

Glauben, Thomas; Tietje, Hendrik; Vogel, Stefan

Working Paper

The transfer of family businesses in Northern Germany and Austria

FE Working Paper, No. 0405

Provided in Cooperation with:

Christian-Albrechts-University of Kiel, Department of Food Economics and Consumption Studies

Suggested Citation: Glauben, Thomas; Tietje, Hendrik; Vogel, Stefan (2004) : The transfer of family businesses in Northern Germany and Austria, FE Working Paper, No. 0405, Kiel University, Department of Food Economics and Consumption Studies, Kiel

This Version is available at:

<https://hdl.handle.net/10419/38618>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

THE TRANSFER OF FARM FAMILY BUSINESSES IN NORTHERN GERMANY AND AUSTRIA

Thomas Glauben

University of Kiel, Department of Food Economics and Consumption Studies
Olshausenstraße 40, 24098 Kiel, Germany
Tel. +49 431 880 7372, Fax +49 431 880 7308
Email: tglauben@food-econ.uni-kiel.de

Hendrik Tietje

University of Kiel, Department of Food Economics and Consumption Studies
Olshausenstraße 40, 24098 Kiel, Germany
Tel. +49 431 880 4404, Fax +49 431 880 7308
Email: Hendrik.Tietje@fae.uni-kiel.de

Stefan Vogel

University of Natural Resources and Applied Life Sciences Vienna, Department of
Economics and Social Sciences,
Feistmantelstrasse 4, 1180 Vienna, Austria
Email: stefan.vogel@boku.ac.at

ABSTRACT

The transfer of family businesses from one generation to the next can be considered as an event with far-reaching effects for the business. Investments and decisions about restructuring the business are closely tied to succession considerations. This paper analyzes successions plans in the primary sector using a survey conducted in 2003 of 348 farmers in Schleswig-Holstein (Northern Germany) and 278 farmers in Austria. Three samples were obtained: full time farmers in Schleswig-Holstein, full time farmers in Austria and part time farmers in Austria. The structure of the farm sector in both countries differs in several ways: Farmers in Schleswig-Holstein operate on larger scales, are more market oriented and use more intensive production technologies than their Austrian counterparts. In addition, Austrian farmers have distinct traditional attitudes in farming and are likely located in disadvantaged areas on average. The analysis focuses on differences in succession plans and farm family characteristics in the three samples. This encompasses the fact that farms in Schleswig-Holstein have proportionally higher rates of identified successors and farm adjustment plans than in Austria. Results also show that there are not only significant differences in farm succession patterns, but also in value systems.

1. INTRODUCTION

The transfer of family businesses from one generation to the succeeding one can be considered as an event with far-reaching effects for the business. Investments and decisions about restructuring of the business are closely tied to succession considerations. In contrast to the large number of family-owned businesses only few studies aim at explaining their behaviour (Morris et al 1997). Contrary to Morris et al (1997) who investigate the determinants of successful family business transitions, Miller et al (2003) focus on the reasons for failure of business successions. The agricultural sector is especially dominated by family-owned businesses as compared to other sectors. Ownership and managerial control of these family farms are combined in the hand of the farmer's family and handed down within the family (Gasson and Errington 1993). This replication of the sector's structure distinguishes agriculture from other sectors of the economy (Keyzer and Phimister 2003).

As a result of increasingly competitive commodity markets and reduced subsidies for agriculture three general patterns of farming strategies can be identified in Europe (for a comparison of European regions see: Brun and Fuller 1992, Dax et al 1995): (i) either intensify of production or in contrary extensify production, such as organic farming or eco-tourism, (ii) gradual withdrawal from farming, often switching first to part time farming and then closing down of the farm at retirement age and (iii) continue farming as usual and delay changes.

Research shows that investing in agriculture or withdrawing from agriculture are closely tied to the family life cycle and are especially related to the availability of a successor (successor effect and succession effect: Potter and Lobley 1996, Vogel et al 2003). An area of sociological understanding is the gradual process by which farmers pass on decision and management skills to the family member successor (Gasson and Errington 1993).

