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Highlights in this issue:

- **Social expenditure did not reduce regional disparities in Poland**
- **The farmers' social fund may have contributed to low labour market activity and higher risk of poverty**
- **Besides, early pensions and disability benefits discouraged labour activity of the low-skilled**

Impact of social expenditure on regional disparities in Poland

*By Aleksander Rutkowski**

Summary

Social expenditure in Poland appears to increase regional employment disparities. In particular, the farmers' social fund (KRUS) seems to contribute to the rising regional dispersion in the number of recipients of social transfers. This is the result of KRUS benefits being poorly related to recipients' prior labour activity. Moreover, they are low, thus creating a potential "poverty trap". In contrast, the pension reform, which tightly links pensions to life-time income in the general system, appears to have attenuated regional dispersion. Nevertheless, there are still unreformed areas in the general system, such as disability benefits and early pensions, which encouraged the low-skilled to become less active or inactive. These findings support calls for an integration of KRUS in the general system or at least a major change of KRUS contribution-benefit ratios, the detachment of social assistance from the old-age saving or disability insurance and precise targeting of this assistance towards those who are really unable to remain active. In the general system, the early pension system should be replaced by activity-stimulating transfers such as e.g. on-the-job training subsidies or wage top-ups for the least-skilled. Finally, greater regional differentiation of social benefits could be introduced, taking into account differences in the cost of living, to stimulate mobility by reducing incentives to stay in underdeveloped regions.

Fiscal policy and regional employment disparities

The composition of government spending can have an impact on regional employment

The composition of government spending, in both economic and geographical dimensions, can potentially have a strong impact on regional employment. On the one hand, targeted spending on active labour market policies, which enhances skills or temporarily tops up net wages, can reduce regional disparities. In addition, better local public infrastructure stimulates investment and job creation. On the other hand, high social transfers may reduce incentives among the least-skilled to seek employment and to be mobile, thus contributing to rising labour market inequalities across regions, as demonstrated by the experience of both old (Boeri and Perotti, 2001; Brunello et al., 2001) and new EU member states (Lelkes and Scharle, 2004). As a consequence, inter-regional redistribution mechanisms, which are usually intended to be temporary and alleviate disparities, may become permanent and preserve discrepancies between regions.

Fiscal decentralisation can be expected to result in lower employment disparities (Gil et al., 2004) because local government should be able to better adjust the composition of expenditure to local needs (Oates, 1999). This decentralisation could also include some social transfers, which would be differentiated across regions to

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reflect local purchasing power or the cost of living, in order to avoid distorting job-seeking and the migration incentives.

Public expenditure and regional employment disparities: Poland compared to other EU member states

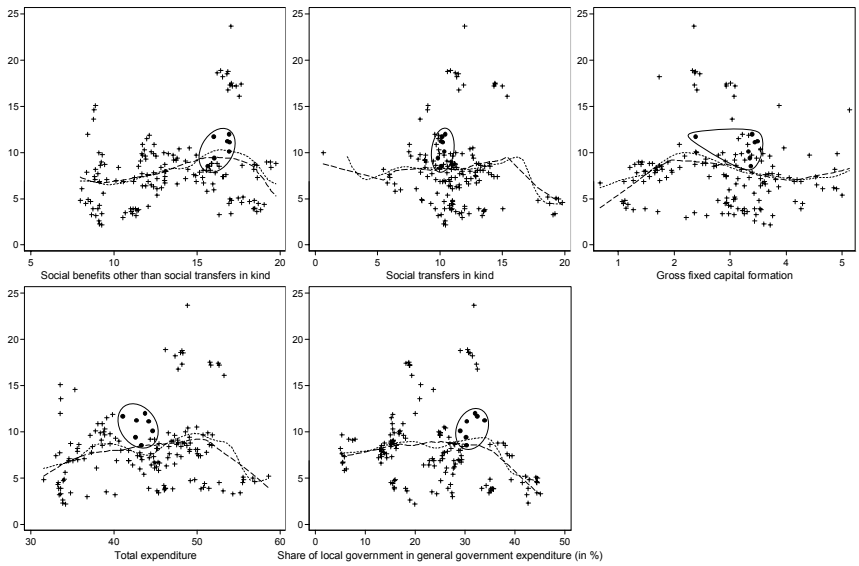
There appears to be a link between public expenditure and labour market performance in Poland: insufficiently targeted transfers may have contributed to relatively low employment and activity rates of labour at the national level compared to other EU countries (European Commission, 2008). Furthermore, the impact is asymmetric across regions.

