



Likelihood of Succession and Farmers' Attitudes towards their Future Behaviour: Evidence from a Survey in Germany, the United Kingdom and Portugal

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Abstract. Most authors have referred to the likelihood of having an identified successor in the family as an influential factor affecting several family farm management decisions. Here, we investigate this relationship for a selection of such decisions: the timing of farmers' retirement; the willingness of farmers to change their current mix of activities; their readiness to adopt new farm activities; and their attitude towards intensifying production. The categorical data analysed, mostly Likert scales, came from a postal survey carried out in 2001–2002 of a sample of 13516 German, British and Portuguese farmers, with just over 4,600 valid responses. Statistical association between the variables was examined by computing the χ^2 statistic and testing for the null hypothesis of no association between the various pairs of variables.

The main conclusions are that the likelihood of having a successor was positively related to the planned length of active farmers' lives, to farmers' adoption of new activities, and to farmers' willingness to intensify production in the future. The likelihood of having a successor was also found to be negatively related to the intention of leaving farm land idle. However, no empirical evidence was found of a statistically significant relationship between the likelihood of succession and farmers' readiness to change the mix of their future farm activities.

Introduction

Many farms in Europe are run as family businesses and, for these farms, succession from within the farm family is traditionally the first choice (Blanc and Perrier-Cornet, 1993; Errington and Lobley, 2002; Glauben et al., 2002). This is likely to be connected to the very nature of family farming where the time-span for production or investment decision-making, for example, is often inter-generational, rather than intra-generational. In this connection, some authors argue that for many family

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farms the main objective of farming is less profit maximization than assuring farm succession and economic survival, and a livelihood for the extended farm family across several generations (for example, see Gasson and Errington, 1993; Kimhi and Nachlieli, 2001).

In contrast, however, some also argue that not all family farm managers look for a successor amongst their children, as some farmers in more depressed and isolated agricultural regions would rather a different and less hard livelihood for their descendants out of the agricultural sector. For example, Fennell (1981) writing about the European Community, said: 'the literature suggests that there is clear evidence that many farmers do not want any of the family to succeed them'. Barkley (1990) found that this was one of the main reasons behind the outmigration of rural labour in the USA between 1940–1985. Also, according to Gasson and Errington (1993), this is so 'often because they do not want their children to have the same struggle as themselves on small marginal farms where the standard of living is falling behind that of the rest of society'. It seems, therefore, that the harder the conditions under which farmers operate, the less likely they are to wish one of their heirs to eventually replace them.

Nevertheless, whenever a willing successor is identified it implies that there is a longer time-span for making farm decisions, and it seems realistic to assume that the perceived likelihood of having a successor influences a number of attitudes and decisions concerning the future of the farm business and the future of the farmer himself. However, the literature does not provide much evidence supporting this contention. To our knowledge, most of the literature addressing the issue of farm succession, rather than studying the effects of it, aims to identify causes for the likelihood of farm succession. However, the issue of the effects is also addressed, sometimes normatively only, but in other cases in evidence-supported terms. To give a few salient examples for the latter, authors argue that the more likely the farmer is to have a successor, the more land is acquired (Hine and Houston, 1973; Harrison, 1981; Hutson, 1987), the more borrowings to finance on-farm investment is demanded (Marsden et al., 1989; Stiglbauer and Weiss, 2000), and the more milk quota is purchased (Burrell, 1989). In the same line, Potter and Lobley (1992, 1996) argue, based on survey evidence from Great Britain, that the less likely succession is to happen, the more willing is the farmer to take up extensification schemes and to farm in more environmentally friendly ways. Quoting Gasson and Errington (1993), 'without their [children's] interest and involvement, there may be little to drive an ageing couple into expansion'.

