12. The Safety Net for Farmers in Comparison with the General Population: Experiences from the U.S. and the Netherlands

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12.1 Introduction

Agricultural policies have several objectives. One of them, and in the eyes of the public not the least important one, is to provide a safety net for farmers. According to the Treaty of the EU (article 39) one of the objectives of the Common Agricultural Policy is to ensure a fair standard of living for the agricultural community by increasing individual earnings. In the U.S., historically, the justification for a farm safety net had to do with the high poverty rates of farmers and their large numbers of farmers in the population. Despite the absence of these two justifications today, farm safety net policies continue in the U.S.

In addition to these profession-specific safety net programs, farmers are also entitled to use the safety nets for the general population. This is nothing new, but it raises a number of interesting questions, especially against the background of some recent trends. First, the number of farmers in industrialized countries with off-farm income has risen. In the U.S., the number of farm households with off-farm income increased by more than 15% in the post-World War II era (Gould and Saupe, 1989). As outside income becomes a larger part of farm household income and farmers are incorporated into the non-farm sector in other ways, it raises questions about the continuing need for a special agricultural safety net.

Second, the number of farmers has been declining by a few percentage points per year and so today only a small portion of the population works in agriculture. As the percentage of farmers in the population becomes smaller, the social welfare improvements due to the farm safety net are correspondingly smaller.

Third, agricultural policies change. After World War II, increased food production via rising productivity and price supports was an important objective of agricultural policy. At the end of last century this has given way to conservation policies (multi-functionality in Europe) and direct income support. The original justification for the maintenance of food security is no longer valid insofar as food insecurity is not a function of domestic output in ones own country; international agricultural trade is pervasive enough that any shortfall in production is easily remedied.

As the provision of the agricultural safety net changes in the US and the EU, in this paper we consider issues regarding the replacement of the agricultural safety net with the general safety net. To investigate this we have chosen to examine the Netherlands and the

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United States. We chose these two countries because while there are of course differences (e.g., farm sizes are larger in the U.S.; agricultural employment as a percentage of total employment is higher in the Netherlands (OECD, 1994)), the similarities between these two developed countries, in both the agricultural and non-agricultural sectors, allow us to control for the differences in safety net policies. In particular, this similarity allows us to help understand the impact of two sources of variation between the countries as it applies to the well-being of farmers. First, in the Netherlands, three-quarters of total farm household income in the Netherlands is from agricultural sources while only 15% in the U.S. is from agricultural sources. We therefore may expect changes in farm subsidies to have different implications for the two countries. Second, the social safety net in terms of both cash and non-cash benefits is more extensive in the Netherlands than in the U.S. (Smeeding et al., 1993, table 12.1). This has lead to substantially lower poverty levels (Achdut and Kristal, 1995, table 12.1) and lower inequality (Buhmann, 1988, table 12.5) in the Netherlands than in the U.S. This difference in the scope of the general safety nets may lead to differential abilities of farmers in the two countries to access the broader safety net. Third, the character of agriculture is different: the Netherlands is more involved in horticulture, and agriculture is located closer to the big cities where non-agricultural employment is available. On the other hand the U.S. has a more flexible labour market. Recently both countries enjoyed a booming economy and high employment.

Table 12.1 Distribution of farm program payments by farm typology, 1997

	Limited resource	Retirement	Residential lifestyle	Farming, low sales	Farming, high sales	Large family	Very large family	Agribusiness	Total
Average direct government payment ($)	424	1,906	941	2,307	7,987	13,483	19,411	5,975	2,903
Payment per recipient ($)	2,183	6,395	3,844	4,948	10,889	17,766	32,087	16,401	7,987
In % of total income	25.3				21.4	22.8			
Farms receiving payments (%)	19.4	29.8	24.5	46.6	73.4	75.9	60.5	36.4	36.4
AMTA (%)	11.9	17.5	17.1	40.7	69.1	72.3	55.9	22.8	28.8
CRP and WRP (%)	5.4	17.3	9.3	9.1	13.0	10.7	10.4	18.7	10.6

Notes: AMTA denotes Agricultural Market Transition Act, CRP denotes Conservation Reserve Program, and WRP denotes Wetlands Reserve Program. This table is from table 9 of Gundersen et al., 2000.

Our paper begins with a review of two broad areas of previous research - definitions and justifications for the social safety net and the consistency of the current farm safety nets with respect to these definitions and justifications. We then update the existing research as it regards the efficacy of the farm safety net. While the farm safety net is one method of ensuring the well-being of farmers, in both countries there is a wide variety of other assistance programs available to both farmers and the general population. We review these safety net programs and then consider both the eligibility and the participation of farmers viz. the general population in these programs. The extent of current eligibility and

subsequent participation in these programs is of interest but also of interest is the following question: In the absence of the farm safety net, what might be the eligibility and participation of farmers in the safety net? We finish with some concluding remarks, emphasizing the policy conclusions and directions for future research.

