives in the Steppe zone

Source: Galushko, 2004

**Southern and Eastern parts of Ukraine seem to have gained most from gains in farm efficiency.** With respect to farms’ efficiency in different regions agricultural enterprises of the Steppe region (Odesa, Mykolaiv, Kirovograd, Kherson, Donetsk, Dnipropetrovsk, Zaporizhzhya and Lugansk oblasts) appear to perform the best in terms of their ability to extract the same output at the lowest costs. In general, enterprises in the Carpathian region (Lviv, Ivano-Frankivsk, Transcarpathian and Chernivtsi oblasts), irrespective of the ownership form, are the least efficient.

**Figure 3.4: Efficiency across regions and management structures**

![Figure 3.4: Efficiency across regions and management structures](image)

Source: Galushko (2004)
Gains in efficiency and productivity have translated to higher wages for those employed. There are reasons to believe that TFP growth in agriculture pushes rural wages up through still imperfect labor markets. Figure 3.5 shows that TFP in Ukrainian agriculture began to increase significantly in 1999/2000, while agricultural laborers enjoyed increases in real rural wages starting in 2001. Rural poverty declined from almost 38 percent in 2001 to 28 percent in 2003, which can be considered as a successful achievement. This decline is likely to be the result of acceleration of TFP growth. Figure 3.6 describes the relationship between TFP growth over 1998-2001 in all oblasts of Ukraine and change in rural monthly wage between 1999-2002 an apparent feature is that higher TFP growth induced larger increases in rural wages, which, should inevitably have led to a faster reduction in the incidence in rural poverty in oblasts with higher TFP growth.

Figure 3.5: Agricultural output and rural wages

![Figure 3.5: Agricultural output and rural wages]

Source: Galushko (2004)

Figure 3.6: Correlation between rural wages and TFP growth

![Figure 3.6: Correlation between rural wages and TFP growth]
Rural households and economic organizations in Ukraine still face significant risks in agricultural activities. The drought of 2003 evidenced the lack of market and infrastructure instruments to restore market equilibrium. In 2003 the harvest of grain, the most important agricultural product in Ukraine, was about 5 million TM, compared to an average of 20 million TM in 2001 and 2002, which represented an economic loss of about 2.5 percent of GDP. The decline in grain harvest in 2003 due to bad winter weather conditions produced an increase in grain prices that affected urban consumers. The price increase, however, only marginally translated into higher agricultural incomes, leaving rural households with the same level of incomes but higher prices in other goods and services.

While there have been gains in real wages in agriculture, they have lagged behind the average real wage increases in Ukraine. Household survey evidence indicates that income from wages in rural areas increased faster than other income sources except pensions. Wages in agriculture are still the lowest in the Ukraine economy and have had the slowest progress in recent years. In 1999, wages in agriculture were 89 UAH, representing 58 percent of the average wage in Ukraine, and though they had increased to 219 UAH by 2003, their share as a percentage of average wages had dropped to 47 percent.

Figure 3.7: Wages by sector

Source: Ukraine: Statistical Appendix, IMF, 2004

3.3. Household welfare during land reform

Land reform led to large increases in the land holdings of rural households, with the distribution being relatively egalitarian. There has been a noticeable increase in the number of private household plots and in the average size of these plots; essentially the increase has been observed in the rural areas. The land held in the form of rural household plots quadrupled between 2000 and 2003, from 4.1 million hectares to 16.8 million hectares. In 2003 rural households accounted for 93 percent of all household plots. According to the household budget survey, the land reform process has distributed land in an equal fashion across income groups, with the poorest 40 percent owning approximately 35 percent of the total land held as household plots.
### Table 3.2: Ukraine Households’ Land and Land Use 1999-2003

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<th>1999</th>
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<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Land held by rural households (’000 ha)</td>
<td>2,210</td>
<td>4,160</td>
<td>9,300</td>
<td>15,300</td>
<td>16,830</td>
</tr>
<tr>
<td>% land owned by poorest 40%</td>
<td>32.4</td>
<td>27.4</td>
<td>38.2</td>
<td>33.6</td>
<td>34.6</td>
</tr>
<tr>
<td>% of cultivated land owned by poorest 40%</td>
<td>32.7</td>
<td>29.0</td>
<td>34.0</td>
<td>32.0</td>
<td>27.2</td>
</tr>
<tr>
<td>Mean share of land leased out (in %)</td>
<td>1</td>
<td>4</td>
<td>21</td>
<td>35</td>
<td>34</td>
</tr>
<tr>
<td>Mean share of land leased by poorest 40% (in %)</td>
<td>1</td>
<td>3.5</td>
<td>24</td>
<td>37</td>
<td>37.5</td>
</tr>
</tbody>
</table>