In general, based on non-parametric estimation using pooled cross-country time-series data for 19 EU member states (Chart 1), one can discern a roughly hump-shaped relationship[1] between different fiscal variables and regional employment dispersion. Regional employment dispersion in Poland has presistently been above the "benchmark" curve for all the analysed public expenditure variables for almost all years since the end of 1990s. Moreover, the level of dispersion has been quite high despite the level of fiscal decentralisation (as reflected by the share of local government in general government expenditure).

The relatively high level of dispersion could be influenced by structural features of social security systems in Poland: the composition of social spending (e.g. share of active versus passive social transfers) and other institutional arrangements (e.g. contribution-to-benefit ratios). These hypotheses are investigated in the next section.

For given levels of different kinds of public expenditure, Poland had persistently higher regional employment dispersion than the EU average

Chart 1. The coefficient of variation of employment across the NUTS-3 regions and general government expenditure in Poland and in a sample of EU member states in 1999-2006



Notes: The coefficient of variation (vertical axes) is in %. All fiscal variables (horizontal axes) are expressed as a % of GDP, except for the share of local government expenditure in general government expenditure. Observations are pooled for countries and years. Curves show non-parametric fits: the locally weighted regression is dashed and the kernel-weighted local polynomial regression is dotted. Large outlined dots indicate the observations for Poland.

Source: Commission services.

With respect to Poland, regression analysis suggests that fiscal social transfers can increase regional dispersion over time (see box). In other words, social benefits may affect regions in Poland asymmetrically, having a stronger employment-deterring effect in those regions where employment is already low compared to those regions where employment is higher.

This finding supports calls for a regional differentiation of social benefits, in accordance with regional wages, unemployment levels or the cost of living, in order to reduce the reservation wage for the least skilled (Narożny, 2006). Also social transfers in kind, which include active labour market policies, do not seem to be

effective in reducing regional disparities in Poland (nor in the benchmark group). Finally, decentralisation of expenditure in Poland may contribute to increasing rather than decreasing employment dispersion,[2] contrary to theoretical propositions and the experience of other countries (Oates, 1999; Gil et al., 2004). This may be a signal of large differences across the various regional authoritiees in their ability to stimulate employment through appropriate spending.

In sum, the more general finding for the new EU member states – that "tight fiscal policies, rather than being harmful to job creation, may actually improve the employment performance of the region" (Boeri and Garibaldi, 2006) – also applies to Poland. Loose fiscal policies crowd out not only private investment, but also, indirectly, employment. This appears to be particularly true for social benefits and also valid at the intra-national regional level.

Over time, more social expenditure has contributed to greater regional employment dispersion in Poland

Box: The impact of public finances on regional employment dispersion in Poland compared to other EU countries

The link between regional employment dispersion and different types of public expenditure in Poland compared to other countries can be analysed with panel-data regressions. This allows for a discussion of the impact of each spending component, ceteris paribus, and controlling for the role of country-specific effects. Fixed country effects (dummies) are used as a baseline specification. Since there can be some persistence in regional dispersion shocks, a regression with an AR(1) disturbance was also carried out. Finally, a check of robustness against possible endogeneity (influence of dispersion on fiscal variables) was made, as governments can adjust the levels of different expenditure components in response to different employment dispersion levels. Lags of the explanatory variables were used as instruments. In all specifications, the possible influence of the degree of decentralisation (share of local government in general government expenditure) and the degree of spatial complexity (number of the NUTS-3 regions) are controlled for.

Whereas the corresponding benchmark coefficient for the impact of social benefits on employment dispersion (average impact for other member states) does not seem to be statistically different from zero, the coefficient for Poland points towards a dispersion-increasing effect, especially when the endogeneity is considered. This does not mean that the impact in every other EU member state is insignificant, as possible positive effects for some countries and likely negative effects for other countries can offset each other.