12.2 Literature Review

Safety Net

There are several well-known arguments for the provision of a safety net. One class of arguments is based on peoples' preference for the reduction of income uncertainty and income variability. For example, people may favor a safety net as a form of social insurance against future income volatility (Buchanan and Tullock, 1962). As Haveman (1985) claims, '(T)he primary economic gain from the welfare state is the universal reduction in uncertainty faced by individuals.'

Another class of arguments invoke altruism. Thurow (1971) argues that if peoples' utility (or level of satisfaction) depends on other peoples' consumption as well as their own, they will favor policies which provide everyone a minimum standard of living. Thurow also asserts that if people are concerned about the way that income is distributed, they will receive satisfaction from the redistributive effect of safety net programs.

A third class of arguments for the provision of a minimum standard of living stems from social welfare considerations. The approaches in this class of arguments utilize the concept of a Social Welfare Function (SWF), which is obtained by aggregating over the utilities of everyone in a nation, society, or subgroup (for example, farmers). The utility of any person with respect to income is denoted by U(y) and the SWF by:

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where f(y) is the frequency distribution of income. Suppose this SWF is additively separable (i.e., a person's utility is independent of others' utilities) and symmetric with respect to income (i.e., no person's utility is judged to be more important than another's). In terms of individual utility functions, suppose that U(y) is strictly concave (i.e., the marginal utility of an additional unit of income is positive but decreasing). Under these assumptions, any transfer of wealth from a richer person to a poorer person improves the social welfare of a country (see, e.g., Atkinson, 1970; Dalton, 1920; Dasgupta, Sen, and Starret, 1973; and Rothschild and Stiglitz, 1973). A social safety net that makes this transfer will therefore improve societal welfare, as defined by this general SWF.

Within this social welfare framework, economic theorists such as Harsanyi (1953, 1955), Vickrey (1960), and Rawls (1971) explored other conditions under which a society would be better off with a social safety net. They found that, if its members are uncertain as to their income potential and are averse to risk, society is better off with a social safety net. These arguments relate closely to the concept of safety nets, discussed above, as a form of social insurance.

The above formulations do not necessarily incorporate any notions of poverty. In practice, however, definitions of poverty are often utilized to ensure an effective distribu-

tion of safety net benefits to those most in need. As long as the poverty line is set below the median income level, any distribution of benefits to those below the poverty line will be welfare improving in the sense outlined above.

When choosing a poverty line, the researcher must decide whether to use an absolute or a relative poverty line. An absolute poverty line is set without reference to the distribution of incomes within a society. For example, in the U.S., the poverty line was originally set as a multiple of a minimally acceptable basket of food (Orshansky, 1965). Since then, the poverty line has been updated annually to take into account inflation. In distinction to an absolute poverty line, a relative poverty line is defined with respect to the income distribution.[1] As an example, a poverty line may be set as 25% of the median income level. With this type of poverty line and the absolute poverty line, in theory, poverty can be eliminated. Another type of relative poverty line, however, does not have this property. Here the relative poverty line is set such that, say, households in the bottom 25th percentile of income are defined as poor.

The Farm Safety Net in the United States

From its birth, the U.S. government has had a pronounced involvement in agriculture (Wanlass, 1920).[2] During the twentieth century, this involvement took on many forms. In some instances, there were public good aspects to agricultural policy. As an example, the rural infrastructure (e.g. irrigation, drainage, postal service) was enhanced via the involvement of the USDA. In most instances, however, agricultural policy was aimed at providing benefits to farmers themselves. If these benefits were evenly distributed to farmers and if farmers were poorer, on average, then the general population such a distribution could be seen as welfare improving. And this used to be the case; farmers were far poorer than the rest of the population. In the 1940's, per capita income of farmers was, on average, 50.7% that of non-farmers (Gardner, 1992; table 12.1). Moreover, given that most people lived on farms in the first half of the 20th century, efforts to alleviate poverty among farmers likewise eased the burden of poverty for a large segment of the population. The design of farm programs provided support over two broad areas of commodity production. In the 1930s, U.S. farms were not so specialized in production as today, so most farmers grew one or more supported commodities (wheat, feed grains, dairy, cotton, sugar). As a consequence, benefits were broadly distributed across farm households.

By the 1980s though, the average farmer was as well-off or even better-off than the general population. Then, even if benefits continued to be evenly distributed, it is difficult to argue that such benefits were part of the social safety net. Today, however, benefits are concentrated on larger farms because the volume of production remains the main criterion for benefit distribution. As a consequence, benefits do not accrue to low-income farmers. Instead, government payments tend to go to farmers higher in the income distribution.

In table 12.1 we present the distribution of farm payments broken down by farm typology. This farm typology distinguishes farms and farm households based on sales

[1] This type of poverty line is often used for cross-country comparisons where absolute poverty lines are not transferable. See, e.g., Smeeding et al., 1993; Casper, McLanahan, and Garfinkel, 1994; and Achdut and Kristal, 1995.

