

INCOME EFFECTS OF THE SOCIAL INSURANCE SYSTEM IN POLAND – EVALUATION

Marian Podstawka

Warsaw University of Life Sciences – SGGW, Poland

Abstract. The paper presents evaluation of income effects of the social insurance system in Poland. Social insurance system can realise so-called insurance solidarity for farmers and those employed in other sectors. However, this system can also be based on progression. The insurance solidarity has been examined in two aspects: macro- and micro-economic. The analysis shows that in macro-economic aspect, there is no solidarity of social insurance among insurance beneficiaries forming either the group of the employed in non-agricultural sectors or those running a farm. There is the solidarity among people employed in farming sector and running non-agricultural economic activity. However, in case of larger farms, the share of contributions in their income makes barely few per cent.

Key words: insurance solidarity, social insurance system

INTRODUCTION

This paper discusses social policy of the state. Social security system in Poland consists of social insurance and welfare system, health insurance system, system of benefits in respect of unemployment and accidents as well as social assistance system etc.

Tasks in the field of social security are exercised by many institutions, including two most important:

1. Social Insurance Institution (Polish name abbreviation ZUS),
2. Agricultural Social Insurance Institution (Polish name abbreviation KRUS).

In case of SII, the social group covered by compulsory pension insurance include: employees, members of agricultural production cooperatives, freelancers, persons running non-agricultural businesses, clergy people, Members of Parliament receiving remuneration, recipients of unemployment benefits, persons in the course of child-care leaves or recipients of maternity allowances.

In case of ASIF, the Law on the farmers' social insurance provides two forms of insurance: either on the strength of a law (obligatorily) or on demand (voluntarily). The following persons are covered obligatorily by farmers' social insurance:

1. A farmer who conducts agricultural activity on his own account as the owner (independent or dependent) of the farm situated in the Republic of Poland and possessing above 1 hectare of arable land or a special section of agricultural production, according to the interpretation of tax regulations,
2. Farmer's spouse who works constantly on the farm, in the special section of agricultural production or runs the house which is directly connected with a farm;
3. A member of the household, i.e. farmer's relative, who:
 - is at least 16 years old,
 - remains a farmer in the mutual household or lives on the farm or in the neighbourhood,
 - works constantly on the farm and is not employed by a farmer as a worker, if those persons are not covered by other social insurance and do not have right to receive old-age pension or disability pension from the farmers' social insurance or other social insurance.

People, who conduct agricultural activity or work on the farm and at the same time conduct non-agricultural economic activity or cooperate in conducting such activity, are an exception to the above discussed rule. According to the Law of 1 January 1997, these people may choose the system by which they want to be covered, according to the Law. Figure 1 presents the number of insured people.

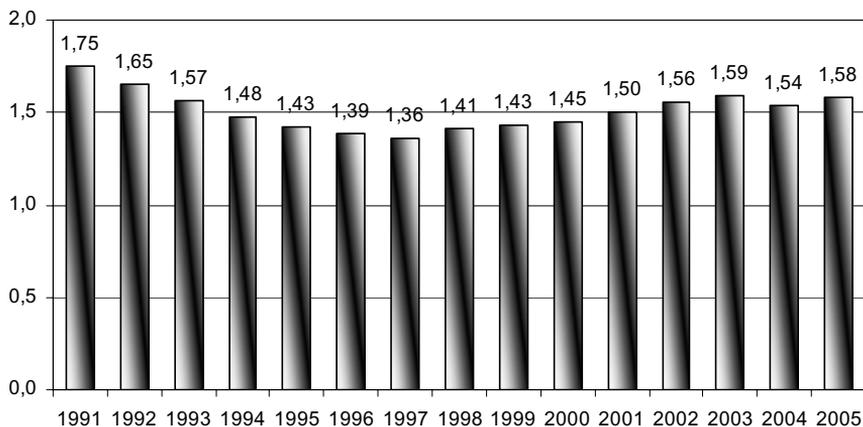


Fig 1. Number of insured people (million)

Rys. 1. Liczba ubezpieczonych osób (w milionach)

Source: Authors elaboration based on KRUS data [in:] <http://www.krus.gov.pl/en/insurance>

Źródło: Opracowanie własne na podstawie danych KRUS [w:] <http://www.krus.gov.pl/en/insurance>

The social policy consumes huge budget sums in Poland. In 2005, state budget expenses on social prevention and social welfare reached 70 billion PLN, which made nearly 1/3 of expenses total. It made 25 billion dollars. Through social insurance system, authorities support population employed in agriculture and in other sectors, but to a different degree.