Table: Panel regressions explaining the coefficient of employment variation across the NUTS-3 regions in Poland and in a sample of EU member states in 1999-2006

Estimation method	Fixed effects	Fixed eff. with AR(1)	Instrum. variables
Lagged coefficient of employment variation for NUTS-3	0.504***	0.558***	0.257
	[0.006]	[0.006]	[0.191]
Social benefits other than social transfers in kind	−0.005	−0.014	−0.015
	[0.944]	[0.858]	[0.890]
Social transfers in kind	0.007	0.023	−0.121
	[0.930]	[0.776]	[0.287]
Gross fixed capital formation	−0.002	−0.021	0.085
	[0.991]	[0.899]	[0.689]
Other expenditure	−0.114*	−0.114*	−0.181**
	[0.062]	[0.062]	[0.037]
Share of local government in general government expenditure	0.001	0.004	−0.041
	[0.930]	[0.805]	[0.141]
Social benefits other than in kind × Dummy for Poland	0.661	0.524	1.333**
	[0.134]	[0.269]	[0.018]
Social transfers in kind × Dummy for Poland	1.080*	1.250*	0.364
	[0.082]	[0.065]	[0.620]
Gross fixed capital formation × Dummy for Poland	−0.391	−0.300	−0.802*
	[0.274]	[0.440]	[0.071]
Other expenditure × Dummy for Poland	−0.512**	−0.577**	−0.149
	[0.025]	[0.024]	[0.514]
Share of local government × Dummy for Poland	0.260**	0.215	0.497***
	[0.047]	[0.122]	[0.004]
Number of NUTS-3 regions	0.013***	0.013***	0.160**
	[0.008]	[0.005]	[0.038]
Observations	131	131	111
Number of countries	20	20	20
R^2 within countries	0.349	0.348	0.293

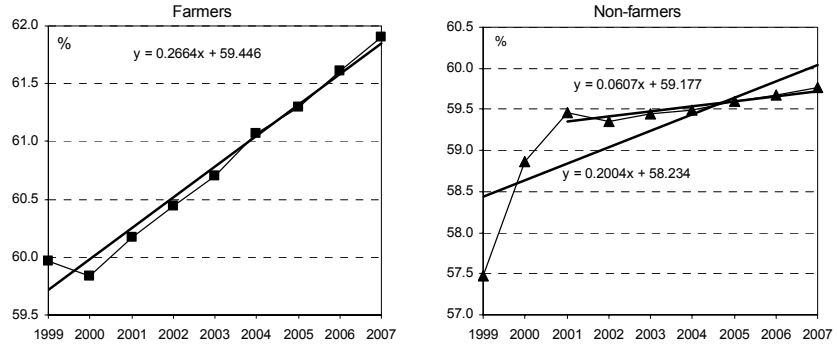
Notes: p-values in brackets: * p < 0.1, ** p < 0.05, *** p < 0.01. All explanatory variables are in % of GDP, except the share of local government in general government expenditure and the number of regions. All standard errors are Huber-White heteroskedasticity-robust. The fixed-effects regression with an adjustment for an AR(1) disturbance is based on an autocorrelation parameter which minimizes the sum-of-squared errors of the transformed equation. The instrumental-variables regression uses the Arellano-Bond linear dynamic estimation procedure.

Regional dispersion in the transfer recipients: general system versus farmers' system

The regional dispersion of inactivity (as approximated by the coefficient of variation of the number of recipients of different types of social benefits at the NUTS-2[3] in Poland) has not only been rising in general, but also has evolved very differently

according to the type of social security system (Chart 2). The dispersion in the number of farmers benefitting from the farmers' social fund (KRUS)[4] increased much faster than the corresponding ratio for non-farmers receiving transfers from the general system, especially in the recent years. This implies that the labour market situation of more rural regions has diverged more and more from the situation in other regions. A slowdown in the rate of growth of the regional dispersion of non-farmer beneficiaries took place after 1999, when the pension reform was implemented. This reform did not cover either social benefits,[5] or early pensions or KRUS, which are all still pay-as-you go systems, heavily subsidised by the central budget (European Commission, 2008).

Chart 2. Evolution of the coefficient of variation of the number of recipients of pensions and social benefits across the NUTS-2 regions in Poland