[2] This section, and references therein, rely heavily on Gardner, 2002.

volume, occupational choice, and in some cases, level of assets. This typology identifies eight categories, five of which distinguish among farms with gross sales below $250,000 (the Small Farm Commission's definition of 'small farms' (Hoppe, Perry, and Banker, 1999)). Residential lifestyle farms, the largest group with more than 800,000 households, are small farms where the operator's primary occupation is something other than farming. The category defined as farming, low sales (around 400,000 households) are farms with sales of $100,000 or less where farming is the primary occupation of the operator. Large family farms have annual gross sales between $250,000 and $500,000. Very large family farms have gross sales of more than $500,000. The latter two typology groups accounted for more than 40% of the total value of agricultural production in 1997.

Of particular interest for this paper are the limited resource farmers, the group of farmers most likely to need the safety nets available to the general population. These farms are defined as any farm with: (1) gross sales less than $100,000, (2) total farm assets less $150,000, and (3) total operator household income less than $20,000. Limited resource farmers may report farming, a nonfarm occupation, or retirement as their major occupation.

As seen in table 12.1, 19.4% of the limited resource farmers received government support payments. In contrast, 73.4% of farming, high sales farms and 75.9% of large family farms received government support payments. These are two of the wealthiest categories of farms. Not only do a higher percentage of farm support payments go to wealthier farmers, the size of these payments are also substantially higher. For limited resource farmers receiving payments, the average payment is $2,183 while the average payments for farming, high sales and large family farms are $10,889 and $17,766.

So, both in coverage and magnitude, wealthier farmers fare better than poor farmers. One aspect of the farm safety net, however, is consistent with the usual definition of a safety net. Government payments for receiving limited resource farmers constitute 25.3% of their total income while the comparable percentages for farming, high sales and large family farms are 21.4 and 22.3%. While this difference is not large, as a percentage of their total household income, poorer farmers receiving benefits tend to do slightly better than well-off farmers.

The Farm Safety Net in the Netherlands

The Dutch government became involved in agriculture during the farm crises of the second half of the 19th century. Later, the involvement concentrated on infrastructure and what we now call knowledge management but it was not until the 1930s that price and income supports were introduced. After World War II a national support policy was based mainly on deficiency payments. It became expensive and the policy was replaced by the EU's Common Agriculture Policy (CAP). In the fifties and early sixties agriculture was not able to release labor quick enough to raise productivity and income. During this time, incomes were low, especially on the poor sandy soils in the eastern part of the country (in those days, an area relatively inaccessible from the richer west and only in the last century transformed from subsistence farming to market integration). Farm workers and small farmers (or at least their sons) left in droves to join the labor market in the cities in the west (and some to the U.S., Canada and other emigrant destinations). In the sixties these migration

flows became smaller: farm workers had left and farm families were too small and too little to sustain migration.

Until the 1990s the CAP was mainly based on a price support in a net-importing region. In the early 1990s the CAP was reformed via the introduction of direct payments, as compensation for lower prices due to the EU becoming a net-exporter instead of a net-importer. These changes, however, had little impact on the Netherlands, because of its concentration in sectors less influenced by CAP: horticulture, potatoes and pigs and poultry. Two other items produced by the Netherlands, sugar and milk have a quota system and (until now) no direct payments.

In the EU there are less than 2000 holdings receiving more than €300,000 in 2000 (European Commission, 2001). At most, a handful of them are located in the Netherlands. In the EU 50% of the payments go to 5% of the holdings that claim and received a payment. In the Netherlands this distribution is also skewed, but less then in the EU as a whole: about 50% of the payments go to 12% of the holdings. Fifty percent of the farmers receive less than €1,625, 15% of the budget.

Table 12.2 Results (in € per farm) for farmers in the Netherlands classified to poor and non-poor on the basis of their total (farm and off-farm) income: 1995 to 1997

	Poor households	Non-poor households		All households
		poor, based on farm income	non-poor based on farm income	
Share of households (%)	23	21	56	100
Share of farms (%)	23	22	55	100
Farms size (DSU)	74	45	119	94
Profit and loss account:				
Total output (€)	115,250	86,055	240,315	178,800
EU direct payments (€)	1,470	2,000	1,475	1,585
Family farm income (€)	2,430	9,915	51,420	31,385
Income Statement				
Non-farm income (€)	5,225	16,565	6,020	8,105
Total family income (€)	7,655	26,480	57,440	39,490
Taxes paid (€)	670	3,935	9,350	6,215
Household consumption (€)	19,455	23,740	28,730	25,550
Savings (€)	-10,590	-270	20,510	8,990
Cash flow (€)	8,300	11,300	51,800	33,200

Notes: DSU denotes Dutch Size Units, roughly equivalent to European Size Units (ESU). Data is from the Dutch FADN.

In table 12.2, we consider the poverty distribution amongst farmers and the distribution of farm safety net payments in the Netherlands for the years 1995-1997. The average farm household in the Netherlands earns €39,4990, of which € 31,385 is from farm income and €8,105 is from non-farm income (this and all the following information is from Poppe, 2002, and Everdingen et al, 1999).[1] The average EU direct payment to farmers is € 1,585.

