

Structural Bias in Rural Childhood Homes

Petra Huck¹

Abstract - Rural areas perpetuate many old traditions. One widespread tradition in agriculture is to transfer to a male principal heir. The habit presumes, self-evident, the existence of a son. Yet, an old proverb says, "the desire for a son is the father of many daughters".

The paper at hand discovers, corresponding reproduction behaviour has an effect on the structure of rural population. On average, the structure of childhood homes differs by gender. Even though the gender relationship is numerically balanced in the population, on average females own more siblings. The paper explains the mechanism at work. Further it demonstrates, given the difference in the average number of siblings, even a handover to all children in equal shares would not suffice to implement true equality of treatment. Further, the paper argues how this might have reinforced the habit to transfer to a male principal heir. It generalizes the model presented by Huck (2009).

INTRODUCTION

Rural areas perpetuate many old traditions. One widespread tradition in agriculture is to transfer to a male principal heir. The habit presumes, self-evident, the existence of a son. Literature confirms the relevance of the existence of a potential male principal heir to farm handover (For example, concerning Northern Germany, see Glauben, Tietje and Weiss (2004b)). For the German-speaking area, Mann and Rossier (2006) state " ... in allen drei Regionen ist es von eminenter Bedeutung für die Zukunft des Betriebes, ob männlicher Nachwuchs vorhanden ist." (Mann and Rossier, 2006, 10).²

So, what is the effect of farmer's strong desire for a son on the structure of the rural population? Further, connecting the induced structure of the rural population with the inheritance law, what are the results for the allocation of bequests? Concerning inheritance-in-equal-shares, intuition tells us, the allocation will be fair in terms of equal. But intuition fools us in this case. The paper at hand discovers that the desire for a son, widespread among farmers, influences population structure and results in uneven bequests under an inheritance-in-equal-shares law. The unattainability of fairness in bequests might have strengthened the habit to transfer to a principal heir and therefore reinforce the desire

for a son. To the best of our knowledge, the existing literature does not deal with this issue.

LITERATURE

Some literature on farm handover-probability and -patterns exists. It shows patterns differ by country and region, respectively tradition, and legal frame (Hutson, 1987; Hennessy, 2002; Mann and Rossier, 2006). The transfer to a male principal heir is a widespread tradition within agriculture (Bernheim, Shleifer and Summers, 1985; Hutson, 1987; Mann and Rossier, 2006).³ The link between the existence of a son and the probability of handover is strong. Mann and Rossier (2006) cite: "Das Fehlen eines Sohnes senkt die Übergabewahrscheinlichkeit enorm, da es in den meisten Fällen immer noch die Söhne sind, die als Betriebsnachfolger favorisiert werden .." (Mann and Rossier, 2006, 9).

Other family specific factors influencing the probability of handover are the age of the farmer (Glauben, Tietje and Weiss (2004a)), the age of the potential heir(s), and the education level. Farm features impact the probability of handover as well. The larger the farm, especially the larger the fraction of farm land in ownership, and the larger the income, the higher the probability of handover (Glauben, Tietje and Weiss, 2004a, 2004b). In total, the better the economic situation of the farm and its prospect, the higher the probability of handover.

In summary, many empirical studies deal with factors influencing handover; yet, rarely theoretical analysis is presented.⁴ Further, there is no answer to the question about the implications of the preference for male heirs. The following chapter provides a theoretical model analysing the effect on population structure and bequest allocation. The model is an extension of the micro-economic analysis presented in Huck (2009). It generalizes the reproduction scheme in two ways and it extends the research question presented in Huck (2009).

REPRODUCTION, BALANCEFOR AND INEQUALITY OF TREATMENT

The model presumes a certain reproduction scheme with special emphasis on male: The general advice is to have *min* children.⁵ Yet, in case none of the *min* children is male, the additional advice is to continue. If the next child is a son, stop. Otherwise, continue

¹ Petra Huck former worked at the Technical University of Munich, Environmental Economics and Agricultural Policy Group, Munich, Germany (petrahuck@gmx.net).

² But in contrast to Glauben, Tietje and Weiss (2004b), who state the probability of a handover decreases with the number of daughters, Mann and Rossier (2006) do not find much influence of daughters on the probability of farm handover.

³ It may be linked to the importance of tradition and genealogical tree in agriculture in Germany.

⁴ An exception is Kimhi (1994). The model explains how to calculate the optimal time for hand over.