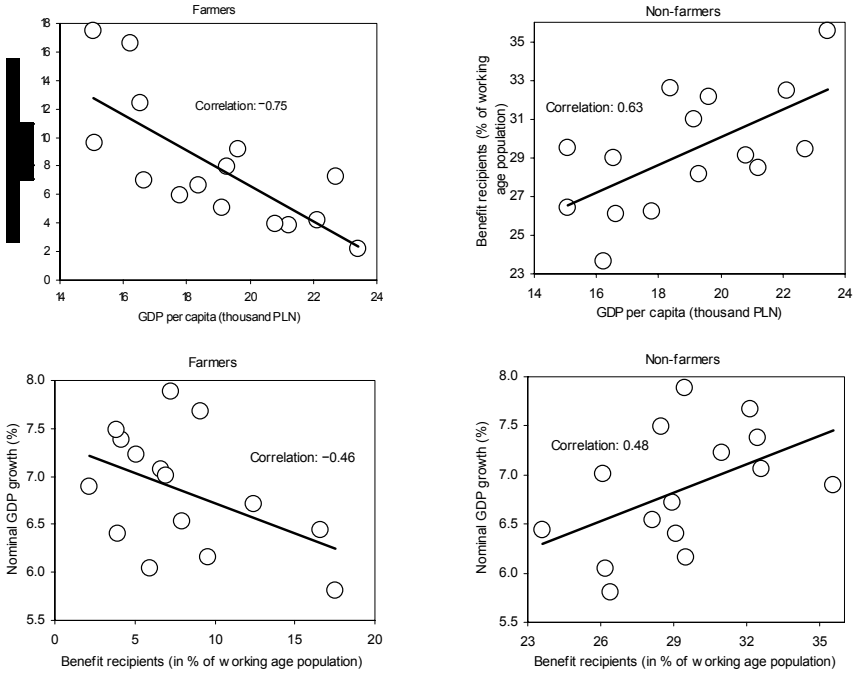


Source: Polish central statistical office (GUS)

The incidence of recipients (i.e. inactivity) in the farmers' system is negatively correlated with both regional income per capita and growth, in contrast with the general system (Chart 3). First, there are relatively more recipients of farmers' social transfers (i.e. more inactive or less active people linked to KRUS) in regions with lower GDP per capita. This link is particularly strong statistically (correlation coefficient of −0.75). In the general system (for non-farmers), there are more beneficiaries of social transfers in regions with higher GDP per capita. Second, regions appear to grow more slowly when they have many recipients of transfers

In contrast with the general system, the incidence of labour market inactivity is greater in the farmers' social security system in poorer and slower-growing regions.

Chart 3. The ratio of the number of recipients of pensions and social benefits to the working age population, GDP per capita and nominal GDP growth across the NUTS-2 regions in Poland, annual averages for 1999-2007



Notes: Since it is an outlier, the capital region is omitted. Nominal GDP growth rates (rather than real) are used because regional GDP deflators are not available.
Source: Polish central statistical office (GUS).

from KRUS. In contrast, the number of beneficiaries in the general system does not seem to be negatively correlated with growth, probably thanks to the pension reform (more people able to work do work as there is now a direct link between individual wages and future individual pensions) and a better targeting of transfers than in KRUS (those who receive benefits from the general system are unlikely to be very productive e.g. because of real disability).

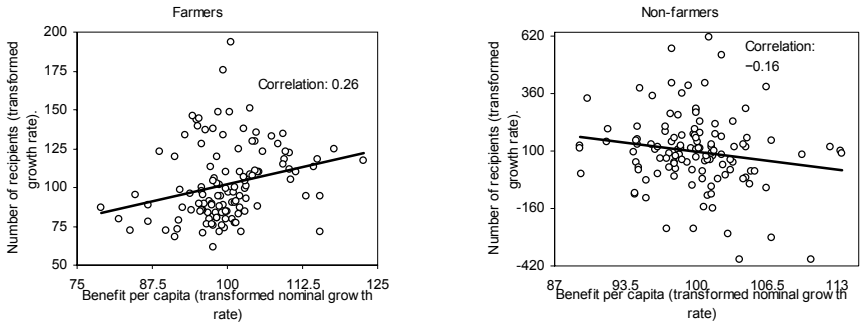
Both findings suggest that KRUS is among the factors which tie people to low-productive agriculture and subsequently de-activate them in relatively poor agriculture-dependent regions, thereby contributing to slower restructuring and growth in such regions. Ultimately, KRUS may be one of the causes of the persistency of regional income disparities in Poland. Poorer regions, with less demand for processed products and sophisticated services, offer fewer alternative job opportunities, thus creating an environment for inactivity and closing a vicious circle of low labour activity and slow growth.

Moreover, since the farmers' pensions and benefits per capita are about 70% of the transfers in the general system on average[6] and this ratio has been declining[7] despite heavy subsidies, the beneficiaries of the farmers' fund are more exposed to the "poverty trap"[8].