Turning to a consideration of income distribution, 23% of farm households are below the poverty line [2] and the average farm income amongst them is €2,430. In poor households, direct payments constitute 60.4% of total farm income whereas in non-poor households earning more from off-farm than on-farm employment the figure is 20.1% and in non-poor households earning more from on-farm than on-farm employment, the figure is 2.8%. This lower percentage is not due to a lower amount of direct subsidies, but due to higher income. A non-trivial number of payments are received by relatively well-off farmers.

When the sample is confined to family farm income only (excluding non-farm income), the CAP support is highest for the group with the smallest income. From this perspective the policy is in line with the safety net concept, and seems to contribute to social welfare for the theoretical reasons noted previously. However, if one takes into account that farm families are now more integrated in labor markets and one looks to total family income, the distribution is more skewed. And the targeting of direct payments from a point of view of the social safety net is less perfect. It is also important to note is that the effect of a progressive income tax system in the Netherlands has a bigger effect than the EU direct payments (for which many are not eligible unless they change their farm structure).

12.3 Eligibility and Participation of Farmers in Non-Agriculture Safety Net Programs

In the United States

The farm safety net in the U.S., in practice if not in design, primarily benefits more well-off farmers.[3] Even though farm program payments are largely bypassing lower income farmers, it is possible that these farmers are benefiting from safety net programs designed for the population as a whole. We now consider whether this is the case with respect to one of the largest assistance programs in the U.S., the Food Stamp Program.

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[1] The data reported here are based on data of all Dutch farms above a certain threshold (representing 94% of production). This includes farms not eligible for CAP support, but that does not undermine our analysis. Policy makers that want to increase social welfare by handing out direct payments from tax money can decide to include or exclude a certain product or sector.

[2] This poverty line was calculated in a research project (Everdingen et al., 1999). It was based on social security regulations, with corrections for self-employed who face extra costs, e.g. for insurance. The calculated poverty line is not used as a safety net in official regulations.

[3] As we discuss above, to call these programs a 'safety net' is perhaps a misnomer. There are, numerous other justifications one could potentially use to justify these programs. But as income support is an important justification and as we are interested in this issue of the policies, we stick to this nomenclature.

We have chosen to examine the Food Stamp Program because it is available to virtually the entire low-income population (other assistance programs like TANF are only for segments of this population); it can constitute a substantial portion of families' income (in some Southern states, food stamps, if valued as cash, make up more than 50% of some families' income); and benefit levels are inversely related to income rather than in a lump-sum format.

The Food Stamp Program served approximately 17.2 million individuals in 2000 with an annual benefit distribution of $15 billion, or approximately $73 in monthly benefits per person.[1] Between 1988 and 2000, 47% of all food stamp recipients were children, and in 2000 approximately 57% of food stamp households include children. The modern version of food stamps began as a pilot project in 1961 and became a nationwide program in 1974.

This cornerstone of food assistance programs works under the principle that everyone has a right to food for themselves and their families and, hence, with a few exceptions, this program is available to all citizens who meet income and asset tests. Participants receive benefits for the purchase of food in authorized, privately run retail food outlets selling food to participants and non-participants. While authorized stores may also sell nonfood products, food stamps cannot be used to purchase nonfood items such as soap, toiletries, household paper products, prepared foods, or medicines. For almost all food stamp recipients, benefits are distributed via an Electronic Benefit Transfer (EBT) card. The EBT card is operationally similar to an ATM card.

To receive food stamps, households must meet three financial criteria: the gross-income test, the net-income test, and the asset test. A household's gross income before taxes in the previous month must be at or below 130% of the poverty line ($1,533 per month in fiscal year 2000 for a three-person household, the most common food stamp household). Households headed by someone over the age of 60 are exempt from this test, though they still face the other tests. In addition to the gross-income test, a household must have a net monthly income at or below the poverty line.[2] Finally, income-eligible households with assets less than $2,000 qualify for the program ($3,000 for households headed by someone over age 60). The value of a vehicle above $4,650 is considered an asset unless it is used for work or for the transportation of disabled persons. The value of a home is not considered an asset. Households that receive the Temporary Assistance for Needy Families (TANF), or households in which all members receive SSI, are categorically eligible for food stamps and do not have to meet these three tests.

In table 12.3 we examine the participation of farm households in the Food Stamp Program. We do so for every year from 1991 to 2001. To garner a sense of these participation rates, we compare these with the participation rates for the population as a whole. To

[1] Total federal expenditures on the Food Stamp Program, including the federal share of state administrative expenses, amounts to $18.9 billion in 2001, which is almost 60 percent of the total expenditure on all domestic food and nutrition assistance programs. The next two largest food assistance programs are the National School Lunch and Breakfast Programs, ($9.3 billion) and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) ($4.0 billion).

[2] Net income is calculated by subtracting a standard deduction from a households' gross income. In addition to this standard deduction, households with earnings from the labor market deduct 20% of these earnings from their gross income. Deductions are also taken for child care and/or care for disabled dependents, medical expenses, and excessive shelter expenses.

ensure the appropriate comparisons, we consider these rates within the same data set, the Current Population Survey (CPS).

