PENSION WEALTH AND INTERGENERATIONAL SUCCESSION IN FAMILY BUSINESSES

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Abstract

Intergenerational transfers are extremely important in family businesses, because of the economic advantages of passing the business to the next generation as a 'going concern'. In order to pass the business as a 'going concern' it is necessary for the operators and the successors to work together for a specified period. This intergenerational cooperation allows the entrepreneurial family to utilize the benefits of within-family implicit old-age security arrangements. We suggest a method to calculate the present value of these benefits, denoted as 'pension wealth'. Intra-family old-age security arrangements also pose financial risks on successors that may offset the benefit the household attains from the implicit annuity arrangement. We illustrate the usefulness of this framework with data from Israeli family farms.

Keywords: Family Businesses, Intergenerational Succession, Pension Wealth.

1. INTRODUCTION

The importance of intergenerational transfers to growth through their effect on savings is well established in the economic literature (*e.g.*, Bernheim, 1991; Kotlikoff, 1988 and Modigliani, 1988). These transfers also have implications for the distribution of wealth and earnings (Laitner, 1979 and Loury, 1981) and for old-age security (Cigno, 1992; Lillard and Willis, 1997; and Zhang and Nishimura, 1992). Intergenerational transfers can be classified by their timing into the forms of inter-vivos transfers and bequests (Altig and Davis, 1992). They can also be classified by type into the forms of physical capital and human capital

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(Nerlove et al., 1984). Physical capital can be further classified into liquid and illiquid assets. This last classification is particularly interesting when the relatively illiquid assets are indivisible and when they constitute a large fraction of family wealth. A good example of this type of assets is a productive asset owned by self-employed entrepreneurs or family businesses. In family businesses, the business itself constitutes a physical asset that is relatively illiquid and indivisible to a large extent, and in most cases it constitutes a large fraction if not all of family wealth. A good example is the case of family farms, in which within-family succession is predominant in many countries (Bryden et al., 1992). Rosenzweig and Wolpin (1985) attribute the fact that farm sales are scarce to "farm-specific experientially obtained knowledge" that leads to an economic advantage for intergenerational succession in the farm sector. The agricultural economics literature provides evidence on the importance of intergenerational succession to farm growth and survival. Gasson and Errington (1993: 266) looked at the development cycle of the farm family and the growth and decay cycle of the farm business, and concluded that "synchronizing these two cycles may itself be crucial for the continuance of the farm family business". Clearly, intergenerational succession is one of the important links between those two cycles. Weiss (1999) has found a strongly significant positive effect of succession on farm survival in Austria. Perrier-Cornet et al. (1991) report that farm modernization is led by generation renewal (intergenerational succession) in France, the Netherlands and Belgium, but not in the United Kingdom, Greece and Italy. Potter and Lobley (1992) show that the investment behavior of farmers without successors is radically different from those with a successor already identified. Kimhi et al. (1995) found, using panel data on family farms in Israel, that during the 1970s, succession contributed tremendously to farm expansion, both in terms of size and in terms of intensity of production. However, this was not repeated during the 1980s, perhaps due to the widespread financial crisis in the farm sector that forced successors to seek off-farm employment. On the other hand, Errington and Gasson (1994) claimed that the conflict between succession (transfer of managerial control) considerations and inheritance (transfer of farm assets) considerations might result in the loss of economic viability of the farm. Phimister (1994) showed that the financial pressures arising from intergenerational farm asset transfers might have a negative impact on subsequent farm investments. The institutional regulation of most family farms in Israel is quite unique; in particular, it does not allow for splitting the farm among two or more heirs. While this outcome exists in practice in many other countries, especially in Europe, being subject to this regulation makes farmers treat the decision of farm splitting as exogenous. This does not make their decision-making easier in any sense, since they still face the tough decision of which one of their potential successors (assuming there is more than one) will in fact inherit the farm (Kimhi, 1995). Note that we do not distinguish between inheritance