Furthermore, some authors contend that the less likely a successor is, the more risk averse is the farmer, because, as the farmer grows older and has no or little prospect of a successor, the farmer has no incentive to expand or adopt risky investments or production decisions that might endanger his financial stability and (or) add to the farmer's work-load (Viaggi et al., 2011). To quote Gasson and Errington (1993) in support of this line of reasoning,

'the presence or absence of a successor may have more influence upon business objectives and farm performance than the farmer's age. A farmer with a successor has a "generational stake" in that successor which provides a constant incentive for forward planning and expansion. A farmer without a successor has none, and in old age may begin to run down the business and consume capital, if only to reduce workload.'

More recently, Calus et al. (2008) point out, and give evidence in the same direction, that once farmers identify a successor they become more likely to invest in the farm.

On the other hand, there is also evidence that such influence of the likelihood of there being a successor on farmers' attitudes and behaviour varies (increases) with farm size and scale and with the degree of farm specialization (e.g. Errington, 1998; Glauben et al., 2002; Hennessy and Rehman, 2007).

To summarize, the literature suggests, despite the lack of much evidence based on extensive surveys, and comparisons across countries, that the likelihood of there being a successor changes the attitude and behaviour of the farmer decision-maker, making them 1. more prone to intensify the farm activities, 2. more inclined to invest in the farm business, and 3. less risk adverse – for example, being more willing to adopt new activities. Furthermore, the degree of such influence increases with farm size and scale and the level of the business's specialization.

In what follows, we first present our research question followed by detailing our data source and methodology. We then detail our research findings before making some conclusions.

Research Question

Despite the unquestionable influence of the likelihood of a successor on European farmers' behaviour, published evidence in this connection is relatively scarce as mentioned in the section above and, generally, has not been based on large surveys or on cross-cultural or international comparisons. Yet, it is important to know what is at stake when a farmer has no prospect of a successor, in order to correctly assess policies directed, for example, at the promotion of early retirement of older farmers, and their replacement by younger, perhaps better-educated, people.

The authors were involved in a large survey of farmers in three European countries (Germany, Portugal and the UK) – known as the Bond Scheme Survey (Daubjerg et al., 2005; Tranter et al., 2007) – which addressed such matters of farm succession and farmers' behavioural intentions, as well as their attitudes to CAP reform. We realized that, despite them not being the matters of the central goal of the research, interesting evidence was also available from this study on the issue of the likelihood of a successor and farmers' likely behaviour. As such, we decided more recently that this survey data would also help to answer the general question of whether farmers who thought that it was likely that they had identified a successor would have significantly different attitudes towards a number of farm management issues, and different behavioural intentions concerning the future of their farm business. In particular, the Bond Scheme project survey questioning structure made possible the study of whether the likelihood of there being a successor (the explanatory variable) affects a number of attitude measurements concerning farm management (the dependent variables). These latter variables were: 1. the timing of retirement or date of leaving active farming; 2. willingness to change; 3. willingness to innovate the activities mix; 4. willingness to intensify production; and 5. the intention to leave farm land idle in the future. It is this latter aspect that makes the analysis discussed here unique amongst the published literature on farmers' succession and inheritance issues. It should also be emphasized that not only was the survey large, but it occurred at exactly the same point of time in each study country.

Data Source and Methodology

The data used as the basis for the analysis in this article comes from the above-mentioned research project on the Bond Scheme. A survey of farmers in Germany, the United Kingdom (UK) and Portugal was carried out in late 2001 to early 2002; in each country, some 4,500 farmers were sampled making a total of 13 516. In Germany, they were drawn from the official Pension Records database, in the UK from the Yellow Pages telephone directory and, in Portugal, from the list of the Government's Office of National Statistics (Tranter et al., 2004, 2007).

The response rates were, for Germany, the UK and Portugal, 36.8%, 40.2%, and 33.4%, respectively. Responses were checked out for bias, comparing the sample of respondents with known overall national patterns, and it was found that smaller farm businesses were slightly under-represented in the responses from both the UK and Portugal. However, when comparing early to late respondents for non-response bias for a range of farm and farmer features, very few statistically significant differences were found.