Table 12.3 A Comparison of Participation and Eligibility Rates for the Food Stamp Program Amongst U.S. Farm Households and the General Population

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Participation Rates (percent)											
Entire Population	7.66	8.05	8.53	8.47	7.77	7.54	6.57	5.65	5.21	4.94	5.46
All Farm Households	1.56	0.92	1.63	2.41	2.09	1.73	1.62	1.46	1.35	1.42	1.75
Eligibility Rates (percent)											
Entire Population (Gross Income Test)	19.12	19.17	19.84	19.73	18.88	18.74	17.94	17.16	16.39	16.25	16.43
All Farm Households (Gross Income Test)	14.17	15.74	16.48	12.72	10.83	11.17	10.73	12.72	13.70	9.54	10.64
Entire Population (Gross Income and Asset Tests)	16.14	16.26	16.75	16.95	16.16	16.45	15.72	14.99	14.17	14.11	14.49
All Farm Households (Gross Income and Asset Tests)	7.91	8.38	9.49	7.73	6.75	6.35	7.37	9.34	9.75	6.49	7.41

Notes: Data is from the respective years of the Current Population Survey (CPS).

The CPS is administered monthly by the Census Bureau for the Bureau of Labor Statistics to approximately 50,000 households. It is the primary source of information on the U.S. labor force. The survey collects data from a nationally representative sample of households on a wide variety of questions. In this paper we rely on four primary groups of questions - on food stamp participation; on income; on returns from assets; and on source of earnings. We define a farm household as one where (a) the family gets at least a portion of their income from a farm and (b) at least one person in the family lists farm self-employment as their main job.

As seen in table 12.3, in every year participation rates for farm households are substantially lower than for the entire population. For farm households, participation rates vary from 0.92 to 2.09. For the entire population, the participation rates range from 4.94 to 8.47%. In addition, perhaps due to the small number of farm households utilizing the Food Stamp Program, the sharp drop in the number of food stamp recipients from 1994 to 2001 is not evidenced amongst farm households (for more on the reasons for this decline, see Ziliak, Gundersen, and Figlio, 2003).

Even if farm households are eligible for food stamps, just as in the general population many will choose not to participate. This decision not to participate is often ascribed to three main factors. First, there may be stigma associated with participation. Stigma encompasses a wide variety of sources, from a person's own distaste for receiving food stamps to his or her desire to avoid disapproval from others when redeeming food stamps to the possible negative reaction of caseworkers (Moffitt, 1983; Ranney and Kushman, 1987). Second, transaction costs increase the pecuniary and non-pecuniary disadvantages to par-

ticipation. These transactions costs include the amount of time to get to the food stamp office and the time spent in those offices; the burden of taking children to the office or paying for child care services; and the availability and costs of transportation. To remain a participant, a household faces these costs on a repeated basis when it must recertify its eligibility. Other costs that a household faces only when applying for the program include the time and effort needed to acquire all the necessary paperwork and to fill out the application forms. Third, the benefit level may be too small to induce participation. Food stamp benefits can be as low as $10 a month for a family. At higher benefit levels, the benefits to receiving food stamps may outweigh the costs but this may not hold at lower levels. One further possible reason for non-participation and more common to farmers, is a family's ability to utilize their farm as a personal food source. If this food source is sufficiently large, the need for food stamps is correspondingly diminished. In comparison with higher-income farmers, lower-income farmers are less prone to produce food for a far-away market with little in common with their own food preferences. While farmers only constitute a small fraction of rural households, take-up rates in rural areas in recent years has been higher than in urban areas. In 1998 the food stamp take-up rate was 63% in urban areas and 73% and 73%in rural areas (McConnell and Ohls, 2001).

In table 12.3 we therefore consider the percentage of eligible households amongst farm households and amongst the entire population. We split this into two categories - gross income eligible households and gross income and asset eligible households.[1] We do not directly observe asset levels in the CPS. We do, however, observe the amount of dividend and interest income received by households in the past year. We assume a 5% return to these assets and therefore multiply the dividend plus interest income by 20. Three assets which may be particularly relevant for farmers - the value of farmland, the value of a house, and the value of assets used for one's job - are not considered 'assets' for the food stamp asset test; it can be further assumed that the return from these assets do not come in the form of dividend or interest payments. In every year, the number of eligible households is larger in the general population than amongst farm households. This is true whether we consider the gross income test or both the gross income and the asset tests. While this may partly explain the lower participation rates of farmers, the main reason for the lower participation rates is the substantially lower take-up rate of farmers (i.e., the percentage of eligible households receiving food stamps). In every year, the take-up rate for gross income and asset eligible households in the general population is roughly 50%. For farmers, however, the highest take up rate is approximately 30%.

There is one further difference between farmers and the general population. When one moves from the gross income test alone to both the gross income and asset tests, the percentage point drop in the number of eligible farm households ranges from 3.0 to 7.4. In contrast, the percentage point drop for the population as a whole is 1.9 to 3.0. This demonstrates that the asset test appears to be a more binding constraint for farmers than for the general population.

[1] We do not include the net income test. However, virtually all families meeting the gross income test also meet the net income test. The main reason one would be interested in the net income test is to ascertain the expected benefit level for households. At this juncture, we do not consider this issue.