In 2004, about 15 billion PLN (approx. 6 billion dollars) was spent as donations to the system of farmers' social insurance, while at the same time donations to the employees' social insurance made 24.5 billion PLN (9 billion dollars) and donations to the insurance subsystem of so-called 'uniform service' made 8 billion PLN (3 billion dollars). In total, the employees of the system received 32.5 billion PLN (12 billion dollars).

METHODOLOGICAL REMARKS

Social insurance system can realise so-called insurance solidarity for farmers (ASIF) and those employed in other sectors (SII). However, this system can also be based on progression. Insurance solidarity will be estimated by comparison of income of the two groups, which can be done by comparison of insurance contributions paid by them and by the level of donations for both these insurance systems. To do this, we will calculate the value of insurance solidarity index. Insurance solidarity between these two groups will be calculated in macro- and microfinancial aspect. Macro calculation will use official statistics data from the Central Statistical Office (CSO), Social Insurance Institution (SII) and Agricultural Social Insurance Fund (ASIF). Micro-level calculation will be based on data both from farms that run FADN accountancy and from the CSO and SII.

It is quite a complicated task to evaluate social insurance solidarity of these two groups, i.e. farmers and the employed in other sectors. First, we should analyze it in macroeconomic aspect.

In order to calculate the index of social insurance solidarity, we shall analyze burden of farmers' income and income of the other group by insurance contributions. Here, we can analyze three different compositions of this index.

$$1. \text{ Index of contribution share in income (F and P)} = \frac{\text{sum of social insurance contributions}}{\text{income} + \text{benefits}}$$

where: F – farmers, P – Population employed in other sectors.

However, his index has some disadvantages. It does not show the operating costs of social insurance systems. As it is known, they use a significant share of the budget donation transferred to co-finance them. In case of population employed in non-agricultural sectors, SII operating costs are much higher than ASIF operating costs. The second version of the discussed index, including donations level, enables to evaluate social insurance solidarity more correctly.

$$2. \text{ Index of contribution share in income (F and P)} = \frac{\text{social insurance contributions}}{\text{income} + \text{donations}}$$

This index shows the influence of SII and ASIF operating costs on the level of social insurance solidarity.

In the third composition, we can evaluate both the influence of social insurance on income of the surveyed two groups and to relate them to social insurance system operating costs.

$$3. \text{ Index of share of social insurance policy effects in income (F and P)} = \frac{\text{donations} - \text{contributions}}{\text{income}}$$

It seems that among the above presented indexes, index 3 is the best to evaluate social insurance solidarity.

As it was said in the introduction, in case of the micro-economic aspect we will evaluate index of social insurance share in income and 60 per cent of the average salary in national economy. These two micro-economic indexes will relate to so-called current situation of the social insurance solidarity, which does not take into account effects of donations and benefits.

INCOME EFFECTS OF THE SOCIAL INSURANCE SYSTEM IN MACRO-ECONOMIC ASPECT

Applying the index defining share of social insurance policy effects in income of population working in non-agricultural sector, we can calculate its value (sums in thousands PLN).

$$\text{Index of share of social insurance policy effects in employees' income} = \frac{-24.483.424^1 - 82.7706.806^2}{243.900.000^3}$$

$$\text{Index of share of social insurance policy effects in employees' income} = \frac{-58.223.382}{243.900.000}$$

$$\text{Index of share of social insurance policy effects in employees' income} = -23.9\%$$

In a similar way, we can calculate it for population working in agricultural sector, taking into account retirement and annuity insurance, prevention and rehabilitation, as well as sickness insurance, accidents and maternity insurance, ASIF activity and its operating costs (in thousands PLN).

$$\text{Index of share of social insurance policy effects in farmers' income} = \frac{14.936.671^4 - 1.705.315^5}{64.701.840^6}$$

$$\text{Index of share of social insurance policy effects in farmers' income} = \frac{13.231.356}{64.701.840}$$

$$\text{Index of share of social insurance policy effects in farmers' income} = 27.4\%$$

¹ SII data for 2006, <http://www.zus.pl>

² SII data for 2006, <http://www.zus.pl>

³ Data for 2006, from the Central Statistical Information of the CSO.

