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EMPLOYMENT ON CENTRAL AND EASTERN EUROPEAN FARMS ZAMESTNANOSŤ NA FARMÁCH V KRAJINÁCH STREDNEJ A VÝCHODNEJ EURÓPY

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Reforms in transition countries have caused important adjustments in agricultural employment. The adjustments differ strongly between countries. For example, in Hungary and Estonia labour use in agriculture has declined dramatically, in Poland and Slovenia it has decreased to a lesser extent and in Romania and Russia agricultural employment increased during transition. This paper argues that the differences in labour adjustment during transition are due to a combination of variations in initial conditions and differences in reform policies. The extent of reform-induced price and wage adjustments affected labour use in agriculture. Surplus labour outflow from agriculture is further stimulated by liberalisation of factor markets and by the privatisation of farm assets, improving incentives and removing constraints for optimal factor allocation and structural adjustments. The shift to individual farms has reduced the outflow of labour from agriculture by improving farm governance and labour efficiency.

Key words: agricultural farms, employment, individual farms, Central and Eastern Europe, transition

AGRICULTURAL EMPLOYMENT DURING TRANSITION

Reforms in transition countries (TCs) have strongly affected output and factor markets. A key issue is the impact of the reforms on the labour market because labour is the key source of income for many people in TCs, especially for the poorest countries and the poorest groups within a country.

The pre-transition share of agriculture in total employment varied from around 10% in the TCs with the highest income per capita, such as Slovenia and the Czech Republic, to around 50% in Albania (Table 1). Among the Central and Eastern European countries (CEECs), also Poland and Romania have high agricultural labour shares. Given the importance of agricultural employment in TCs, agricultural labour adjustments and their causes and effects should be of special interest.

Labour adjustments have not been uniform in TCs (Table 1)⁽¹⁾. During the first five years of transition, labour employment in agriculture declined dramatically (around 50%) in the Czech Republic, Slovakia, and Hungary (CSH). In Slovenia and Poland, labour use in agriculture declined by 10-15%. In contrast, agricultural employment increased during the first five years of transition in TCs such as Romania, Russia and Ukraine. An important difference can be observed between the Baltic countries. Estonia, as CSH, has experienced a dramatic decline in agricultural labour input, while Latvia experienced only a moderate fall in agricultural employment and Lithuania saw a significant increase of labour use in agriculture.

Figure 1 shows the evolution of agricultural employment between 1988 and 1995 in seven CEECs. In Hungary, the Czech Republic and Slovakia, the decline in agricultural labour use has been dramatic, with employment in agriculture after six years of transition more than fifty percent lower than at the start of transition. In Poland and Slovenia, the decline in agricultural employment has been less dramatic. Between 1988 and 1995 labour use in agriculture has decreased by almost 20%. In Bulgaria and Romania, the level of agricultural employment in 1995 was approximately 10% higher than in 1988.

In general, there is an inverse relationship between economic growth and the share of agriculture in total employment. However, the dramatic institutional and economic shocks caused by the shift from a socialist system to a market-based economy have substantially affected this long run fundamental relationship in transition countries.

The next section discusses the impact of transition and institutional reform on agricultural labour adjustment. The discussion is based on a formal model and a statistical analysis, as presented in Swinnen, Macours and Dries (1999).

2 CAUSES OF EMPLOYMENT ADJUSTMENT IN AGRICULTURE

2.1 Privatisation and liberalisation of the economy

Privatisation of the agricultural sector and liberalisation of the economy have a negative impact on agricultural employment. Privatisation (Table 2) will result in the removal of employment

(1) There are definitional and statistical problems with the data on farm labour in transition countries. However, just as in the case of statistical biases in output measurements, while there are no doubt important biases, the strong patterns which emerge from the data may be partly statistics but do reflect also important real effects. Most studies agree that despite statistical bias substantial real adjustment in input and output markets have occurred. For the agricultural labour data, case studies for countries where detailed statistics are available indicate that the broad patterns identified in our analysis are at most only partially due to statistical bias, and are robust to statistical corrections.