In the Netherlands

The safety net program in the Netherlands is de Bijstand ('The Assistance') and is run at the local level based on national guidelines. Self-employed persons access a system within this broader system, Besluit Bijstandsvoorziening Zelfstandigen ('The Assistance for Self-employed'). We will describe this system in more detail below.

In addition to de Bijstand, the social welfare system has other instruments including the progressive income tax. Also important is the pension system, in which every person over age 65 automatically receives a small state pension (AOW) that in most cases is above the threshold to be eligible for the Bijstand. As many farmers are older than 65 (and could opt for retirement if they wish) this is a cash flow to farmers not to be neglected. As the receipt of the pension is almost automatically based on the age of the person in the community's persons register, rather than an income-based criterion, we do not analyze this in detail here. A third instrument in the social welfare system for self employed persons is the income support for older and partly disabled ex-self employed (IOAZ). As this system is only open to persons with a specific handicap we will not discuss this in detail here because few farmers are eligible.

The Besluit Bijstandsvoorziening Zelfstandigen provides cash income support for all self-employed persons including farmers. If the income level is below the general safety net as defined in the program (and can be proven by accounts at the moment of the claim or soon afterwards), the self employed can receive a loan from the local government for 12 months, with a possibility for an extra 24 months. This loan bridges the gap between actual income and the safety net level. No interest on the loan is requested and remission is possible.

In addition, support can be granted to provide new capital to the business. If the business is viable but the banks are not willing to lend, the local government may act as a surety on a commercial loan. The local government can also provide an interest bearing loan of at maximum €152,000 which has to be paid back in 10 years. The interest is a market rate, but there are possibilities for forgiveness of the interest or part of the loan. In these cases the business has to be viable meaning that it provides an income and more than 1,225 hours of work. In case the own capital (net worth) is less than €36,000, all support, in certain cases, can be remitted. With a net worth of more than €146.000, no remission is possible. Within this range there is room for decision making by the local government, depending on the circumstances of the case.

Self employed persons older than 55 years with a non-viable business, can also get support. If their income from the business is at least €6,035, they can receive a supplement to bridge the gap with the safety net, until they reach age 65.

The number of farmers that make use of the Besluit Bijstandsvoorziening Zelfstandigen differs from year to year and depends on the business cycle. In 1997, 474 farmers participated in 1998, 552 and in 1999, 633. These years coincide with a large break out of Classical Swine Fever and subsequent years with low pig prices. In 2000 the number declined to 287, to go up again to 377 in 2001 (Silvis and Van Bruchem, 2002). With less then 100,000 farm holdings in the Netherlands, these numbers are between 0.2 and 0.6% of the total number of farms. As in the U.S., farm households have a smaller participation rate

in the general safety net: in 1999 267,000 households participated in the Assistance program, 4% of the total number of households (data from Statistics Netherlands).

There has been no research regarding the number of farmers who are eligible for the Besluit Bijstandsvoorziening Zelfstandigen, nor has there been any on the difficulties farmers may face in enrolling. Information regarding the program is readily available since nearly all Dutch farmers use a commercial (tax) accountant and a (co-operative) bank which indicate whether a farmer is eligibile. In many agricultural sectors, price and business cycles have an important impact on incomes. Farmers are therefore used to saving in booming times for lean periods and can call upon their bank if they have income or assets but no liquidity. Against that background it is not logical to call upon the program in years with low income. The income tax system supports this by smoothing incomes over three years if necessary and additional carry back and carry forward options for losses. Moreover, most farmers have no reason to access these programs insofar as they have enough assets as security for new loans. This is especially the case in arable and dairy farming. It is not by chance that intensive livestock farmers (nearly a land-less industry in the Netherlands without many assets) and horticultural holdings make most use of the Assistance program.

The Bijstand program is seen as a very last option in the Netherlands, to be called upon after all entrepreneurial options in the commercial sector have been explored without results. Table 12.2 above shows that many farmers have a lot of commercial options. Even the group who has an income below the poverty-line[1] on average has a cash flow from depreciation and (at least some of them) can convince banks or relatives to provide new loans for investments. It is also clear that there is a large group of farmers using non-farm income to raise their income above the poverty line. In many of these cases farmers would not think about taking part in the Assistance program, and/or they may not even be eligible despite low farm income. The impression is that the participation is mostly due to unexpected or unexpectedly severe price-fluctuations in commodity markets like pigs, vegetables or energy (glass house horticulture).

12.4 Substitution of Agricultural Policy by General Safety Net Policies

As seen above, farmers are supported by a sector specific safety net and by a safety net for the entire population. Both the participation and take-up rates are substantially lower for farm households than for the entire population. We now consider whether this might change if the farm safety net were eliminated.

The Farm Safety Net in the United States

Because it has data about food stamp participation and to ensure comparability with the non-farm population, we used the CPS for the above analysis. We are now interested in the importance of farm safety net payments in the incomes of farmers and the possible conse-

[1] The poverty line used in the research for that table is higher than the safety net used in the Assistance program.

quences of eliminating these payments. The CPS does not have information on the value of farm safety net payments so we instead impute information about government payments from analyses using the Agricultural Resource Management Study (ARMS).