A question should be raised here about the likely accuracy or validity of asking people questions about how they might behave in the future. Few studies have been carried out to test this point, but Tranter et al. (2004, 2007) review such intentions surveys in farming and conclude that, providing the surveys are large and well designed following pilot testing, their results tend to be reliable.

First on the four page questionnaire, and following more general contextual questions on the farm structure and on the farmer's profile, a question on the likelihood of having a successor was set, to be answered using a five-point Likert scale:

'1. "Have you identified a successor?" (1. Definitely – 2. Very likely – 3. Possibly – 4. Unlikely – 5. Definitely not).'

Second, questions on farmers' intentions on the future of their own farms and occupation, the dependent variables, were asked twice, under initially a conservative and then a changing future policy scenario.

The first was a hypothetical 'business as usual' scenario – that is, no changes to the Agenda 2000 direct payments regime, the current agricultural policy situation at the time of survey. Under this first scenario, the questions dealt with in this article were the ones concerning farmers' plans for their farm and for their own professional situation over the next 10 years.

The second proposed scenario was one of a policy change to fixed¹ and decoupled direct payments without any conditionality apart from keeping the agricultural lands' titularity. (This corresponds closely to the current CAP framework today, which was not known at the time of survey). The questions posed to farmers under the assumption of this second scenario were: 1. whether they would change their current mix of farming activities; 2. whether they would adopt new farming activities; and 3. whether they would intensify their current level of production. The actual specific questions posed to farmers under the two different policy scenarios are given next.

Questions on intentions under the first scenario (the Agenda 2000 direct payments regime):

'2. "Do you think you will be farming in ten years time? Yes or no?"

3. (If 'no' to question 2) "What will be your likely situation in ten years? (a) Having retired at the normal age, (b) having taken early retirement, or (c) having taken up other employment?"
4. (If 'no' to question 2) "What will happen to the land you currently farm?"
(1) Sold, (2) Give up the tenancy, (3) Passed to successor, (4) Rented out, or
(5) Abandoned the land?"

Finally, for the second scenario posed (direct payment decoupled from land use), the following questions were asked:

5. "Would you change your mix of activities? (Yes or no?)"
6. "Would you adopt new activities? (Yes or no?)"²
7. "Would you leave any of your land idle? (Yes or no?)"³
8. "Would you intensify production? (Yes or no?)"⁴

The respondents and their respective farms are next briefly described on their age and educational level attained, on farmed area and also on their farms' main productive orientation. Full details are provided in Appendix 2. These characteristics were highlighted for examination as it has been shown above that they affect farmers' behaviour and attitudes to the future if they have a successor as shown by Errington and Gasson (1994), Errington (1998), Glauben et al. (2002) and Hennessy and Rehman (2007).

Concerning farmers' age, farmers 50 years old or older predominate, accounting for around 60% of the sample in the UK, and 75% of the samples in Germany and Portugal.

The educational level attained was highest amongst German respondents, as some 25% left full-time education at 20 or more years old followed by the UK with around 19% with this educational level, and with the Portuguese respondents with the lowest educational level, with less than 10% of respondents leaving full-time education at 20 or more years old.

Looking at the farmed area of respondents, the structure of the sample varies considerably across the three countries, with most of the Portuguese respondents, nearly 88%, being smallholders of less than 25 ha. This group is also important amongst German respondents, representing slightly more than 50% of their total. However, for the UK, 50% farmed 100 or more ha of land each.

Finally, concerning the respondents' main type of farming, the profile is similar in Germany and the UK, with most farmers mainly oriented to livestock or to mixed livestock and crop farming. Few had cropping as their main orientation, as only 18% of respondents in the UK and as few as 8% in Germany had this type of farming. On the other hand, more than half the respondents in Portugal had cropping as their main productive orientation.

Research findings

Next, we present and discuss findings concerning, first, the farmers' overall perception on the likelihood of having identified a successor, the explanatory variable for this study and, then, the association of this variable to the attitudinal variables included in the study and referred to above. A null hypothesis of 'no association' was set and tested by means of the χ^2 statistic, appropriate for such categorical data, and

a probability threshold for rejecting the null hypothesis of 'no association' was set at the 5% level of statistical significance.

