WORKING PAPER SERIES NO. 5

Do retired farmers need a separate social policy?

STEFAN MANN

Tänikon, June 2007

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Eidgenössisches Volkswirtschafts-
departement EVD
Forschungsanstalt
Agroscope Reckenholz-Tänikon ART

Do retired farmers need a separate social policy?

Stefan Mann
Forschungsanstalt Agroscope Reckenholz-Tänikon ART
CH-8356 Ettenhausen
stefan.mann@art.admin.ch

ABSTRACT

Many European countries employ social policy instruments specifically designed for retired farmers. We present the German case and argue from a life course perspective that it may be justified, in principle, to employ specific social policy instruments for groups with their own social characteristics. The Swiss case where retirement policies for farmers do not yet exist, is used for examining the need for special social support instruments. A regression analysis of the financial situation of retired Swiss farmers and a Configural Frequency Analysis of several social parameters was carried out. It cannot be shown that Swiss retired farmers, in default of own social policy instruments, are generally in a precarious situation.

Key words: Configural Frequency Analysis, life course approach, old age policy.

1. INTRODUCTION

One of the key debates in social policy is the one between universality on the one hand and selectivity on the other (Shaver, 1998; Bernard and Phillips, 2000; Minasyan and Ghukasian, 2005). This debate usually centres around household income level as the decisive criterion for support selection, while the World Bank has added the dimension of selective fields of funding like social policy in infrastructure sectors (Foster, 2004). Social scientists have, however, neglected a third type of selectivity in social policy making. The question focused on in this paper is whether particular social groups may need a special level or a special type of public support just because their social setting is so different from the majority for which the main social policy instruments are designed. There might be a case to implement a targeted social policy if the existing instruments do not match the basic needs of a particular social group[1]. This paper argues that retired farmers may be such a group. It analyses

[1] An appropriate wording for such an approach might be “targeting within universalism”. This formulation has been used by Skocpol (1995), however in a very different sense than described in this paper.

contributory social insurance schemes used for retired farmers and tries to outline a possible methodology to verify the need for special approaches.

The term “structural change”, being central in the agricultural policy debate (Goddart et al., 1993; Balmann, 1997), describes an ever-shrinking number of active farmers in most industrialized countries. This also implies that the proportion of farmers already retired is unusually large compared with other professional groups. In these circumstances, it can only be attributed to a lack of data that the literature of social sciences tells us hardly anything about retired farmers. They are mentioned frequently as landowners and landlords (Gaunt, 1983; Canjels, 1998; Jacques-Jouvenot und Gillet, 2001; Hopkins et al. 2002); according to medical research, some medical problems are prevalent in this group (Huttunen et al., 1981; Manninen et al., 1995; Eduard et al., 2004); and some case studies mention problems of poverty (Tsakoglou, 1990; Dettling, 1992; Matsaganis, 2001). We do not know anything, however, about the general social and financial situation of retired farmers.

In practice, governments have found very different answers to the question of whether retired farmers need particular assistance in terms of social insurance schemes. Section 2 reviews both practical approaches as well as the academic debate around them. An alternative approach to judge the appropriateness of such a selective policy is presented in Section 3. This approach is then adopted for the case of retired Swiss farmers. Section 4 analyses their financial situation, Section 5 concentrates on health and social aspects of retired farmers and Section 6 concludes the paper.

2. POLICIES AND THEIR EVALUATION

In some industrialised countries such as the United Kingdom or the Netherlands, the primary sector is in a not dis-advantaged and sometimes not even in a special position compared, for example, to the service sector. There is usually a consensus in these countries that there is no need for a particular social policy for farming families (Mann, 2005a). In many other industrialised countries, however, an inefficient farm structure in conjunction with decreasing food prices leads to a considerable income gap between farmers and workers in other sectors. In many of these countries and even in some developing countries like the Philippines (Busse and Schwartz, 1998), governments employ social policy instruments exclusively designed for farmers and their families.