Table 1 Agricultural employment in transition countries

	Share of Agr. in Total Employment (%, 1989)* (1)	Labour use in Agr. % change (1989-1994) (2)
Czech Republic	10	-46
Hungary	18	-56
Poland	26	-15
Slovakia	12	-50
Albania	49	-3
Bulgaria	18	2
Romania	28	14
Slovenia	12	-5
Estonia	12	-44
Latvia	16	-8
Lithuania	19	12
Belarus	19	-9
Russia	113	6
Ukraine	20	4

(3) Source: OECD, World Bank, ILO and national statistics

Tabuľka 1 Zamestnanosť v poľnohospodárstve v prechodových krajinách

(1) podiel poľnohospodárskeho sektoru na celkovej zamestnanosti (%), (2) zmeny vo využívaní pracovných síl v poľnohospodárstve (%)

objectives at the farm level and the introduction of hard budget constraints. With over-employment in pre-reform agriculture, shedding of excess labour will result. This labour shedding is stronger when intersectoral mobility costs are lower, i.e. when liberalisation in the overall economy (Table 2) has removed government regulations and obstacles to restructuring and structural adjustments.

2.2 Farm restructuring

The privatisation process has also caused a restructuring of the farms as the overall share of land in individual farms has increased during transition. However, this increase has not been homogeneous over the different countries. Table 2 shows that the growth in individual farming has been most important in Romania and Bulgaria. While growth in individual farming seems fairly insignificant in Poland and Slovenia during transition, it should be noted that in these countries, agriculture was mainly organised in individual farms even before the start of the reforms. Individual farming is still of minor importance in the organisation of agriculture in the Czech Republic, Slovakia and Hungary.

Figure 2 shows the relationship between the shift to individual farming and the change in agricultural employment. Decollectivization of agriculture is positively correlated with agricultural labour use. This is consistent with the theoretical model, which states that the shift to individual farms is expected to increase efficiency of labour governance (Carter, 1984; Lin, 1988; Schmitt, 1991). With increased marginal productivity, labour use increases with a shift to individual farms.

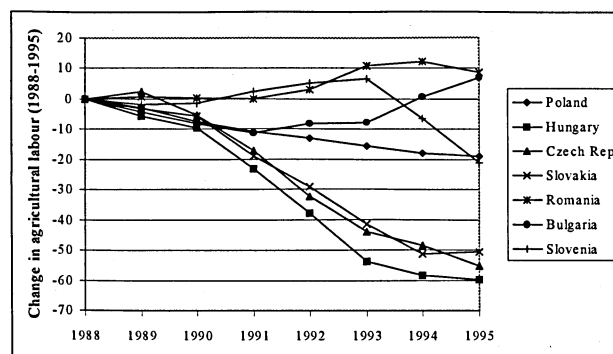
2.3 Price and trade liberalisation

Price and trade liberalisation caused a strong decline in agricultural terms of trade (Table 2 and Figure 3). Since 1990 agricultural terms of trade have deteriorated in all the transition countries in our sample. The effect was a strong decline in the profitability of the farms. As a consequence, there was an

Figure 1 The change in agricultural labour use in 7 CEEC between 1988 and 1995

Source: OECD (1996, 1997, 1998) and OECD AHEG

Obrázok 1 Zmeny vo využívaní pracovných síl v poľnohospodárstve v štátoch strednej a východnej Európy



important reduction in the use of inputs in agriculture, including labour. Furthermore, the results suggest that especially changes in the relative cost of inputs have affected labour allocations and that substitution effects have been important. This is consistent with results from Rozelle et al. (1998) and Macours and Swinnen (1999) that labour substitution for capital inputs has been very important in transition countries with strongly increasing prices for capital inputs relative to farm labour.

2.4 Food and social security

More generous unemployment benefits and pensions stimulate an outflow of surplus labour from agriculture. As a consequence, higher income countries (Table 2), with better developed social welfare systems, have a stronger outflow of labour from agriculture.

Finally, the relative importance of individual farming has a positive impact on agricultural labour. Individual farming may provide an important source of household food –and, more generally, social- security, especially when a social welfare system is absent or deficient. To capture this effect, we use the share of land in individual farming (Table 2). The opportunity costs of the people with individual farms to leave agriculture will be higher, and therefore the flow of labour out of agriculture lower.

3 IMPLICATIONS

As described in the introduction and in Table 1, the CEECs differ strongly in their agricultural labour adjustment patterns during transition. From the results of our analysis we can draw the following explanations of these patterns.