Comparing all possible pairs of the three countries on answers to the likelihood of succession for the full Likert scale (upper part of Table 1), and using the χ^2 statistic for testing the null hypothesis of no differences, the null hypothesis is rejected for all the country comparisons (at the 1% level). However, the χ^2 statistic is the highest when comparing Germany to Portugal ($\chi^2=203.5$), and the lowest when comparing the UK to Portugal ($\chi^2=42.8$). This is also consistent with the result after amalgamating the original Likert scale into two single categories (lower part of Table 1), namely 'having a successor is, at least, possible' and 'unlikely or definitely no successor', where the differences are not only statistically significant for all country comparisons, but also the Portuguese and UK respondents are closer than any of these countries to Germany concerning respondents' likelihood of having a successor. When looking at the proportions for the three countries, slightly more than half the respondents in Germany said they did not have a successor or the successor was unlikely, while in Portugal, this figure was lower (44%) and, in the UK (39%), lower still.

Coming now to the influence of the likelihood of succession from the attitudinal variables, and starting with farmers' expectations of being an active farmer in 10 years time (Table 2), the results show that respondents in Germany and Portugal expecting a successor are less likely to be active in farming in 10 years time than

Table 1. Farmers' overall perception on the likelihood of having a successor for their own farm business.

Likelihood of a successor:	Germany (n=1209)	UK (n=1705)	Portugal (n=1373)
'Definitely' (1)	16.2%	22.5%	14.7%
'Very likely' (2)	13.3%	13.4%	17.8%
'Possibly' (3)	20.3%	24.9%	23.8%
'Unlikely' (4)	10.3%	20.6%	25.6%
'Definitely not' (5)	39.9%	18.6%	18.0%
	100.0%	100.0%	100.0%
Having a successor at least possibly (1+2+3 from above)	49.8%	60.8%	56.3%
Unlikely or definitely no successor (4+5 from above)	50.2%	39.2%	43.6%

Table 2. Farmers stating that they would not be in farming in 10 years time according to the likelihood of having a successor (%).

Likelihood of a successor	Germany	UK	Portugal
Successor possible or certain	41.0	69.0	52.1
Unlikely or definitely no successor	46.6	69.3	62.2
n	1190	1679	1350
χ^2	30.24	0.01	27.17
df		1	
Significance	0.00	0.91	0.00

respondents without or with an unlikely successor. For these two countries, the association was highly statistically significant at the 1% level (χ^2 for one degree of freedom, respectively 30.2 and 27.2). In Germany, the percentage of respondents without a successor and expecting to end active farming before 10 years time ahead was 47%, but the equivalent figure was only 41% for respondents with a possible or certain successor. In Portugal, the difference was even higher, with some 62% of respondents without a successor expecting to end up active farming in 10 years time, and only 52% expecting to be doing this amongst the ones with an identified successor. On the other hand, the same statistical relationship was not found at all in the UK, where the proportion of respondents expecting to end up farming in 10 years was some 69%, irrespective of their likelihood of having a successor.

As detailed earlier in the data source and methodology section, for respondents stating that they would not be in farming in 10 years time, two further questions were posed. First, what would they be doing after leaving farming (Table 3) and, second, what they would do to their current farmed land (Table 4).

Concerning future 'occupation', again, a statistically significant association with the likelihood of having a successor was found for German and Portuguese respondents, but not for those in the UK. In Germany and Portugal, compared with respondents without a successor, respondents with a successor would retire earlier (at the normal age) and would also be less likely to have taken up other employment. Also, the German respondents with an identified successor would be more likely to anticipate retirement (at earlier than the normal age).