For two reasons, Germany’s social policy for retired farmers may serve as a case in point for other approaches. The first is that many elements of the policy which Germany follows can be found in other countries like Austria and Italy that also follow a social policy particularly for farmers. The second is that social policy plays a rather prominent role in Germany’s

portfolio of national agricultural policy instruments, including the policy for retired farmers as well as instruments like health or accident insurance. Policy instruments for retired farmers have therefore caught the attention of some agricultural economists who have critically reflected on how the government has applied its instruments to retired farmers.

Except for some tax exemptions for pension fund savings, Germany's government does not generally pursue a retirement policy for self-employed persons. Since agriculture in Germany relies on family farms, farmers are usually self-employed which normally would be the end of the story. However, in 1957 the German government created a pension fund for retired farmers and attempted therein to make its conditions as similar as possible to the pension fund for employed persons (Henrichsmeyer and Witzke, 1991).

One of the elements of this attempt is the part of the law defining that the farmers' ratio between contributions paid and pensions received has to be identical to the average ratio for employers. But while the level of deductions for employees usually depends on salary, difficulties in determining farmers' income have led to a uniform contribution for farming persons of 199 €/month in the Western and 168 €/month in the Eastern part of the country. However, farmers who can prove that they have a low income receive a reduction of up to 60 per cent of this contribution.

Figure 1 illustrates a structural problem of this insurance. Not just because of rising life expectancy, but particularly due to the decreasing number of farms, the ratio between payers and recipients is steadily deteriorating. Since currently twice as many persons receive some pension money than persons contributing to the fund, it is not surprising that the share of pension money coming from the Federal Budget has steadily risen in the past and now lies at 75 per cent.

Although the administration of the farmers' national pension scheme has been simplified during recent years, the system in principle has remained stable over the last decades. Agricultural economists in Germany have been concerned with the analysis of this and other sectoral social policy instruments for more than 20 years (Schmitt and Witzke, 1975; Hagedorn, 1981; 1982). Their result would still be the same in today's situation: Agricultural economists consider the social policy approach for farmers inefficient. The criticism rests mainly on the fact that social policy is carried out based on affiliation to a particular sector, while it should be based on peoples' needs. In particular, the case of rich farmers getting their insurances subsidised by the state was used to illustrate that a social policy based purely on being a farmer could not be adequate.

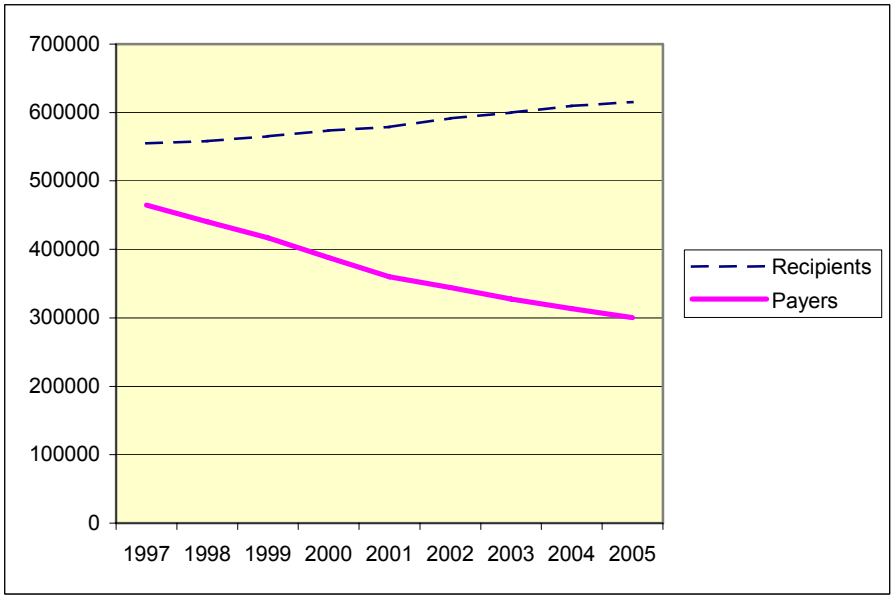

Figure 1: Number of recipients and payers within the national pension scheme for German farming families

An example of a non-selective approach would be Switzerland. Although Switzerland is even more disadvantaged in terms of its agricultural structure than Germany and subsidises its active farmers on a level which is the highest in the world (OECD, 2006), it does not pursue its own social policy for its retired farmers. However, the differences between the German and the Swiss system go well beyond that. Switzerland's pension system rests on three pillars: The first is mandatory for everybody but provides only the most basic support, the second is mandatory for employees, and the third is voluntary, but subsidised by the government. Audits of accounts data for the agricultural sector (Farm Accountancy Data Network FADN) show that most farmers only rely on the first pillar, although some take advantage of the third pillar as well.