⁴ ASIF data.

⁵ ASIF data.

⁶ Data from the Central Statistical Information of the CSO.

Results of the above presented calculations show, that social insurance policy effects are quite different for these two groups, i.e. farmers and population employed in non-agricultural sectors.

Income of population employed in non-agricultural sectors is decreased by nearly 24 per cent, due to social insurance system contributions. It means that insurance policy significantly decreases income of this group. On the other hand, farmers take advantage of their social insurance system, when compared to their income. Their income increases by more than 27 per cent. Still, we have to remember that despite this advantageous insurance system, farmers' income is much lower than income of population employed in non-agricultural sectors.

At the end of this evaluation, we would like to present indexes of contribution share in income of these two groups. This will be helpful in estimating so-called current insurance solidarity.

$$\begin{array}{l} \text{Index of social insurance contribution share} \\ \text{in employees' income} \end{array} = \frac{82.706.806}{243.900.000}$$

$$\begin{array}{l} \text{Index of social insurance contribution share} \\ \text{in employees' income} \end{array} = 33.9\%$$

$$\begin{array}{l} \text{Index of social insurance} \\ \text{contribution share in farmers' income} \end{array} = \frac{1.705.315}{64.701.840}$$

$$\begin{array}{l} \text{Index of social insurance} \\ \text{contribution share in farmers' income} \end{array} = 2.6\%$$

The above presented indexes show what the social insurance contributions would look like in case of analysed groups, if there were not insurance donations. In such case, population employed in non-agricultural sectors would pay one-third of their income, while farmers would pay only 2.5 per cent of their income. It should be stressed that budget donations support social insurance system payments what actually results in increasing beneficiaries' income. Policy of supporting them by the system is different for those, who worked in non-agricultural sectors and for farmers.

Thus, using the indexes of social insurance contribution share in income of these groups, we can conclude that there is no insurance solidarity. We can notice some kind of insurance progression, which means that employees gaining higher income per person are liable to relatively higher insurance contributions when compared to farmers'.

SOLIDARITY OR PROGRESSION OF SOCIAL INSURANCE IN MACRO-ECONOMIC ASPECT?

In order to check whether there is solidarity or a progression in social insurance system, in micro-economic aspect, we will take for analysis persons running businesses and one- two- or three-person families of farmers who have farms of different area. In case of a person running a business, the basis for calculating the contribution is the declared

income, but it cannot be lower than 60 per cent of the average salary in enterprise sector (Table 1). Table 1 shows social insurance contributions calculated as 60 per cent of the average salary.

Table 1. Social insurance contribution calculated at the minimum level, for person running a business

Tabela 1. Wysokość składki na ubezpieczenie przy minimalnej podstawie wymiaru dla osoby prowadzącej działalność gospodarczą

Specification	Contribution calculation basis in PLN	Insurance contributions in PLN			
		pension	annuity	sickness	accidents
July, August 2007	1625.48	317.29	162.25	40.64	10.89
Sum of contributions* in 2007 in PLN		$531.37 \times 12 = 6376.44$			

*There was taken the same contribution calculation basis for the whole year, although it changes every month.

*Przyjęto tę samą podstawę wymiaru składek dla całego roku, mimo że ulega ona zmianie co miesiąc.

Source: Author's elaboration.

Źródło: Opracowanie własne.

Having calculated social insurance contribution total, we can calculate their share in income of a person running a business, taking into account the average monthly salary in national economy. If 2709.13 PLN is the average monthly salary in 2007, then yearly salary equals 32 509.56 PLN. Thus, the index of social insurance share in average salary of a person running a business equals 13.6 per cent.

Index of contribution share in income of a person running a business	$\frac{6376.44 \text{ PLN}}{32509.56 \text{ PLN}}$
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Index of contribution share in income of a person running a business = 13.6%

In the next part of this paper, we will present indexes and their values relating to farms. Table 2 includes necessary data.