Concerning the destination of their current farmed land for those who stated they would not be in farming in 10 years time (Table 4), the differences between farmers with and without successors are very important in statistically significant terms,⁵ primarily because passing the land to a successor was a simple or a very unlikely option for the second group. Accordingly, the proportion of farmers with a successor passing the farm to the successor would be 69%, 79%, and 76%, in Germany, the UK, and in Portugal; for farmers without (or with an unlikely) successor, these figures were only 5%, 3%, and 14%, respectively.

Table 3. Future occupation of farmers expecting to leave farming within 10 years by the likelihood of having a successor (%).

Stated ways out of farming (farmers' status)	Germany		UK		Portugal	
	Successor possible or certain	Unlikely or definitely no successor	Successor possible or certain	Unlikely or definitely no successor	Successor possible or certain	Unlikely or definitely no successor
Retirement at the normal age	60.0	37.9	77.3	78.2	57.5	48.0
Early retirement	12.1	9.1	14.7	11.7	5.2	5.9
Taking up other employment	27.9	53.0	8.0	10.1	37.3	46.1
n	397		564		648	
χ^2	25.16		2.28		5.94	
df			2			
Significance	0.00		0.32		0.05	

Table 4. Disposal of farmland, for farmers expecting to leave farming within 10 years by the likelihood of having a successor (%).

Stated ways out of farming - destination of the farm	Germany		UK		Portugal	
	Successor possible or certain	Unlikely or definitely no successor	Successor possible or certain	Unlikely or definitely no successor	Successor possible or certain	Unlikely or definitely no successor
Farm sold	1.3	6.8	3.7	40.1	1.9	7.2
Giving up the tenancy	22.6	56.8	3.5	23.4	4.6	19.1
Passing farm to a successor	69.2	5.4	79.1	2.6	76.4	14.4
Renting out the farm	4.4	20.3	13.2	30.3	4.2	8.1
Abandoning the farm land	2.5	10.8	0.5	3.6	12.7	51.3
n	381		705		495	
χ^2	175.09		427.00		193.35	
df	4		4		4	
Significance	0.00		0.00		0.00	

Naturally, for those without a successor, the eventual destination of the farm land would have to be 'sold' or 'rented out' or, for tenant farmers, simply by giving up the tenancy. As expected, all these categories increased in their importance for farmers without a successor. For the last option, the decision to abandon the farm land, in the case of owned land, the proportion of farmers without a successor choosing it was considerable in Portugal, where more than half the respondents indicated that as their option; it was also relatively high in Germany, with 11% of farmers without a successor saying so, and was also visible in the UK, with some 4% of the farmers without a successor stating the same. In addition, compared to farmers with a successor, the proportion of farmers without a successor stating that they would abandon their farmed land was around four times higher for those in Germany and Portugal and about seven times higher for those in the UK.

Finally, association between the likelihood of succession and farmers' attitudes concerning: 1. openness to changes in the mix of activities; 2. openness to the adoption of new farm activities; or 3. openness to the intensification of farm production are assessed next. In addition, 4. the intention of idling at least some farm land as a result of the 'new' decoupled direct payments was also assessed.

For the willingness to change the mix of farm activities, none of the differences between farmers with and without a successor identified (Table 5) were found to be statistically significant (at the 5% level). For the Portuguese sample, however, the differences were nearly significant as the probability for the χ^2 statistic was 7%, with percentages of farmers in that country willing to change their mix of activities of 35% and 30% respectively, for respondents with and without a successor. For the other two countries, there were also differences between the two groups in the same direction, but these were very small differences and were far from being statistically significant.

Table 5. The likelihood of having a successor in relation to changes to the mix of farm activities.

Country	Future Decision Intentions under the Decoupling Scenario	“Would alter mix of farm activities” (%)		Statistics		
		Successor possible or certain	Unlikely or definitely no successor	n	df	χ^2 (signifi- cance)
Germany		33.8	32.1	1174		0.55
UK		31.0	30.7	1679	2	0.91
Portugal		34.5	29.6	1227		0.07

Table 6. The likelihood of having a successor in relation to adopting new farm activities.