Most of the newly acquired land is being leased out, with the poorer households more likely to lease than the richer households. While most of the distributed land is being used by existing agricultural organizations by renting out from households, only 40 percent of rural households reported renting at least one plot their land. This suggests that other households are either involved in self cultivating their land as private family farms or renting from other households for commercial purposes. Differences in renting patterns are associated with poverty since poorer households are more likely to rent than better off ones, suggesting that differences in asset holdings, education and managerial capacity, and access to markets are playing an increasing role in entrepreneurial agricultural activities.

![Figure 3.8: Household Land Utilization in Ukraine 1999-2003](image)


Even though the poor are more likely to rent out, they receive lower (cash) rental incomes. Leasing cash incomes remained stagnant in real terms and fell in 2003, partly reflecting the imperfection in land markets in the villages and the large degree of uncertainty in agriculture. Incomes from assets, such as land leasing, represent about 23 percent of average income for households in villages but evidence large differences between the poor and the non poor. Some households may also receive in-kind incomes from leasing out their plots; however the data does not allow us to ascertain the amounts received in-kind. Even after controlling for regional variations, the household head’s educational qualifications, and the total land area held by the
household, richer households were significantly more likely to receive higher rental incomes per hectare than their poorer counterparts. Coupled with the fact that poorer households are renting a greater share of their land than the richer households and yet, earning a lower income per hectare shows that there is deep seated income disparity in the land lease market in Ukraine. On average, households reported receiving 76 UAH/ha, which corroborates well with the findings from a survey of land-owners and leasers (Rolfes, 2003).

<table>
<thead>
<tr>
<th>Table 3.3: Lease incomes from renting household plots</th>
</tr>
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<tbody>
<tr>
<td><strong>1999</strong></td>
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<tr>
<td>Mean percentage of households leasing (at least one plot)</td>
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<tr>
<td>Percentage of poorest 40% households leasing</td>
</tr>
<tr>
<td>Average income from leasing (UAH/ha) nominal terms</td>
</tr>
<tr>
<td>Average income from leasing (UAH/ha) for poorest 40% of households, nominal terms</td>
</tr>
</tbody>
</table>


Lease incomes (per hectare) reflect both productivity and vulnerability to weather variations. After controlling for the household characteristics, such as welfare status, household head’s educational level and plot size, household plots located in the Prydniprovsky region (Kirovograd, Dnipropret, and Zaprozhia oblasts) and Black Sea Coast region received significantly higher rental incomes (per ha) as compared to the other regions. This may be compared with the high TFP growth reported in these oblasts from 1996 to 2002, as shown in Fig 3.2. The regression analysis of lease income on household and regional characteristics showed that Podillya and Carpathians rental rates were affected by the bad weather in 2003, with lease incomes falling relative to other regions, reflecting the low TFP growth registered in these oblasts as well. In all cases, the analysis showed that controlling for all other factors, larger plots still received lower incomes per hectare, reflecting lower productivity of these land holdings.26 This corroborates the evidence from other countries where larger farms are associated to lower productivity, even controlling for land quality (Lamb, 2003). It has also been found that landowners who own State Acts (titles documents), receive higher rental incomes, and expect better compliance on lease payments than those who own Land Share Certificates (preliminary certificates that are later converted to State Acts). The rental incomes also differed by geographical location, with higher rents going to more productive regions, probably due to the fact that higher proportions of Land Share Certificates were being converted to State Acts in the more productive oblasts than in the less productive ones (Rolfes, 2003).

**Summary**

The overall gains in productivity coupled with shifts in rural employment shifts have produced little change in rural poverty. The combined effect of increased productivity and wages in agricultural organizations, with agricultural employment shifting from privatized

26 See Annex 8 for the detailed results of the rental rate analysis.
farms to family farming has left rural households with real incomes that have not increased at the same pace as other sectors in the economy. The modernization process in agriculture that would expand the gains from higher productivity and efficiency to agricultural workers needs to be coupled with better off-farm economic opportunities for the resulting excessive labor. Better market and infrastructure would also provide the basis for increased competition in land and crop markets in the rural sector.