This article compares characteristics of farm succession in two different European regions, one in Northern Europe (Schleswig-Holstein in Germany) and one in Central Europe (Austria). This comparison is based on farm surveys conducted in 2003. The survey questionnaire contained mostly closed, but some open, ended questions covering the status of the farm succession, farmers' retirement plans and attitudes towards farming. Parts of both surveys are standardized questions from the

FARMTRANSFERS project, which allows comparisons of succession and retirement plans of farmers in several countries. Errington and Lobley (2003) summarize the surveys from England, France, Canada and the USA.

The questionnaire was sent to 1198 farmers in Schleswig-Holstein and 2000 farmers in Austria aged 45 years and older; the response rates were 29 % and 17 % respectively. While only full-time farmers were surveyed in Schleswig-Holstein (S-H)¹, the Austrian (A) sample contains 49.3 % part time farmers. In this paper the farm succession process in both countries is compared. As part time farming reflects totally different family strategies we can divide three subsamples: full-time Schleswig-Holstein, full-time Austria and part-time Austria. Sample differences are statistically compared according to: t-test, Wilcoxon-test, Mann-Whitney-test, chisquare-test or Fischers' exact test.

The organisation of this paper is as follows: First a description of the samples is given in section two followed by a comparison of farm succession considerations by region and full- or part-time farming in section three. Section four discusses attitude differences and values among farmers. Finally, conclusions are drawn from the found empirical evidence.

2. SAMPLE CHARACTERISTICS

Table 1 shows the sample characteristics of the farm structure and the farm family. A main difference between the samples is farm size. The largest farms in Schleswig-Holstein are more than twice as large as full time farms in Austria and seven times larger than Austria's part time farms. In production the main difference between Schleswig-Holstein and Austria can be found in a much higher share of mixed businesses in both Austrian samples. Schleswig-Holstein contains the greatest share of farms specialised in crop production whereas a much higher share of organic farming is observed in Austria. This and other structural differences may be caused by the fact that around half of the Austrian farms are located in mountainous areas. Differences in structural characteristics reveal different farming strategies between the three samples.

¹ Since the research topic in Schleswig-Holstein is farm succession in full-time farms (Tietje, 2004).

Table 1: Basic farm and family characteristics

	S-H: full-time (n: 348)	A: full-time (n: 140)	A: part-time (n: 137)
Farm characteristics			
average farm size	113.5 ha	48.7 ha	16.1 ha
crop production ^b	30.5 %	2.3 %	4.6 %
milk and beef production ^b	49.1 %	42.2 %	48.7 %
mixed crop and animal production ^b	17.7 %	48.4 %	38.5 %
organic farming	0.3 %	10.7 %	20 %
mountainous area	-----	46 %	56 %
Family characteristics			
sole proprietor	83.2 %		39.8 % ^a
proprietor in a partnership with wife or husband	16.8 %		60.2 % ^a
average age of farmer	52.3	52.0	51.6
% of farmers who are female	1.8 %	26.4 %	45.3 %
agricultural education	94.0 %	67.4 %	37.0 %
agricultural "Meister"	64.7 %	25.4 %	6.7 %
other education	10.5 %	21.9%	51.6 %
Number of sons	1.3	1.2	1.3
Number of daughters	1.1	1.3	1.3

Notes: ^a no statistical significant ($p \leq 0.05$) difference between two of the three samples, the average of these two samples is given, ^b pork and chicken production, as well as permanent cultivation are not considered, so that the three categories do not sum up to 100 %.

Large differences in farmers' education between the samples can be reported. Higher levels in agricultural education in Schleswig-Holstein support the specialisation pattern observed there, while the higher level of non-agricultural education in Austria is accompanied with less specialisation on cash crops, more organic farming and more part-time farming. Unlike farmers in Schleswig-Holstein, who are mostly male, nearly half of the Austrian farmers, especially from those who are part-time farmers, are female. This may be the result of family strategies where business and family roles are interwoven.

3. FAMILY SUCCESSION AND RETIREMENT PLANS

Table 2 reports retirement plans of farmers and with whom these plans have been discussed.