Although the farmers' benefits are low, KRUS provides more opportunities and incentives for becoming a recipient than the general system, resulting in a positive correlation between the amounts transferred through KRUS per capita and the number of recipients (Chart 4). As regards the opportunities to join KRUS, the strictness of both the eligibility criteria and their application is low. It appears to be relatively easy to become a beneficiary of the farmers' fund (e.g. because of low minimum land size required) so the impact of the level of benefits on the decision to enter KRUS is relatively strong. As far as incentives to join KRUS and become inactive early are concerned, the high subsidisation of the farmers' system, which makes the benefits practically unrelated to duration and level of contributions (which are small), is also likely to reduce labour market activity. For non-farmers, who are a more heterogeneous group compared to the farmers, the seemingly negative link between the growth of benefits and the increase in the number of beneficiaries (statistically not very strong) may result from the fact that it is mainly the low-skilled, who have used the opportunity to shorten their labour market activity period and receive disability benefits or early pensions. For the higher-skilled, these low transfers in per capita terms were apparently not attractive compared to a salary i.e. the income replacement ratio was too low.

Although relatively low on average, the benefits in the farmers' system stimulate inactivity. In the non-farmers' system, the low-skilled are attracted into inactivity by early pensions and disability benefits.

Chart 4. The growth in the number of recipients of pensions and social benefits and the growth in pensions and benefits per capita across the NUTS-2 regions in Poland in 1999-2007



Notes: Observations are pooled for regions and years. Both variables are normalised to avoid a spurious relationship due to the countrywide growth of each variable: the growth rate of the number of recipients and the nominal growth rate of benefit per capita are divided by the respective country averages across regions for each year. Therefore, the scale should be interpreted as a percentage deviation for a given year and region from the longer-term country average. In standard estimations, the coefficient on benefit per capita (transformed) is significant at 1% for farmers and not significant at 5% for non-farmers. In bootstrap estimation (performed due to some deviation of residuals from normality), the coefficient on benefit per capita (transformed) is significant at 0.1% for farmers.
Source: Polish central statistical office (GUS).

Conclusions

Some parts of public spending in Poland appear to increase regional labour market disparities. In particular, the farmers' social fund (KRUS) seems to contribute to the increasing dispersion in the number of recipients of social transfers. KRUS

beneficiaries are apparently sensitive to the level of benefits, which are poorly related to their labour market activity (duration or level of contributions) and which are low, thus creating a potential "poverty trap". In contrast, the pension reform, which tightly linked pensions to life-time income in the general system, appears to have slowed down regional dispersion. Nevertheless, there remain domains in the general system that are not covered by the reform, such as disability benefits and early pensions, which still encourage the low-skilled to become less active or inactive.

These findings support calls for a thorough reform of KRUS. Optimally, KRUS should be integrated with the reformed general system, which implies that wage-related contributions should fully finance individual future benefits. Social assistance should be detached from the old-age saving or disability insurance, means-tested and precisely targeted towards those who are really unable to remain active. In the general system, early pensions should be abandoned and the saved funds could be shifted to activity-stimulating transfers such as e.g. on-the-job training subsidies or wage top-ups for the least-skilled. Finally, more regional differentiation of social benefits could be introduced, taking into account differences in the cost of living in order to stimulate mobility by reducing incentives to stay in underdeveloped regions.

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[1] This relationship can be explained by the Kuznets-Williamson curve if government expenditure ratios are proportional to income per capita and regional employment variation is correlated with regional income variation.

[2] This is confirmed in the regression specification where endogeneity is controlled for (i.e. changing level of decentralisation in response to changing dispersion). This estimation does not consider the overall level of budgetary decentralisation, which includes the decentralisation of revenues. Neither the composition of local authorities' expenditure is examined, some components of which could potentially alleviate employment disparities.

[3] This is a more aggregated level than in the previous section due to data availability.

[4] KRUS pays (i) old-age pensions and disability benefits as well as (ii) additional smaller benefits related to accidents, illnesses and family situation. The first group of benefits is mainly financed by the central budget whereas the second group is financed from contributions.

[5] Disability benefits were reformed in the mid-2000s in the framework of the Hausner plan. The plan focused on the eligibility criteria, but did not harmonise the disability benefits with the reformed pension system, which is planned only now. The harmonisation is intended to link the disability benefit to the individually accumulated capital in the pension fund (with (i) some capital imputed for the non-working period due to disability and (ii) a bottom limit for a benefit). This harmonisation is necessary to avoid a situation in which disability benefits are higher than pensions, which would discourage labour activity and private saving in the reformed pension funds.

[6] The lowest regional ratio of farmers' pensions and benefits per capita to pensions and benefits per capita in the general system was about 60% in 2007.

[7] By about 1 percentage point per year in the period 1999-2007.

[8] The "poverty trap" is measured here as gross benefit per capita rather than net income per capita.

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