The ARMS is conducted annually by the Economic Research Service (ERS) and the National Agricultural Statistics Service (NASS) in all States except Alaska and Hawaii. The survey was formerly named the Farm Costs and Returns Survey (FCRS). Approximately 15,000 farms and ranches (defined as establishments from which $1,000 or more of agricultural products were sold or would normally be sold during the year) were contacted and their operators were personally interviewed. The ARMS is a probability-based survey in which each respondent represents a number of farms of similar size and type. Thus, sample data can be expanded using appropriate weights to represent all farms in the contiguous United States.

From analyses performed using the ARMS, we now turn to an ascertainment of the effect of losing farm government payments on the food stamp eligibility of farm households (Mishra et al., 2002; McElroy, 2002 - HaM). These analyses confine themselves to the years 2000 and 2001 and we do as well.

We calculate the effect of losing farm government payments in the following manner. In HaM, the average government payments to farmers are divided into four categories: farmers with incomes and assets higher than the median non-farm household (high income/high assets), high income/low assets, low income/high assets, and low income/low assets. The first two categories would not be eligible for food stamps, even if they lost large amounts of farm government payments so we disregard them in the following analysis. The other two categories are, however, potentially eligible for food stamps. To calculate the effect of losing farm payments we must therefore place farmers in the CPS into these four categories.

From the CPS we first identify farm households with low income/low assets and low income/high assets. The CPS does not have sufficient information to accurately portray the asset situation portrayed in the ARMS. In response, we therefore define assets in the manner described above; this then only includes more liquid assets. While this is a different definition of assets than in the ARMS, we believe there is a high correlation between liquid and other assets for farmers. However, in comparison to the breakdown found in the relevant tables in HaM (table 12.1 and table 12.3) there are more farmers in the low income/low assets category within the CPS and fewer farmers in the low income/high assets category. So, to be consistent with HaM we assign the lowest x percent within the income category in the CPS to the low income/low asset category where x is the percentage of farmers in this category in HaM. The remaining farmers in the low income/low assets category in the CPS and in the low income/high assets category in the CPS are assigned to the low income/high asset category.

Given these assigned breakdowns from the CPS (where the italics indicate these are the final breakdowns), we subtract the average government farm support payment from farm households' income where the farm support payments are those calculated in HaM. For the sake of simplicity, we presume a loss of these payments would entail no loss of as-

sets.[1] We also presume that the farmers decisions would be the same, even in the absence of farm support programs.[2] In response to these changes, we then calculate the new food stamp eligibility rates for farm households. These are found in table 12.4 where we also repeat the relevant information from table 12.3.

Under the assumptions described above, in 2000, a loss of farm support payments would lead to a 4.0 percentage point increase in the number of farm households eligible for food stamps (3.7 percentage points if only the gross income test were used) and in 2001, there would be a 3.2 percentage point increase (3.1 percentage points). There are about 2 million farm households in the U.S. As a consequence, loss of farm support payments would lead to about 75,000 more farm households being eligible for food stamps. While this increase is non-trivial, the eligibility rates for farmers would still be below those for the population as a whole. Under the assumption that there is no change in the take-up rates amongst farmers, the increase in the number of farm households receiving food stamps would be trivial.

Table 12.4 Eligibility Rates for Food Stamps for Farm Households with and without Farm Safety Net Payments

	2000	2001
	With Farm Safety Net Payments	
Passing Gross Income Test	9.54	10.64
Passing Gross Income and Asset Tests	6.49	7.41
	Without Farm Safety Net Payments	
Passing Gross Income Test	13.21	13.73
Passing Gross Income and Asset Tests	10.55	10.69

The Farm Safety Net in the Netherlands

In the Netherlands, the number of farmers is very low. As a consequence, they can not be identified in the statistics of Statistics Netherlands and, as such, their participation in the de Bijstand. The best source for analysis is the Farm Accountancy Data Network (FADN), the European equivalent of ARMS. The data in table 12.2 are taken from that sample. Due to differences in income concepts between this FADN and the system of tax accounting it is not possible to calculate exactly how many farmers would be eligible for various assistance programs in the absence of farm safety net programs.

[1] In reality, this is unlikely to be the case insofar as farm support payments are an important factor in the calculation of land values. As land values decrease, this may also lead to a decline in liquid assets. The extent of such a decline is difficult to predict so we presume there is no change.

[2] There are distortions due to these programs which may make farmers' decisions very different in their absence. The possible extent of this distortion is not clear.

Table 12.5 Farmers in the Netherlands classified to poor and non-poor on the basis of their total (farm and off-farm) income: 1995 to 1997 in reality and in a scenario without direct EU payments

	Poor households	Non-poor households		All households
		poor, based on farm income	non-poor based on farm income	
Historical reference (see table 12.2)				
Share of households (%)	23	21	56	100
Share of farms (%)	23	22	55	100
Simulation scenario without direct payments				
Share of households (%)	27	20	53	100
Share of farms (%)	28	20	52	100

We calculated how many farms would be classified in table 2 as poor, if the EU direct payments to producers would not exist. Table 12.5 shows that in that case (without any change in farm management or direct taxes) 28% of the farms would be classified as poor, compared to 23% with subsidies. The effect would have been higher if we subtracted the income from starch potatoes (where the direct payments are paid to the processor that than pays out a higher product price) and if we modeled a situation without production quotas.