The different adjustment patterns are due to a combination of initial conditions (i.e. pre-reform characteristics) and differences in reform policies. A decline in terms of trade reduced the demand for labour in agriculture in all CEECs. This reduction in demand was offset by an increase in demand due to decreasing prices for other inputs vis-à-vis wages. This effect was particularly strong in Romania and contributed to the increase in agricultural labour during transition.

In the Czech Republic, Slovakia, Hungary, Poland and Slovenia, strong(er) liberalisation of the economy reduced constraints for intersectoral labour mobility. In contrast, overall

Table 2 Agricultural and economic indicators

	Land in individual farms (% 1989) (1)	Land individual farms (% change 88-95) (2)	Land in private ownership (% change 88-95) (3)	Agr. output price/agr. input price (% change 88-95) (4)	Liberalisation index (%, 1995) (5)	GNP per capita (PPP\$, 1989) (6)
Czech Republic	0	19	81	0.57	93	8600
Hungary	13	9	77	0.72	90	6810
Poland	76	9	1	0.36	89	5150
Slovakia	2	3	88	0.69	86	7600
Bulgaria	14	30	38	0.80	58	5000
Romania	14	42	66	0.47	71	3470
Slovenia	83	7	3	0.86	85	9200

Source: de Melo et al. (1996), Swinnen (1994), Swinnen, Buckwell and Mathijs (1997), OECD (1996) and national statistics

Tabuľka 2 Poľnohospodárske a ekonomické ukazovatele

(1) pôda na individuálnych hospodárstvach (%), (2) pôda na individuálnych hospodárstvach (% zmena), (3) pôda v súkromnom vlastníctve (% zmena), (4) vstupné a výstupné poľnohospodárske ceny, (5) index liberalizácie, (6) hrubý národný produkt/osoba

liberalisation in Romania and Bulgaria moved much slower, constraining intersectoral labour flows.

Enterprise restructuring strongly affected labour adjustments. The outflow of labour is strongest in the countries, such as Czech Republic, Slovakia and Hungary (CSH), where the large-scale farms have remained dominant in agriculture. The shift to individual farms is much stronger in the transition countries, such as Romania and Albania, which experienced an inflow or preservation of the labour force in agriculture during the first years of transition. The break-up of the collective and state farms in labour-intensive agricultural production systems in these countries induced strong gains in labour efficiency (Mathijs and Swinnen, 1998). These efficiency gains have reduced the outflow of labour from agriculture.

In contrast, the reformed collective and state farms with independent company management have laid off a large amount of workers, except those that voluntarily left the farms for other employment. Moreover, the difference between CSH versus Poland and Slovenia can be attributed to this factor. Both Poland and Slovenia are characterised by a domination of small family farms, even pre-reform. These structures have reduced the outflow of labour.

Furthermore, in low income transition countries such as Romania or Albania, agriculture and household farming provides food and social security, in contrast to the countries such as the Czech Republic, Slovakia and Hungary where the state provides more extensive social security and unemployment benefits, pensions, etc. This household security further limits the outflow of labour from agriculture in these poor countries with more individual farms.

4 CONCLUSIONS

Reforms in TCs have strongly affected agricultural employment but in remarkably different ways between TCs. In the TCs such as Hungary and Estonia labour use in agriculture has declined dramatically. In others (e.g. Poland and Slovenia) it has decreased to a lesser extent and in some (e.g. Romania and Russia) agricultural employment increased during transition.

This paper provides an explanation of the differences in labour adjustment during transition. We show that the differences are due

Figure 2 Correlation between agricultural employment and the change in share of land in individual farming

Source: Swinnen (1994), Swinnen, Buckwell, and Mathijs (1997), national statistics, OECD (1996, 1997, 1998) and OECD AHEG

Obrázok 2 Vzájomný vzťah medzi zamestnanosťou v poľnohospodárstve a zmenou v podiele pôdy pri individuálnom hospodárení (1) zmeny v zamestnanosti v poľnohospodárstve, (2) zmeny v pôde pri individuálnom hospodárení