Table 2: Retirement plans

Variable	S-H: full-time	A: full-time	A: part-time
Time to farm transfer			
Keep farm as long as possible	13.1% ^a		29.0 %
Number of years until farm transfer	8.3 ^a		10.4
Helping on farm after transfer			
Keep on working on the farm after farm transfer	81.7 % ^a		65.6 %
Move out from current residence after retirement (share of answers)			
No	23.7 %	60.8 %	78.4 %
Yes, other flat on the farm	46.4 %	28.3 %	17.1 %
Move to other location	29.9 %	10.8 %	4.5 %
Share of farmers reporting expected income sources after retirement / estimated share in farmers' total income			
income from working on farm	15.0 % / 20.0 %	7.9 % / 18.7 %	8.0 % / 10.6 %
farmers' pension	84.2% / 26.0 %	95.0 % / 68.0 %	59.1 % / 48.0 %
other public pension	37.2 % / 6.0 %	10.7 % / 44.0 %	67.9 % / 69.0 %
income from private investment	68.0 % / 20.0 %	35.0 % / 14.0 %	23.0 % / 17.0 %
Farmer discussed farm succession plans with			
Family	80.1 %	69.2 %	55.5 %
Successor, if available ^b	54.5 %	33.1 %	21.1 %
Farm management adviser	25.6 %		5.0 % ^a
Financial adviser	46.3 %		5.4 % ^a

Notes: ^a no statistical significant ($p \leq 0.05$) difference between the samples, the average of the samples is the information given, ^b from those farmers who have identified a potential successor: S-H: n=203, A (full time): n=71, A (part-time): n=51.

Austrian part-time farmers plan to keep on farming longer than full-time farmers and a comparatively high share of them tends to remain in their residence after retirement. Part time farmers get fewer payments from the farmers' pension system and more from another public pension system than full time farmers. The share of farmers with retirement income from private investment is higher for full time farms and especially high for those in Schleswig-Holstein.

The share of farmers who have discussed their retirement and succession plans is highest in Schleswig-Holstein. Remarkable is the high percentage of farmers which have discussed their plans with financial advisors in Schleswig-Holstein. Therefore one can argue that Schleswig-Holstein's farmers are more entrepreneurial in planning and preparing for retirement and succession.

A crucial question in the family farm business is, whether a successor has already been identified. Table 3 shows a comparison between the three samples with respect to the availability of a potential successor. The question wording is: "Have you already identified a successor?" with three possible answers: "yes, definitively", "no, but there is a potential successor, who might take over" and "there is no successor available". Full time farmers are more likely to have identified a successor than part time farmers. This finding may reflect that part-time farming can be considered "... a first step out of agriculture" for this families (Kimhi 2000).

Table 3: Availability of a successor

Have you already identified a successor ?	S-H full-time	A: full-time	A: part-time
Yes, definitively	57.2 % ^a		38.6 %
No, but there is a potential successor	31.1 % ^a		37.1 %
No successor available	11.7 % ^a		24.2 %

Notes: ^a no statistical significant ($p \leq 0.05$) difference between the samples, the average of the samples is the information given.

Table 4 provides information about characteristics of identified successors. For part time farming the successor is more likely to be female. As noted above in table 1 that Austrian part time farmers are currently half female. While the successor in full time farms tends to be more educated in agriculture, successors in part time farms show a higher degree of education outside of agriculture. Successors on Austrian farms tend to work considerably more off farm than do those in Schleswig-Holstein. With respect to off farm work, no significant difference between full time and part time farming in Austria can be observed. The orientation of the younger generation in Austria is more towards outside farming as in Schleswig-Holstein.

Table 4: Characteristics of the successor

Variable	S-H: full-time with successor (n = 203)	A: full-time with successor (n = 71)	A: part-time with successor (n = 51)
Successor's age (average)		23.0 ^a	24.3
Female successor	9.4 %	16.8 %	22.7 %
Finished agric. education		40.5 % ^a	14.6 %
Agricultural "Meister"	27.3 %	5.7 %	0.7 %
Other non agric. education	10.3 %	25.7 %	44.5 %
Successor works full-time on parents' farm	20.8 %	13.6 %	1.5 %
Successor is working full time outside the farm sector	4 %		32 % ^a

Notes: ^a no statistical significant ($p \leq 0.05$) difference between the samples, the average of the samples is the information given.