Country	Future Decision Intentions under the Decoupling Scenario	“Would adopt new farm activities” (%)		Statistics		
		Successor possible or certain	Unlikely or definitely no successor	n	df	χ^2 (signifi- cance)
Germany		9.3	7.6	1174		0.31
UK		6.2	8.1	1679	2	0.14
Portugal		13.9	10.2	1227		0.05

Table 7. The likelihood of having a successor in relation to changes in farm production intensification.

Country	Future Decision Intentions under the Decoupling Scenario	“Would intensify production” (%)		Statistics		
		Successor possible or certain	Unlikely or definitely no successor	n	df	χ^2 (signifi- cance)
Germany		3.7	3.7	1083		0.99
UK		22.6	15.5	1608	2	0.00
Portugal		23.7	18.2	986		0.04

Table 8. The likelihood of having a successor in relation to leaving farmland idle.

Country	Future Decision Intentions under the Decoupling Scenario	“Would leave idle at least some land” (%)		Statistics		
		Successor possible or certain	Unlikely or definitely no successor	n	df	χ^2 (signifi- cance)
Germany		38.2	79.7	846		0.00
UK		17.3	24.8	1613	2	0.00
Portugal		44.4	53.4	1030		0.01

For the adoption of new farm activities, the differences between farmers with and without a successor identified (Table 6) were found to be statistically significant (at the extreme of the 5% level) only for the Portuguese sample, with the proportions of farmers in that country intending to adopt new farm activities of around 14% and 10% for respectively, respondents with and without a successor identified. No statistically significant differences were found for the intentions of respondents in the other two countries for this particular variable.

When examining the intensification of farm production, the differences in intentions between farmers with and without successors identified (Table 7) were found to be statistically significant only for the UK and for the Portuguese samples, with proportions of farmers willing to intensify production of some 23% and 16% in the UK, and of 24% and 18% in Portugal respectively, for respondents with and without a successor. No statistically significant differences were found for respondents from Germany, where the proportion willing to intensify production under the new agricultural policy regime were exactly the same, at 3.7%, for both groups of respondents.

Finally, concerning the study farmers' intention of idling at least some land under the decoupled policy payments scenario presented to them, the differences between respondents with and without successors (Table 8) were statistically significant and in the same direction for all study countries. That is, respondents without successors were, in all study countries, more likely to idle at least some of their farm land after the proposed policy changes were implemented.

For the two groups (with and without successors), the proportion of respondents intending to idle at least some farm land under the proposed policy changes were 38% and 80% for Germany, a very considerable difference, 17% and 25% for the UK, and 44% and 53% for Portugal.

Conclusions

Returning to the initial research question on the likelihood of how having an identified successor might influence attitudes and behaviour of farmers towards their future situation, the data analysed in the study discussed here gives evidence favouring this relationship for some of the expected consequences, but not for others.

For example, we would expect that farmers with an identified or likely successor would be less likely to be retired or out of farming in 10 years time after the survey. This was found to be the case for respondents in both Germany and Portugal, but was not confirmed by analysis of the data from the UK. For farmers expecting to leave farming in 10 years time, we would also expect that a larger proportion of them would be taking retirement at the normal age (not postponing retirement) or to have taken up other employment away from their farm. Again, this position was confirmed for Germany and Portugal, but there was no evidence confirming this for the UK.

We also predicted that, drawing especially from the work in the EU of Blanc and Perrier-Cornet (1993) and Viaggi et al. (2011), under lessened agricultural policy restrictions, farmers with a certain or likely successor, when compared to those without a successor, would be more flexible about changing their mix of farm activities, more prone to adopt new farm activities and more willing to intensify farm production. Concerning the flexibility of mix of farm activities, the data did not confirm the prediction. For the readiness to adopt new activities issue, only data from Portugal

confirmed this prediction. For the intensification of production issue, the prediction was confirmed for the UK and Portugal only, but not for Germany.