3. CAN SECTORAL RETIREMENT POLICIES BE JUSTIFIED?

If Marshall (1949) is right and the welfare state added a third dimension to the historical evolution of citizenship, (following on from the development of civil and political rights), then social policy has to be measured by its goal of helping needy people. The life course perspective as developed by Elder (1974) as well as Neugarten and Hagestad (1976) delivers even more evidence to strengthen this argument. If, as Blossfeld and Mayer (1988) show, the social channelling power of labour market segments is enormous, this will certainly affect the perception of the social security system too. By the time they reach retirement, European farmers are used to receiving a fair share of their income via the agricultural authorities. They have been conditioned by receiving ten-thousands of Euros from the

budget, knowing that their financial well-being is cared for by the public but not in the sense of Social Security. There may therefore still be strong arguments to find ways of supporting rural residents after retirement without the need to approach the social security office.

Social policies were typically set up in cities by urban residents and targeted for urban social problem groups. In other words, the design of social policy is often well adapted to the needs of urban residents but the more the social characteristics of needy people differ from that of urban residents, the less will current political instruments be able to improve their living conditions. Arguably, farmers are often the group whose lifestyles are most apart from urban settings.

The most important aspect of lack of adequacy in social policy setups for rural residents is the process of application for social benefits. Usually, the process of going to the local social security office in order to apply for benefits is well accepted in most urban milieus. In addition, the urban environment usually provides a high level of anonymity for applicants. Both of these conditions are rarely to be found in farming communities. While Mann (2005a) showed that more than 20 per cent of active farming families in Switzerland would be eligible for benefits (without direct payments, it would be 80 per cent), empirical research could not show a single case where farmers would apply for such a measure. Similar conditions can be assumed for additional retirement payments in Switzerland which are designed for retirees who cannot make a living from the three pillars described above (Schelling, 2000).

Therefore, retirement schemes for farmers may match needs that arise from sectoral and spatial peculiarities and cannot be fulfilled in another way. This does also mean that the normative approach of evaluation cited above is not sufficient. While it may be questionable for rich farmers to draw benefits, it appears helpful to learn empirically about the situation of retired farmers so as to judge the need for additional policy instruments, be they in contribution and income rules or to adjust the pension incomes. This analysis may be particularly important in countries with a disadvantaged agriculture but without a sectoral social policy like Switzerland.

An important aspect is the financial situation of retired farmers. It is an interesting question whether the income gap between farmers and non-farmers increases after retirement in absolute or relative terms. This would be likely in cases like Switzerland where active farmers receive a great deal of so-called direct payments whereas retired farmers do not.

However, an emerging consensus in social reporting shows that it will not be sufficient to concentrate on financial indicators only (Zapf, 2000). If particular aspects of ‘quality of life’ seem to differ clearly between farmers and non-farmers, one should also consider the option

to set up targeted programmes. Bohler and Hildenbrand (1997), for example, claim from a qualitative study that alcoholism is very prevalent among retired farmers. The frequent proximity of retired farmers to their old working place and their successors makes it interesting to compare the workload between retired farmers and non-farmers. And the same phenomenon of closeness also suggests that the social embedding of retired farmers could be different to that of non-farmers. Frequency of contact with children was used as a proxy for this.

4. THE FINANCIAL SITUATION OF RETIRED SWISS FARMERS

One of the reasons for the lack of knowledge about retired farmers is a lack of available data. While the financial situation of active farmers is, in most developed countries, represented very well by data from accounts (FADN), there is, of course, no need any longer to keep accounts after retirement and thus there is an information vacuum. This vacuum is particularly disturbing when taking the life course perspective into account. While we know that there are considerable differences in income among active farmers in Switzerland (Mann, 2005a), and while we know that wealthier farmers are much more active in pension saving than poorer ones (Mann and Kohli, 2006), we know almost nothing about the connection between wealth among farmers before and after retirement.