Successors' Participation in Farm Management

Using the "succession ladder" (Errington and Tranter 1992) of the intergenerational transfer of managerial control in the farm family business, 25 items covering different management activities were integrated in the surveys in Schleswig-Holstein and Austria. Farmers with a designated successor were asked whether each decision or action was taken by the farmer alone, shared between the farmer and the successor or by the successor alone (a five value Likert scale: yourself alone ... shared ... successor alone). A factor analysis of each sample results in three factors representing types of managerial control: operative management, financial management, and management of hired workforce. The same types of successors' management participation can be identified over the regions and samples. The decisions and actions which formed the three factors are reported in table 5.

The factor scores of the three factors were calculated for the 523 observations used in the factor analysis which than grouped by quartiles according to the extent of successor decision participation on basis of these factor scores. Next the distribution of the three samples in the quartile with the highest successor decision participation is analysed.

Table 5: Successor's participation in farming

decision / action	factor/types of control	share of the samples in the quartile with highest successor's decision participation ^a
plan day-to-day work decide work method/way jobs are done decide timing of operations activities decide long term activity planning decide type and level of feed/sprays/fertilisers/drugs used animal stock management make annual crop/stock plans decide type and make of machines and equipment decide when to sell crops/stocks negotiate sells of crops/stocks decide and plan capital projects decide long term balance and type of enterprises	operative management	32,6 % S-H: full-time 16,6 % A: full- and part-time ^b
identify sources and negotiate loans and finance decision when to pay bills book-keeping decisions about the participation in programmes	financial management	no significant differences between samples ^b
decide if and when to appoint additional workforce chose and hire new workforce training and control of hired workforce	management of hired workforce	no significant differences between samples ^b

Notes: ^a on basis of the factor scores. ^b p-value < 0 .05, n = 523; SH (full time with definite and potential successor): n = 303; A (full time with definite and potential successor): n = 120; A (part time with definite and potential successor): n = 100.

In all three samples the distribution of successor participation is almost equal for financial management and management of hired workforce. However, there is a difference in the operative management (see table 5). 32.6 % of Schleswig-Holsteins' farmers can be found in the 25 % of the farming families with the highest successor participation as compared to 16.5 % of Austrian farmers². In Schleswig-Holstein successors participate more in the operative management of the farm than their counterparts in Austria. Therefore one can conclude that the younger generation in

² There is no significant difference between full-time and part-time farmers in Austria.

Schleswig-Holstein is integrated earlier in farm management decision making and that these successors gain more managerial and entrepreneurial experience.

4. VALUES RELATED TO FARMING AND FARM SUCCESSION

A number of farmers' attitudes towards farming, the future of the farm, the role of agricultural policies and family views of farming were surveyed. Succession is embedded in these attitudes, which influence farm family strategies and decisions. The farmers were asked – on a 5 point Likert scale - to agree or not to agree to 12 attitude statements (More statements were surveyed in Schleswig-Holstein, Tietje, 2004). A factor analysis of the answers to these statements identifies four groups of value types: (i) confidence with farming and belief in future of family farming; (ii) extent of financial problems and farm workload; (iii) few problems with public regulations; (iv) traditional family farm values. Table 6 reports which attitude statements are combined within the four value types.

Factor values are calculated for each farmer, which allows a ranking of all the observations from Austria and Schleswig-Holstein in groups of value types. For each value type the whole sample was grouped into halves with 50 % of the whole farmers holding the values to a higher extent than the other 50 %. Table 6 shows the distribution of the three samples within the top 50 %. Farmers in Schleswig-Holstein identify more with value type *confidence with farming and belief in future of family farming*. The Austrian farmers and especially part time farmers in Austria are highly represented in the value type *few problems with public regulations*. Austrian farmers, especially full time, tend to hold stronger *traditional family farm values* than Schleswig-Holstein farmers. Using similar results Tietje (2004) shows that these attitudes have an impact on the decision to transfer the farm within the family. Confident farmers and farmers that agree to traditional values are more likely to transfer their farm to a successor.