⁵ Huck (2009) concentrates on *min* = 2.

once more. In dependence on the strength of the desire for a son, this additional advice is repeated many a time.⁶ The basic reproduction scheme looks like fig. 1:

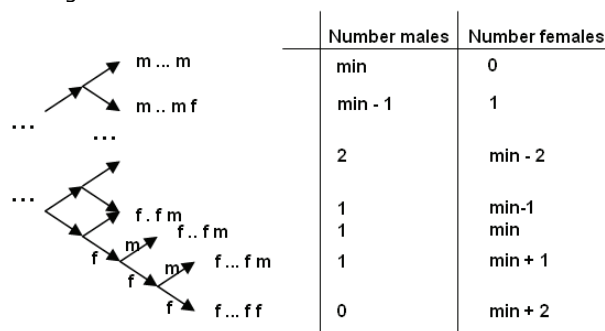


Figure 1. Number males and females for $\min > 2$ and basic reproduction scheme; f = female, m = male

Source: own demonstration

Given a general 50:50 chance for a male and a female child, the branches in fig. 1 feature the probabilities presented in fig. 2:

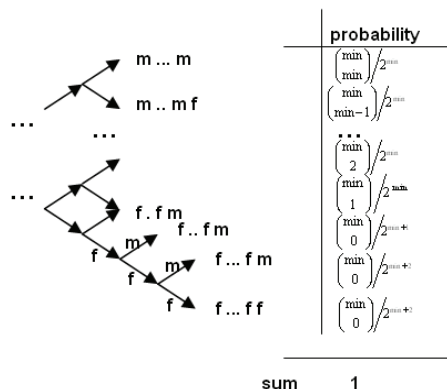


Figure 2. Probabilities for $\min > 2$ and basic reproduction scheme; f = female, m = male

Source: own demonstration

On average, there is a balanced gender relationship even though the tree structure is highly asymmetric. This balance looks like a paradoxon, but the explanation is simple: the reproduction scheme influences the expected number of children per farm, but it does not change the 50:50 chances for a male, respectively female child. Therefore, on average the number of female children matches the number of male children.

The critical issue consists in the average number of siblings. For a female child the average number of siblings is higher than for a male child. To see the point, concentrate to the lower branches of the tree. Given the lower branches happen to be relevant, there are more female children affected from having a lot of siblings, than male children are.

In summary, under an inheritance-to-equal-shares law, the number of females inheriting a small bequest is larger than the number of males inheriting a small bequest. In other words, on average female children inherit smaller bequest even if the law is suggestive of equality of treatment. This might explain why females did not organize themselves political in order to fight for a change in law.

EXTENSION AND DISCUSSION

The findings presented above for the basic reproduction scheme which represents the proverb "the desire for a son is the father of many daughters" in the most simple way extent to arbitrarily repetitions of conditional continuance. The gender relationship keeps balanced, but the share of females coming from a childhood home with many children exceeds the number of males coming from such a family.

The habit to transfer to a male principal heir forces to have at least one son. The resulting population structure is biased; on average females have more siblings. A farm transfer in equal shares becomes even more unlikely, or actually impractical.

OUTLOOK

The widespread habit to transfer to a principal heir has a strong influence on the distribution of wealth in agriculture. Political economy tells us, the probability of success and the surplus in case of success determine whether people organize themselves and lobby for a change in law. The model presented allows calculating the number of winners and losers in case of inheritance-in-equal-shares instead of inheritance-to-a-principal-heir as well as the surpluses and losses. Therefore, an extension of the model might offer a further explanation of the persistency of the transfer to a principal heir.

REFERENCES

- Bernheim, B.D., Shleifer, A., Summers, L. (1985). The Strategic bequest motive, *Journal of Political Economy* 93 (6): 1 45-1076.
- Glauben, T., Tietje, H., Weiss, Ch. (2004a). Inter-generational Succession in Farm Households: Evidence from Upper Austria, *Review of Economics of the Household* 2: 443-461.
- Glauben, T., Tietje, H., Weiss, Ch. (2004b). Succession in Agriculture: A Probit and a Competing Risk Analysis, *Paper at the Annual Meeting of the American Agricultural Economist Association (AAEA)* 2004, Denver.
- Hennessy, T. (2002). Modelling Succession on Irish Dairy Farms, *Paper at the 10th EAAE Congress* 2002, Zaragoza, Spain.
- Huck, P. (2009). Structural change and farm hand over; *Jahrbuch zur ÖGA-Tagung* 2009 in Innsbruck.
- Hutson, J. (1987). Fathers and Sons: Family Farms, Family Businesses and the Farming Industry, *Sociology* 21 (2): 215-229.
- Kimhi, A. (1994). Optimal Timing of farm Transferral from Parent to Child, *American Journal of Agricultural Economics* 76 (May): 228-236.
- Mann, S. und Rossier, R. (2006). Nationale Unterschiede und Gemeinsamkeiten bei der Hofübergabe im deutschsprachigen Raum, *Beitrag im Band zur 46. Jahrestagung der Gesellschaft für Wirtschafts- und Sozialwissenschaften des Landbaues e. V.*, im Oktober 2006: 193-2003.

⁶ Huck (2009) ignores repetitions.