Finally, we also expected that the absence, or the unlikelihood, of having a successor, would make it more likely for farmers to decide to abandon or leave some of their farm land idle in the future. This was confirmed completely by data for all the three countries surveyed in our study, thus echoing the findings of, for example, Harrison (1981), Barkley (1990) and Hennessy and Rehman (2007).

Notes

1. Equivalent to average payments in the last three years (see Appendix 1 for the full transcript of the relevant questionnaire section detailing this scenario).
2. For this question the respondents were actually asked to choose out of 12 varied activity categories as the ones that they would start from scratch; for the purposes of this article, any respondent indicating at least one activity as 'new' was assigned a 'yes' to question 6.
3. This question was posed as a five-point Likert scale (none – less than half – around half – more than half – all); for the purposes of this article, all the answers except 'none' were considered a 'yes' to question 7.
4. This question was posed as a five-point Likert scale (greatly decrease – decrease – remain unchanged – increase – greatly increase); for the purposes of this article, the answers 'increase' or 'greatly increase' were considered a 'yes' to question 8.
5. χ^2 statistic associated with a probability of less than 0.1% for the three countries.

Appendix 1: Policy Reform Scenario 2 Statement

'The next questions relate to the first step of our proposed policy change for the future of arable area aids and headage payments received by farmers under the IACS system. Please imagine that crop payments will be detached from current land use. Thus, future payments will no longer depend on which crop you plant, the area planted or even whether land is planted at all. Instead, payments will be made at a flat rate, on the basis of your average arable area claims during the previous three years.

Our proposal will also affect the livestock sector similarly, with future payments being based on the average number of livestock units (cattle and sheep) for which the farm claimed payments in the previous three years. As for crops, the entitlement would be held the same, irrespective of the actual number of livestock units kept in the future. This farm-specific payment entitlement would also be attached to the land used by the farm so that, if the farm was subsequently broken up, future payments would continue to be made to the component parts.

Please reflect your likely practical response to this proposed policy change when answering the following questions' (Tranter et al., 2007).

Appendix 2: Some Details of the Study Respondents and their Farm Businesses by Study Country (% of Respondents)

		Germany	UK	Portugal
Age of farmer in years:	Sample size:	1201	1685	1283
< 50		23.6	40.4	24.9
50 and over		76.4	59.6	75.1
Age at leaving full-time education (years):	Sample size:	1157	1674	1184
< 20		74.8	81.5	90.3
20 and over		25.2	18.5	9.7
Farmed area (hectares)	Sample size:	1209	1674	1076
< 25		50.7	7.0	87.2
25 - 50		17.3	14.4	5.8
50 - 75		10.6	15.4	2.3
75 - 100		5.7	13.1	0.9
100 and over		15.7	50.0	3.8
Type of farming	Sample size:	1124	1643	1176
Mainly livestock		51.4	51.9	22.2
Mainly cropping		8.3	18.0	58.3
Mixed		40.3	30.1	19.5