Table 6: Attitude statements and value type as a result of factor analysis

attitude statement	factor / value type	share of sample farmers within the half with higher agreement to the factor^a
My farm can survive in a long term view I am satisfied with having chosen being a farmer None of my children is interested in agriculture It will be difficult for my successor to find a partner There are conflicts about farm succession in my family	confidence with farming and belief in future of family farming	60 % S-H: full-time 47 % A: full-time 30 % A: part-time
Higher investment necessary for successful future farming My farm is in a difficult financial situation The work load is too high on my farm	extent of financial problems and farm workload	no significant differences between samples ^b
Agricultural policy facilitates my planning for the future Farming is hindered by regulations (construction, environmental protection, etc.)	few problems with public regulations	31 % S-H full-time 66 % A: full-time 82 % A: part-time
The farm shall stay in the family I am farmer because of family traditions	traditional family farm values	44 % S-H: full-time 67 % A: full-time 48 % A: part-time

Notes: ^a rounded to full percentages, ^b p-value < 0.05, n = 618; SH: n = 341; A (full time): n = 140; A (part time): n = 137.

Finally, in an open ended question farmers were asked what they would miss most and what they would most willingly give up when they retire. The answers to this question also give insight into farmer value systems. Full time farmers in Schleswig-Holstein and Austria will both miss the decision making aspects of farming. This aspect is noticeably less important to part time Austrian farmers. Yet, in Schleswig-Holstein the farmers are more willing to give up the stress of decision making responsibilities. Farmers in Schleswig-Holstein perceive bureaucracy to be a greater burden than Austrian farmers.

Table 7: What farmers will miss most and will be glad to give up when retiring

miss or glad to give up	S-H: full-time	A: full-time	A: part-time
miss entrepreneurial decisions and activities	68 % ^a		36 %
miss working with nature and animals	32 % ^a		64 %
give up hard physical work and certain specific works in agriculture	37 %	63 %	81 %
give up dealing with bureaucracy	28 %	19 %	0 %
give up stress and other psychological pressure	35 %		18 % ^a

Notes: ^a no statistically significant difference between the samples ($p < 0.05$),
 100 % = all statements the categories “miss” or “give up” accordingly: SH: miss: n = 112, give up: n = 136; A (full time): miss: n = 32, give up: n = 57; A (part time): miss: n = 25, give up: n = 31.

Interesting, Austrian part time farmers distinguish themselves from the full time farmers in that they would miss work with nature and animals to a higher extent. Clearly part time farmers place a high value on working with animals and nature. In considering all answers to the open ended questions, the values attached to either miss or give up when retiring stem from the business side of agriculture at Schleswig-Holstein and are connected to hard work in nature in Austria.

5. CONCLUSIONS

The patterns of farm family strategies range from intensification of production, diversification and pluriactivity as well as planning withdrawal from agriculture. The family strategy chosen largely depends on the economic situation, family life cycle and preferences and attitudes of family members. A key factor of the development of the family farm business is planning farm succession. If a successor can not be identified the family farm business will be closed down. According to Tweeten (1984) the loss of a family farm leads to an additional loss of a family from the rural community.

This article compares farm succession characteristics in two very different European regions. In 2003 farmers aged 45 years and older were surveyed. Three samples were obtained: full time farmers in Schleswig-Holstein, full time farmers in Austria and part time farmers in Austria. These three samples enable us to compare not only regional differences, but also differences between part time and full time farming.

Farms are much larger in Schleswig-Holstein and were highly specialised in production. In Austria, farmers are less specialised, more than half of them can be characterised as mixed businesses and half of the farms are located in mountainous areas. 57 % of full time farmers in both regions have identified a definite successor relative to only 39 % in part time farming. Higher levels of agricultural education of both the parent and successor generation in Schleswig-Holstein support the specialisation pattern observed in that region. In Austria higher levels of non-agricultural education in both generations are consistent with more part time farming, less specialisation and more organic farming. 21 % of the successors in Schleswig-Holstein work full time on their parents' farms as compared to only 14 % of Austrian full time farmers and 1.5 % of Austrian part time farmers. This may suggest that a major part of the young full time farmers in Austria will not quit their off-farm work when they take over the farm.