For a static, cross-sectional analysis, the 2002 Swiss Health Survey provided some insights based on sheer sample size. This telephone survey included over 12,000 respondents, of whom 216 were farmers or farmwives aged 65 and over. In Switzerland, the age of 65 is a very reliable borderline for retirement since no direct payments are paid to active farmers after 65 any more so that the farmer is practically forced to either hand the farm to the next generation or to give it up. The most relevant financial parameter was the so-called equivalence income of the household (Seneca and Taussig, 1971). The equivalence income EI is defined by

$$EI = \frac{HI}{1 + 0.5A + 0.3C}$$

where HI is the household income, A is the number of adults in the household in addition to the head of the household and C is the number of children below 18 years. The averages of this indicator for farmers and non-farmers before and after retirement as well as the level of satisfaction with this income are depicted in Table 1. It shows that the absolute income gap between farmers and non-farmers decreases after retirement, while the relative income gap remains constant; Farmers earn around two third of non-farmers, before and after retirement.

However, the existing income gap does not mean that retired farmers are less satisfied with their financial situation in comparison to non-farmers.

Tab. 1. Income situation and income satisfaction

	Equivalence Income until 64 (CHF/month)	Equivalence Income from 65 (CHF/month)	Income satisfaction from 65[2]
Non-Farmers	4263 (100 %)	3624 (100 %)	6.9
Farmers	2748 (64 %)	2313 (64 %)	7.1

Source: Swiss Health Survey

In order to obtain a more complete picture about the determinants of income among retired farmers and other citizens, a regression analysis (OLS) was carried out in which variances in the household's equivalence income were explained. Using the logarithm of the equivalence income as dependent variable solved problems with heteroscedasticity and increased R^2. Two dummy variables are in the focus of attention of this study: would, ceteris paribus, being a farmer *(farmer)* deteriorate the equivalence income? And what about the effect of being a retired farmer *(farmer*pension)*? In addition, some variables are included in the regression analysis whose impact on wages is obvious: Age, the level of education, possible unemployment, rural residency and retirement. A third small set of variables including marriage and numbers of children is needed because we use equivalence instead of household income. The last two variables refer to findings from the literature: The "gender" variable allows for a gender bias in wages as described by Kilbourne et al. (1994). And the decision to include overweightness as a variable goes back to a study by Harper (2000) who finds that obese people are paid less.

Table 3 shows that the lower income of farmers compared with other groups is not due to less education or living in the countryside but is indeed a sectoral phenomenon. It is, however, also a sectoral phenomenon that farmers rarely pay rent for their house (which may well exceed the income differential to non-farmers) but usually live on their own land. The interaction variable *Farmer*Pension* shows once again that the absolute difference in income decreases once retirement is reached. The rest of the variables mainly confirm the role of well-known influencing factors of income like age, gender and education.

[2] scale: 1=very low level of satisfaction; 10 = very high level of satisfaction

Table 2: Variables to explain the equivalence income

Variable	Meaning	Scale
Farmer	Agricultural profession	1=Yes; 0=No
Farmer*Pension	Farmer who receives a pension	1=Yes; 0=No
Pension	Respondent receives pension	1=Yes; 0=No
Age	Age of respondents	in years
Unemp	Are respondents unemployed?	1=Yes; 0=No
Land	Location of residence	1=Rural residence; 0=Urban residence
Educ	Level of respondent's education	0 = without education 1 = mandatory schooling 2 = College 3 = University
Child	Own children of the respondent	1=Yes; 0=No
Married	Status of marriage	1=married; 0=not married
Gender	Gender of respondents	1=male; 0=female
Obesity	Body Mass Index above 25	1=Yes; 0=No

Table 3: Explaining the equivalence income (n=14 466)

Variable	OLS-Semi-log-Function
Farmer	-0.190** (-14.45)
Farmer*Pension	0.048* (2.40)
Pension	-0.076** (-13.70)
Age	0.013** (20.99)
Age^2	-0.000098** (-16.11)
Unemployed	-0.053** (-4.98)
Land	-0.046** (-13.54)
Education	0.083** (32.16)
Children	-0.1055** (-26.70)
Married	-0.017** (-4.68)
Gender	0.034** (10.79)
Obesity	-0.012** (-4.87)
Constant	3.17** (228.89)
R^2	0.23

* probability of error < 5%; ** probability of error < 1%; t-values in parentheses

Apparently, the first pillar of old age security benefits in Switzerland, together with rent from their former farmland forms a proper base for financial solidity. The lack of an income gap for retired Swiss farmers in turn raises the question whether retired German farmers could not also do without a costly additional instrument for their old age phase.