The results of this simulation demonstrates that the agricultural safety net in the Netherlands is better targeted than in the U.S.: it keeps about 4,000 households above the poverty line that we used in these calculations. As this poverty line is much higher than the criteria for the general social safety net, it is unlikely that the number of applications from the agricultural sector for the Assistance program would go up with the same number of households. But even if this would be permanently the case, the uptake of the Assistance program in the agricultural sector would not be much higher than that in the economy as a whole (4%). The uptake would also be comparable with the level in the U.S.

12.5 Conclusions

In the empirical portion of this paper, we analyzed the contribution of current farm direct payments to farm households in both the Netherlands in the U.S. We interpreted these payments as farm safety net premiums, where some will argue that these payments are a (temporary?) support to overcome the reduction of other forms of protection or a payment to reduce pollution or to provide public goods. We did not include other forms of production support (like quotas or import restrictions).

In the Netherlands, farm safety net payments are targeted towards households in the lower end of the income spectrum. This targeting is consistent with what one wants from a safety net, as reviewed in the theoretical portion of this paper. In the U.S., however, this does not hold. As a percentage of total income, farm safety net payments are relatively similar across different income categories. Therefore, these payments do not meet the standards one usually ascribes to a social safety net.

Also in the Netherlands, the system is far from perfect. Partly it is more by chance than design that the EU payments are skewed to the poorest farmers. The horticultural sector, important in the Netherlands and with relatively a low number of poor farmers, enjoys a much lower protection and no direct subsidies. In other sectors, payments are production oriented and deliver a large part of the budget to better-off farmers.

Both countries have general safety nets for their population, for which farmers are eligible and in which they take part. In the U.S., few farm households choose to enter the Food Stamp Program and their participation rates are substantially lower than the population as a whole. While part of this is due to the lower number of eligible households, the primary reason is the lower take-up rate of farm households. In the Netherlands, a larger percentage of farm households are classified as 'poor' in research commissioned by the government, but only a small percentage of farmers take part in the Assistance program. The participation rate is clearly lower than in the U.S. Food Stamp Program even if participation in similar programs (e.g. IOAZ) are included. It is not clear if this is due to the differences in the definition of 'farmer', the more specialized character of Dutch farming, or the Dutch income tax and pension system.

The removal of the farm safety net in the U.S. would lead to about a 3 percentage point increase in the number of farm households eligible for food stamps. This small change is primarily due to the low level of support lower-income farmers are getting in the current system. In the Netherlands, however, farm safety net payments constitute, on average, 60% of poor farm households farm income and about one third of their total income. If EU direct payments were abolished, the number of farmers classified as poor would increase from 23 to 28 %. It is impossible to estimate how many extra farmers ould apply for the Assistance program. As most farmers taking part in this program are from farm types without much investments in land, and direct payments are at the moment in the Netherlands focussed on arable production (including silage maize with livestock farmers), the increase is probably very modest. But even if this would not be the case, and the five percent point increase (equivalent with 4,000 farmers) would apply for the Assistance program, the take-up rate of the program in the agricultural sector would be in line with the uptake in the economy as a whole, and would be comparable to the situation in the U.S.

In this paper we considered whether a general safety net could replace an agricultural safety net. Based on analyses of the current distribution of payments, the effect of abolishment of the agricultural safety net, and on the analysis of data from the general safety net, we question the efficacy of the agricultural safety net. In the U.S. the farm safety net does not work as a safety net. In the Netherlands it does, but not very efficiently, especially if one takes non-farm income and taxes into account. In both countries the general safety net functions also for farmers, although participation amongst farmers is very low. It is unclear to what extent this is due to the design of the general safety net procedures which might neglect specific agricultural characteristics and due to a presumption that farmers are already covered by the agricultural safety net. The cross-country situation seems not to be influenced by country-specific circumstances as farm size, farm structure, degree of specialization / non-farm income, or general level of equality and social welfare.

The analyses in this paper illustrates again the importance of having good household level data. Without this data, the analyses here could not be performed. We wish to point out, however, that the number of farm households in the surveys for the general population

are often quite low, reflecting the decline in the number of farm households. One way to address this problem is to oversample farm households. Conversely, while household-level farm data has a rich assortment of information not available on surveys for the general population, they are lacking in information on participation in non-farm safety net programs. As the farm safety net diminishes in countries, the inclusion of these questions will become increasingly relevant.

Except when relevant to the eligibility criteria for the various assistance programs, we have not analyzed the role of assets and wealth in the well-being of farm households. As demonstrated by others (e.g. Hill, 1986), their roles can be fairly substantial insofar as they enable consumption smoothing options not available to other households. The presence of these consumption smoothing opportunities may diminish a household's need for assistance programs and, perhaps, explains their low participation rates. Further research is needed on this topic.

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