Farmers in Schleswig-Holstein integrate their successors more in management decisions than do Austrian farmers. Thus, successors in Schleswig-Holstein gain more managerial and entrepreneurial experience. This is paralleled by the fact that almost all farmers in Schleswig-Holstein have discussed their succession plans with their successors. However, only two third of Austrian full time farmers and only half of the part-time farmers have discussed their plans with successors. In addition, only a tenth of the Austrian farmers discussed succession plans with a financial or management adviser, as compared to around 50 % of farmers in Schleswig-Holstein.

We find farming patterns in Schleswig-Holstein to be more market and business oriented, while a more traditional pattern can be observed in Austria. The difference between a market oriented versus a traditional pattern can be observed in the farmers' retirement plans as well: Farmers in Schleswig-Holstein tend to depend less on pensions and more on private investments as income sources after retirement than Austrian farmers. They also more move out from their residence than Austrian farmers when retiring.

The distinction between a business like and a traditional oriented behavioural pattern can be extended to the farmer value systems. In Bourdieu's (1977) terminology we can identify two different habitus. In fact the farmers in the three samples notably distinguish themselves in behavioural patterns but they do in their value systems as well. Farmers in Schleswig-Holstein show more confidence with farming and belief in future of their farm business. They regard public regulation of agriculture as a greater problem than Austrian farmers, especially part time farmers. The traditional farming habitus in Austria is characterised by strong attitudes about the farm staying in the family and farming because of family tradition. Austrian farmers seem to take intergenerational transfer of the farm as belonging to the nature of farming. Therefore they often do not even think of succession as a process to be discussed with family or external professional advice.

LITERATURE

- Bourdieu, P. (1977). *Outline of a Theory of Practice*. Trans. R. Nice, Cambridge, Cambridge University Press.
- Brun, A. and Fuller, A. (1992). *Farm Family Pluriactivity in Western Europe / Pluriactivité des ménages d'agriculteurs en Europe de L'Ouest*. Arkleton Trust, Enstone, Oxford.
- Dax, T., Loibl, E. and Oedl-Wieser, T. (1995). Erwerbsskombination und Agrarstruktur. Entwicklung landwirtschaftlicher Haushalte im internationalen Vergleich. Forschungsbericht 33, Bundesanstalt für Bergbauernfragen, Wien.
- Errington, A. and Lobley M. (2003). Handing Over the Reins: A Comparative Study of Intergenerational Farm Transfers in England, France, Canada and the USA. Paper presented at the 10th EAAE Congress, August 2002, Zaragoza.
- Errington, A. and Tranter, R. (1992), Getting Out of Farming? Part Two: The Farmers. Study 27, Reading University Farm Management Unit, reading.
- Gasson, R. and Errington, A. (1993), *The Farm Family Business*. Wallingford, CAB-International.
- Keyzer, M. and Phimister E. (2003), Cooperative Gains in agricultural succession. Paper presented at the 77th AES Conference, April 2004, University of Plymouth, Seale-Hayne Campus, Newton-Abbot.
- Kimhi, A. (2000), Is part-time farming really a step in the way out of agriculture? *American Journal of Agricultural Economics* 82: 38-48.
- Miller, D. Steier, L. and Le Breton-Miller, L. (2003), Lost in time: intergenerational succession, change and failure in family business. *Journal of Business Venturing*, 18: 513-531.
- Morris, M. H., Williams, R. O., Allen, J. A. and Avila, R. A. (1997). Correlates of success in family business transitions. *Journal of Business Venturing* 12: 385-401.
- 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: 172-190.
- Tietje, H. (2004) *Hofnachfolge in Schleswig-Holstein*, phd-thesis, University of Kiel.
- Tweeten, L. (1984) Causes and Consequences of Structural Change in the Farming Industry, Planning Report #207, Washington, D.C.
- Vogel S., Hofreither, M. F., Schneeberger, W. and Weiß, F. (2003) Bestimmungsgründe von Flächenausweitungsplänen in der Berglandwirtschaft Österreichs – eine statistische Analyse von Befragungsdaten. Diskussionspapier Nr. 100-W-03, Wien: Institut für Wirtschaft, Politik und Recht der Universität für Bodenkultur Wien.