5. THE SOCIAL SITUATION OF RETIRED FARMERS

In order to test whether the social patterns among retired farmers would systematically differ from non-farmers, Configural Frequency Analysis (CFA) was applied. CFA is a multivariate method for typological research that involves categorical variables. As it has to date mainly been applied in psychological studies (Lienert, 1968; von Eye, 1990; Netter et al. 2000) and Economics (Mann, 2005b); it will be worthwhile to introduce the method to social policy research too.

5.1 Method and data

CFA allows those cells to be identified in a cross-classification that contain more (or fewer) cases than expected based on some chance model. When a cell contains more cases than expected it is said to constitute a CFA *Type*. When there are fewer cases than expected, a cell is said to constitute a CFA *Antitype*. With this classification, a certain combination of different categorical variables can be found to be typical or atypical.

CFA proceeds in four steps. The first step involves specifying a Base Model. The Base Model involves all variable relationships that are *not* of interest for the hypotheses under study. For our purposes, the distinction between first- and second-order CFA is important. The standard, first-effects model takes account of the different frequencies of the single variables, in the case of three existing variables using

$$\log E_i = \lambda + \lambda_j^x + \lambda_k^y + \lambda_l^z,$$

where the subscripts of the λ terms index the estimated parameters and the superscripts index the variables. An alternative to this is second-order CFA, where all pairwise interdependencies between variables are taken into account, using the model

$$\log E_i = \lambda + \lambda_j^x + \lambda_k^y + \lambda_l^z + \lambda_{jk}^{xy} + \lambda_{kl}^{yz} + \lambda_{jl}^{xz}.$$

As a result of second-order CFA, only interdependencies between all three variables constitute Types and Antitypes.

The second step in CFA involves an estimation of expected cell frequencies. For the CFA base models, this is done by maximum likelihood methods. The third step in CFA involves

performing statistical significance tests. A large number of tests has been proposed for CFA (for an overview see von Eye, 2002), of which the chi-square test is the most popular.

The fourth step in CFA involves the interpretation of types and Antitypes. This interpretation focuses on the characteristics of the individuals in the cells that constitute types and Antitypes. Thus, CFA is a pattern-oriented rather than a variable-oriented statistical method.

Again, the Swiss Health Survey 2002 served as a useful data source. As the analysis was this time restricted to comparing retired farmers and retired non-farmers, only respondents aged over 65 were considered. This group of retired farmers was matched by a comparison group of 432 non-farmers. For each individual, two persons without an agricultural background but with the same birth year, gender and location were chosen from the sample.

Configural Frequency Analyses were carried out on the four items described above (see Box). A first-order Configural Frequency Analysis was applied in order to catch unusually frequent combinations between the variables, using agricultural background (AGR=1), gender (SEX=0 for female; SEX=1 for male) and the answer to the chosen items as categorical variables. Types and Antitypes were identified using the binomial test. On general well-being, respondents were asked whether they had suffered from a physical or psychological problem during the past twelve months (PROB=1) or not (PROB=0). On their consumption of alcohol, respondents had to state their frequency of drinking. Drinking alcohol less than once a month was classified as ALC=0, occasional drinking between once a month and most days was ALC=1, whereas daily drinking was ALC=2. Carrying out regular unpaid labour was coded LAB=1 (otherwise LAB=0). Contact with children less than once a month was CHI=0, contact with children between once a month and most days was CHI=1, whereas daily contact was coded CHI=2.