References

- BARKLEY, A. (1990) The determinants of the migration of labour out of agriculture in the US, 1940–1985, *American Journal of Agricultural Economics*, 72, pp. 567–544.
- BLANC, M. and PERRIER-CORNET, P. (1993) Farm transfer and farm entry in the EC, *Sociologia Ruralis*, 33, pp. 319–335.
- BURRELL, A.M. (1989) The microeconomics of quota transfer, in: A.M. BURRELL (ed.) *Milk Quotas in the European Community*, Wallingford: CAB International, pp. 100–118.
- CALUS, M., VAN HUYLENBROECK, G. and VAN LIERDE, D. (2008) The relationship between farm succession and farm assets on Belgian farms, *Sociologia Ruralis*, 48, pp. 38–56.
- DAUGBJERG, C., TRANTER, R., JONES, P., LITTLE, J., COSTA, L., KNAPP, T., SOTTOMAYOR, M. and SWINBANK, A. (2005) The visibility of agricultural subsidies and market illusions in the CAP: some evidence from farmers' views in Germany, Portugal and the UK, *European Journal of Political Research*, 44, pp. 749–766.
- ERRINGTON, A. (1998) The intergenerational transfer of marginal control in the farm-family business: a comparative study of England, France and Canada, *Journal of Agricultural Extension*, 5, pp. 123–136.
- ERRINGTON, A. and GASSON, R. (1994) Farming systems and the farm family business, in: J.B. DENT and M.J. MCGREGOR (eds) *Rural and Farming Systems Analysis*, Wallingford: CAB International, pp. 181–192.
- ERRINGTON, A. and LOBLEY, M. (2002) *Handing over the Reins: A Comparative Study of Inter-generational Farm Transfers in England, France, Canada and the USA*. Paper presented at the Agricultural Economics Society Annual Conference, Aberystwyth, April.
- FENNELL, R. (1981) Farm succession in the European Community, *Sociologia Ruralis*, 21, pp. 19–42.
- GASSON, R. and ERRINGTON, A. (1993) *The Farm Family Business*. Wallingford: CAB International.
- GLAUBEN, T., TIETJE, H. and WEISS, C.R. (2002) *Intergenerational Succession on Family Farms: Evidence from Survey Data*, Working Paper EWP. Kiel: Department of Food Economics and Consumption Studies, University of Kiel.
- HARRISON, A. (1981) *Factors influencing Ownership, Tenancy, Mobility and Use of Farmland in the UK*, Information on Agriculture 74. Luxembourg: Commission of the European Communities.
- HENNESSY, T.C. and REHMAN, T. (2007) Factors affecting occupational choice of farm heirs, *Journal of Agricultural Economics*, 58, pp. 61–75.

- HINE, R.C. and HOUSTON, A.M. (1973) *Government and Structural Change in Agriculture*. Report prepared by the Universities of Nottingham and Exeter for the Ministry of Agriculture, Fisheries and Food, London.
- HUTSON, J. (1987) Fathers and sons: family farms, family businesses and the farming industry, *Sociology*, 21, pp. 215–229.
- KIMHI, A. and NACHLIEL, N. (2001) Inter-generational succession on Israeli family farms, *Journal of Agricultural Economics*, 52, pp. 42–58.
- MARSDEN, T., MUNTON, R., WHATMORE, S. and LITTLE, J. (1989) Strategies for coping in capitalist agriculture: an examination of the response of farm families in British agriculture, *Geoforum*, 20, pp. 1–14.
- POTTER, C. and LOBLEY, M. (1992) Ageing and succession on family farms: the impact on decision making and land use, *Sociologia Ruralis*, 32, pp. 317–334.
- POTTER, C. and LOBLEY, M. (1996) The farm family life cycle, succession paths and environmental change in Britain's countryside, *Journal of Agricultural Economics*, 47, pp. 172–190.
- STIGLBAUER, A. and WEISS, C. (2000) Family and non-family succession in the Upper Austrian farm sector, *Cahiers d'économie et sociologie rurales*, 54, pp. 5–26.
- TRANter, R., COSTA, L., KNAPP, T., LITTLE, J. and SOTTOMAYOR, M. (2004) Asking farmers about their response to the proposed Bond Scheme, in: A. SWINBANK and R. TRANter (eds) *A Bond Scheme for Common Agricultural Policy Reform*, Wallingford: CABI Publishing, pp. 127–148.
- TRANter, R.B., SWINBANK, A., WOOLDRIDGE, M.J., COSTA, L., KNAPP, T., LITTLE, G.P.J. and SOTTOMAYOR, M.L. (2007) Implications for food production, land use and rural development of the European Union's Single Farm Payment: indications from a survey of farmers' intentions in Germany, Portugal and the UK, *Food Policy*, 32, pp. 656–671.
- VIAGGI, D., RAGGI, M. and GOMEZ Y PALOMA, S. (2011) Understanding the determinants of investment reactions to decoupling of the Common Agricultural Policy, *Land Use Policy*, 28, pp. 495–505.