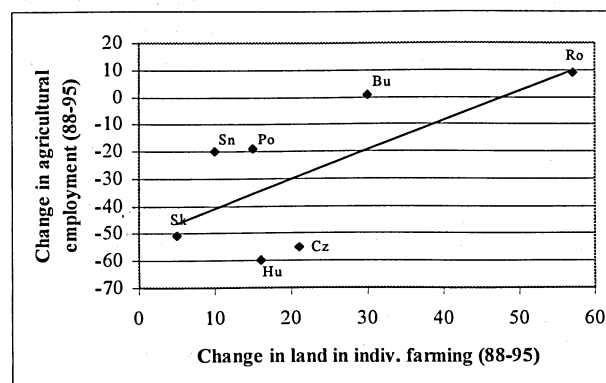
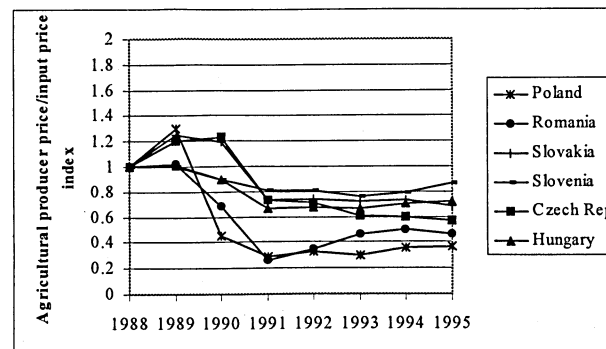


Figure 3 Change in agricultural terms of trade

Source: OECD (1996) and national statistics

Obrázok 3 Zmeny v obchodných podmienkach v poľnohospodárstve (1) index ceny poľnohospodárskeho výrobcu a vstupnej ceny



to a combination of variations in initial conditions and differences in reform policies. The extent of price distortions and subsidies under the communist system has affected wage and price adjustment during transition and the resulting effect on labour use

in agriculture when prices were liberalised and subsidies cut. The reform policies that had a strong influence on labour adjustment were, besides price and trade liberalisation, privatisation of production factors, farm transformation policies, and the set of general reform policies which liberalised factor markets and removed obstacles for improved factor allocation and mobility throughout the whole economy. Surplus labour outflow from agriculture is stimulated by these liberalisation policies and by the privatisation of the farm assets as they improve incentives and remove constraints for optimal factor allocation and structural adjustment. Finally, the shift to individual farms, which was especially strong in labour-intensive production systems with low labour productivity in agriculture, has reduced the outflow of labour from agriculture by improving farm governance and labour efficiency.

Súhrn

Reformy v prechodových krajinách spôsobili vážne zmeny v oblasti zamestnanosti v poľnohospodárstve, pričom tieto zmeny sa medzi jednotlivými krajinami veľmi líšia. Napríklad v Maďarsku a Estónsku sa počet poľnohospodárskych pracovníkov dramaticky znížil, v Poľsku a Slovinsku bol tento pokles nižší a v Rumunsku a Rusku sa počas prechodového obdobia ich počet zvýšil. Diskutuje sa o tom, že rozdiely v poľnohospodárskej zamestnanosti počas prechodového obdobia spôsobili odlišnosti v počiatočných podmienkach a rozdiely v reformnej politike. Na využívanie pracovných síl v poľnohospodárstve mal vplyv rozsah reformy cien a mzdové úpravy. Stimulom pre únik nadbytočnej pracovnej sily z poľnohospodárskeho sektoru je aj liberalizácia trhu výrobných faktorov a privatizácia poľnohospodárskeho majetku, čím sa zlepšuje motivácia a odstraňujú prekážky optimálneho rozmiestnenia faktorov a štrukturálnych úprav. Návratom k samostatnému hospodáreniu sa zlepšilo riadenie a zvýšila sa efektívnosť práce, v dôsledku čoho poklesol aj odliv pracovných síl z poľnohospodárstva.

Kľúčové slová: poľnohospodárstvo, zamestnanosť, individuálne hospodárenie, krajiny strednej a východnej Európy, prechodové obdobie, reforma

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EKONOMIKA VÝROBY OVOCIA A ZELENINY THE ECONOMY OF PRODUCTION OF FRUITS AND VEGETABLES

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The development is analysed of some selected indicators characterizing the economy of the production of fruits and vegetables in Slovakia. Emphasis is laid on the development of production, cultivated areas, consumption of fruits and vegetables, and prices in the period of 1994-1998. Various problematic sides of vertical integration in the production and processing of fruit and vegetables were examined.

Key words: Slovak Republic, economic indicators, fruits and vegetables, development trends