5.2 Results

The results of the analyses do not show many differences between retired farmers and retired non-farmers. The non-existence of Types and Antitypes in Tables 4 and 6 indicates that the prevalence of problems is fairly equally distributed between former farmers and non-farmers, and so is the unpaid work they carry out. The latter result in particular does not match the stereotype of retired farmers who still have to do the milking and feeding on their children's farm. Pensioners in other sectors apparently provide as much assistance to others as retired farmers do.

Regarding the frequency of alcohol consumption, clear Types and Antitypes could be identified in Table 5. However, the difference which can be found is mostly between genders. Women who do not drink are Types for both farmers and non-farmers, as are men who drink

on a daily basis. Vice versa, retired women with daily alcohol consumption are clearly under-represented and therefore Antitypes, both inside and outside farming. Hence, our analysis for this item was able to detect systematic differences, but between genders rather than between sectors.

Additional CFAs not reported here in detail confirm the picture of retired farmers not being affected to a greater degree by social problems than other retirees. Regarding loneliness, obesity and psychological stability, no systematic differences between the farming and non-farming group could be detected.

However, an agricultural background clearly influences the frequency of older people's contact with children, as can be seen from Table 7. Both retired male farmers and farmwomen having daily contact with children are Types, whereas retired men from other backgrounds having daily contact with children are Antitypes, as are male farmers with only occasional contact with children. However, we do not know whether we can interpret this incidence as a privilege, because it may be that the frequency of intergenerational contacts providing maximum satisfaction (Wood and Robertson 1978; Snell and Martin Matthews 1986) is already exceeded for retired farmers.

Table 4: Prevalence of physical or psychological problems

AGR	SEX	PROB	Observed frequency	Expected frequency	p	Type/ Antitype
0	0	0	133	137	.359	
0	0	1	53	49	.281	
0	1	0	163	152	.162	
0	1	1	43	54	.064	
1	0	0	64	69	.301	
1	0	1	29	24	.193	
1	1	0	74	76	.432	
1	1	1	29	27	.372	

Table 5: Consumption of alcohol

AGR	SEX	ALC	Observed frequency	Expected frequency	p	Type/ Antitype
0	0	0	121	84	.000	Type
0	0	1	30	41	.038	
0	0	2	35	61	.000	Antitype
0	1	0	42	92	.000	Antitype
0	1	1	61	46	.013	
0	1	2	103	68	.000	Type
1	0	0	71	42	.000	Type
1	0	1	20	21	.508	
1	0	2	2	31	.000	Antitype
1	1	0	30	46	.006	
1	1	1	19	23	.247	
1	1	2	54	34	.000	Type

Table 6: Regular unpaid labour

AGR	SEX	LAB	Observed frequency	Expected frequency	p	Type/ Antitype
0	0	0	60	59	.485	
0	0	1	52	56	.315	
0	1	0	80	79	.476	
0	1	1	77	75	.398	
1	0	0	33	30	.326	
1	0	1	29	28	.488	
1	1	0	36	40	.269	
1	1	1	39	38	.456	

Table 7: Contact with children

AGR	SEX	CHI	Observed frequency	Expected frequency	p	Type/ Antitype
0	0	0	7	8	.478	
0	0	1	94	86	.175	
0	0	2	46	59	.034	
0	1	0	16	9	.017	
0	1	1	117	96	.013	
0	1	2	45	67	.002	Antitype
1	0	0	1	4	.095	
1	0	1	35	43	.107	
1	0	2	47	30	.002	Type
1	1	0	1	4	.063	
1	1	1	28	49	.001	Antitype
1	1	2	52	34	.001	Type

6. CONCLUSIONS

It is worthwhile opening another dimension in the debate about selectivity and universality of social policy. The example of agriculture shows that some countries treat members of some sectors in a very specific way. Following a life course perspective, this may be a good argument to continue this special treatment after retirement if this is the only way to avoid severe social problems among this group. Therefore, judgement about the appropriateness of a separate social policy approach for farmers as we know it from numerous countries should not only be based on a theoretical analysis, but primarily on an empirical analysis of the situation of retired farmers.

Such an analysis should consider economic as well as social factors. If the income differential between farmers and non-farmers widens considerably after retirement, this might be an indicator that financial support is needed. If physical or psychological health is much worse among retired farmers than among non-farmers, other forms of help may be adequate. But the main point is still to appreciate that, in general at least, there may be a need to develop social policy instruments for farmers.