Data in Table 2 indicate, that there is insurance solidarity in some organization and income situations. We can observe it in farms of 10–20 ha area, run by two persons. For these farms, index of social insurance contribution share in their income reaches 11.19 per cent. This index is higher for farms of 5–10 ha area and it equals 18.34 per cent. We can observe a similar situation in case of farms of area smaller than 5 ha and from 10–20 ha, run by three persons. In these farms, the index of social insurance contribution share in income equals correspondingly: 11.05 per cent and 16.78 per cent.

On average, the social insurance contribution share in income of farms run by three persons makes 12.84 per cent and is quite similar to the one calculated for persons running a business, which is 13.6 per cent.

It should be stressed, that especially in case of bigger farms, the index of the social insurance share in their income is quite insignificant – about few per cent only.

Table 2. Farmers' income and farmers' social insurance contributions
 Tabela 2. Dochód rolniczy a wysokość składek na ubezpieczenia społeczne rolników

Specification	Unit	Mean	Farm size (ha)					
			up to 5	5–10	10–20	20–30	30–50	more than 50
Farmer's income earned from the farm	PLN	21 942	25 499	10 240	16 790	29 651	48 324	113 801
Social insurance of one person running the farm	PLN	939.20	939.20	939.20	939.20	939.20	939.20	939.20
Social insurance share in income of a farm run by one person	%	4.28	3.68	9.17	5.59	3.17	1.94	0.83
Social insurance of two persons running a farm	PLN	1 878.40	1 878.40	1 878.40	1 878.40	1 878.40	1 878.40	1 878.40
Social insurance share in income of a farm run by two persons	%	8.56	7.37	18.34	11.19	6.34	3.89	1.65
Social insurance of three persons running a farm	PLN	2 817.60	2 817.60	2 817.60	2 817.60	2 817.60	2 817.60	2 817.60
Social insurance share in income of a farm run by three persons	%	12.84	11.05	27.52	16.78	9.50	5.83	2.48

Source: Author's elaboration based on data from farms running FADN accountancy in 2005.

Źródło: Opracowanie własne na podstawie danych gospodarstw prowadzących rachunkowość rolną FADN za 2005 r.

CONCLUSIONS

The analysis allows to formulate following conclusions.

1. In macro-economic aspect, there is no solidarity of social insurance among insurance beneficiaries forming either the group of the employed in non-agricultural sectors or those running a farm.
2. There is insurance progression between these two groups of beneficiaries. Beneficiaries from the group of employed in non-agricultural sectors pay higher social insurance when compared to farmers-beneficiaries.
3. Currently, social insurance solidarity exists among people employed in farming sector and running non-agricultural economic activity. Index of social insurance contribution share in their income is on the same level, i.e. approximately 13 per cent. However, in case of larger farms, the share of contributions in their income makes barely few per cent.

REFERENCES

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OCENA EFEKTÓW DOCHODOWYCH SYSTEMU UBEZPIECZEŃ SPOŁECZNYCH W POLSCE

Streszczenie. W artykule poddano ocenie efekty dochodowe systemu ubezpieczeń społecznych w Polsce. System ten może realizować tzw. solidaryzm ubezpieczeniowy dla rolników i ludności zatrudnionej poza rolnictwem, czyli proporcjonalność obciążania dochodów składkami ubezpieczeniowymi poszczególnych grup społecznych. Może on także funkcjonować na zasadzie progresji. Solidaryzm ubezpieczeniowy rozpatrzono w dwóch aspektach: makroekonomicznym i mikroekonomicznym. Wyniki analizy wskazują, iż w aspekcie makroekonomicznym brak jest solidaryzmu wśród świadczeniobiorców wywodzących się z osób pracujących i prowadzących gospodarstwa rolne. Solidaryzm występuje wśród osób pracujących w rolnictwie i prowadzących działalność gospodarczą, jednak w gospodarstwach rolnych większym udziałem składek na ubezpieczenie społeczne w ich dochodach stanowi zaledwie kilka procent.

Słowa kluczowe: solidaryzm ubezpieczeniowy, system ubezpieczeń społecznych

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