The data with which this need was checked for the situation of retired Swiss farmers makes it difficult from a social viewpoint to justify the classification of retired farmers in Switzerland as a problem group. None of the items measured make the situation of retired farmers seem

worse when compared with their counterparts from other sectors. If the only difference between Swiss farmers and non-farmers in their third life phase is that farmers have closer contact with young families, it appears that retired farmers in this country enjoy only the bright side of the specifics of agriculture. These results indicate that universality may be the appropriate answer in social insurance schemes for retired farmers in Switzerland.

The empirical analysis for Switzerland might, in turn, serve as an incentive for similar empirical research for Germany and other countries pursuing a social policy for retired farmers: It might be worthwhile checking whether the financial and social situation of retired farmers in such countries is sufficient to abolish the existing policy instruments or whether the selectivity which is applied is necessary in order to avoid poverty among German retired farmers.

REFERENCES:

BALMANN, A., 1997. Farm-based modelling of regional structural change: A cellular automata approach. European Review of Agricultural Economics 24 (1-2) 85-108

BERNARD, M., J. PHILLIPS, 2000. The challenge of ageing in tomorrow's Britain. Ageing & Society 20 (1) 33-54

BLOSSFELD, H.-P., K.U. MAYER, 1988. Labour Market Segmentation in the Federal Republic of Germany: An Emiprical Study of Segmentation Theories from a Life Course Perspective. European Sociological Review 4 (2) 123-140

BOHLER, K.F., B. HILDENBRAND, 1997. Landwirtschaftliche Familienbetriebe in der Krise. Münster: LIT

CANJELS, E., 1998. Does Risk affect the choice between share and fixed rent contracts? http://cepa.newschool.edu/~canjels/risk.pdf

DETTLING, A., 1992. Armut auf dem Land. Erfahrungen aus der Beratung und Betreuung von bäuerlichen Familien in Not. Land, Agrarwirtschaft und Gesellschaft 9 (1) 67-77

EDUARD, W., J. DOUWES, E. OMENAS, D. HEEDERIK, 2004. Do farming exposures cause or prevent asthma? Results from a study of adult Norwegian farmers. Thorax 59, 381-386

ELDER, G.H., 1974. Children of the Great Depression. Chicago: University of Chicago Press

VON EYE, A. (1990). Introduction to Configural Frequency Analysis. The search for types and Antitypes in cross-classification. Cambridge. Cambridge University Press

VON EYE, A. (2002). Configural Frequency Analysis. London. Lawrence Erlbaum Associates

FOSTER, V., 2004. Argentina's Infrastructure Sectors : Evaluating the Past and Exploring the Future. Washington: World Bank Research Working Paper 3422

GAUNT, D., 1983. The property and kin relationships of Retired Farmers in Northern and Central Europe. In R. Wall, J. Robin, P. Laslett: Family Farms in Historic Europe. Cambridge: CUP

GODDART, E., A. WEERSINK, K. CHEN, C.G. TURVEY, 1993. Economics of Structural Change in Agriculture. Canadian Journal of Agricultural Economics 41, 475-491

HAGEDORN, K., 1981. Intersektorale Einkommensübertragungen und intrasektorale Einkommensverteilungen in der Agrarsozialpolitik. *Agrarwirtschaft* 30 (6) 172-180

HAGEDORN, K., 1982. *Agrarsozialpolitik in der Bundesrepublik Deutschland*. Beiträge zur Sozialpolitik und zum Sozialrecht. Berlin

HARPER B., 2000. Beauty, Stature and the Labour market: A British Cohort Study. Oxford Bulletin of Economics and Statistics 62, 771-800

HENRICHSMEYER, W., H.P. WITZKE, 1991. Agrarpolitik, Band 1 – Agrarökonomische Grundlagen. Stuttgart: Ulmer

HOPKINS, J.W., M. MOREHART, M. BOHMAN, 2002. Analyzing Direct Payments to U.S. Farm Households: Addressing the Distribution Gap. 5th Conference on Global Economic Analysis, 5.-7.6.2002, Taipei

HUTTUNEN, P., J. HIRVONEN, V. KINNULA, 1981. The occurrence of brown adipose tissue in outdoor workers. European Journal of Applied Physiology 46 (4) 339-345

JACQUES-JOUVENOT, D., M. GILLET, 2001. L'agriculture en France-Comté : un metier patrimonial rediscuté. Etudes Rurales 159/160, 111-128

KILBOURNE, B., S. KILBOURNE, G. FARLKAS, K. BERON, D. WEIR, P. ENGLAND, 1994. Returns to Skill, Compensating Differentials, and Gender Bias: Effects of Occupational Characteristics on the Wages of White Women and Men. American Journal of Sociology 100 (3) 689-719

LIENERT, G.A., 1968. Die "Konfigurationsfrequenzanalyse" als Klassifikationsmethode in der klinischen Psychologie. Paper presented at the 26th Conference of Deutsche Gesellschaft für Psychologie in Tübingen.

MANN, S., 2005a. Implicit Social Policy in Agriculture. Social Policy and Society 4 (3) 271-281

MANN, S., 2005b. Farm Size Growth and Participation in Agri-environmental schemes: a Configural Frequency Analysis of the Swiss Case. Journal of Agricultural Economics 54 (3) 373-384

MANN, S., C. KOHLI, 2006. Sparen für das Alter. UFA-Revue 12/06, 2-3

MANNINEN, P., H. RIIHMAK, M. MELIOVAARA, 1995. Incidence and risk factors of low-back pain in middle-aged farmers. Occupational Medicine 45 (3) 141-146

MARSHALL, T.H., 1949. Citizenship and social class, republished in T.H. Marshall: Sociology at the Crossroads. London: Heinemann

MATSAGANIS, M., 2001. Prerequisites to Minimum Income Reform in Greece. Paper presented at the seminar "Improving minimum income systems in the EU", Leuven, 9-10 Feb 2001

MINASIAN, A. M. GHUKASIAN, 2005. Targeting State Social Assistance to the Most Needy: The Armenian Experience. Working Paper 05/03. http://www.armpolicyresearch.org/Publications/WorkingPapers/pdf/WP0503.pdf

NETTER, P., C. TOLL, S. ROHRMANN, J. HENNIG, H. NYBORG (2000). Configural Frequency Analysis of factors associated with testosterone levels in Vietnam veterans. Psychologische Beiträge 42, 504-514

NEUGARTEN, B.L., G.O. HAGESTAD, 1976. Age and the Life Course. In R.H. Binstock and E. Shanas: Handbook of Aging and the Social Sciences: New York: Van Nostrand Reinhold

OECD, 2006. Agricultural Policies in OECD Countries – monitoring and evaluation. Paris

SCHELLING, H.R., 2000. Gesellschaftlicher Wandel des Alters. http://www.zfg.unizh.ch/static/2000/schelling_wandel.pdf

SCHMITT, G., H.V. WITZKE, 1975. *Ziel- und Mittelkonflikte sektorspezifischer Systeme sozialer Sicherung*. Berlin

SENECA, J.J., M.K. TAUSSIG, 1971. Family Equivalence Scales and Personal Income Tax Exemptions for Children**.** Review of Economics and Statistics 53 (3) 253-262

SHAVER, S., 1998. Universality or Selectivity in Income Support to Older People? A comparative assessment of the issues. Journal of Social Policy 27, 231-254

SKOCPOL, T., 1995. Social Policy in the United States: Future Possibilities in Historical Perspective. Princeton: Princeton University Press

SNELL M.L., A. MARTIN MATTHEWS, 1986. Family interaction of the young-old: Social exchange as an explanation of the qualitative and quantitative experience. Social Indicators Research 18 (4), 395-407.

TSAKOGLOU, P., 1990. Aspects of Poverty in Greece. Review of Income and Wealth 36 (4) 381-402

WOOD, V., J.F. ROBERTSON, 1978. Friendship and Kinship Interaction: Differential Effect on the Morale of the Elderly**.** Journal of Marriage and the Family 40 (2), 367-375.

ZAPF, W., 2000. Social Reporting in the 1970's and in the 1990's. Social Indicator Research 51 (1) 1-15