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and succession (Errington and Gasson, 1994), because in most cases ownership and management go hand in hand in the Israeli context. Another related decision is the timing of succession (Kimhi, 1994). We abstract from these decisions in our empirical example. In particular, we assume that the successor is already known and that timing is not an issue. What is left to be decided, therefore, is the terms of the transfer, which we denote as the intergenerational contract. We proceed by examining a case study of a single *Moshav* (cooperative village). Up to the 1980s the situation was quite similar in all *Moshavim* (plural for Moshav) in Israel, but for most of the 1990s this Moshav was one of the exceptions that did not go through major institutional changes. In this Moshav, it was customary that at a certain point in time parents make an implicit contract (backed by the governing body of the Moshav) with the succeeding child. The child obtains the farm (including the residential plot) from the parents and the parents are entitled to a consumption allowance. The parents are also guaranteed the use their home as long as they live, and in some cases also work on the farm as long as they wish. Any non-farm assets are either kept by the parents for old age or used to compensate non-succeeding children. However, in this Moshav these amounts are small relative to the value of the farm. The intergenerational contract has emerged as a social norm in the Moshav. It creates an environment in which parents and children live and work together on the farm over a significant portion of their lifetime in order to reap the economic benefits of this intergenerational cooperation. As in any partnership, there is a pie to be divided between the partners. We denote this as the "cooperation surplus". A major part of the surplus is the increased farm profits resulting from the intergenerational cooperation. Another part, which has received little attention so far in the literature, is the pension wealth. The pension wealth is the increase in expected lifetime consumption resulting from implicit within-family annuity arrangements. Kotlikoff and Spivak (1981) described such arrangements for the case of husband and wife. We extend them to the case of successive generations. One of the major differences is that a husband and wife can expect to have more or less the same life expectancy, while the life expectancy of the parents is considerably smaller than that of their children (at a given point in time). As a result, the income sharing rule is more complicated in our case than in the simpler case of a husband and wife only. The nature of the intergenerational contract, as mentioned before, is that parents get a monthly allowance from the time they transfer the farm to the succeeding child for as long as they live. This leaves the parents free of consumption risk (unless the child defaults), and leaves the risk on the child alone. Potential successors should take this risk into account when they negotiate the intergenerational contract with the parents. Hence, we distinguish between gross pension wealth, which was described above, and the net pension wealth, which is the certainty equivalent of the gross pension wealth. The rest of the paper is organized in the following manner. First we outline the

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theoretical apparatus that leads to the calculation of pension wealth. Then we describe the institutional structure of the Moshav in general, and after that discuss the situation in our particular Moshav. Finally, we illustrate the issue by numerical calculations of the farm cooperation surplus, gross pension wealth, the annuity risk premium and the total cooperation surplus.

2. THEORY

In this section we discuss several theoretical aspects of intra-family old-age security arrangements in family businesses, relying mostly on the literature on farm succession. The functioning of a family business is closely linked to the life-cycle of its owner-operator. The residual income of the owner includes returns to firm-specific human and organizational capital. Investment in such capital decreases with the operator's age because of a shorter planning horizon. To the extent that this capital is only transferrable within the family through long-term training of children, the market value of a family business is well below its value as a "going concern" (Kimhi, 1997). If the owner cares about the future welfare of his/her children and views the family business as part of the assets he/she wishes to bequeath, succession by a child is strongly preferred from the points of view of both the owner-operator and the succeeding child. Even if people seek to equalize the amounts they bequeath to each of their children, owners of family businesses will prefer to choose only one child as a successor, provided that enough non-business resources are available to compensate other children. This is because joint ownership of a family business often leads to conflicts and power struggles that eventually cause the collapse of the business and loss to all parties (Barach, 1984). However, non-business resources might be insufficient at the point in time at which succession decisions are made, and hence other heirs claim a share in the family business. This can be solved by breaking the linkage between ownership and operation of the business, so that each child gets a share of ownership but one child gets sole responsibility for the operation of the family business. This is not an ideal solution since it may still cause conflicts and incentive problems, but it is used frequently in practice. The following analysis will therefore focus on the case of one successor. The first problem faced by the operator is which child to choose as a successor. This decision has to be made as early as possible in order to maximize the benefits of specific training. Several sources of uncertainty affect this decision and its timing, the major one being the future business income under the operation of each possible successor. Uncertainty about the future alternative income of each child also has an effect. Suppose the operator has two children. If their age differential is relatively small and both are willing to take over the operation of the business, the owner will decide according to expectations conditioned on the

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current information set. The one who seems more appropriate to run the business will be chosen in this case, unless the other has a sufficiently lower alternative income (Kimhi, 1995). Things are more complicated if the age differential of the two potential successors is large. Expectations regarding the elder are more accurate, especially as far as future business income is concerned, and this increases the likelihood that he/she will be chosen as a successor, other things equal. Another factor is the length of the apprenticeship period. It may be shorter than optimal if the younger child is chosen, in the sense that the parent becomes too old to run the business before the successor is prepared for the task. It may be too long if the older child is chosen, in the sense that the child becomes ready and eager to succeed when the operator is still not willing to yield power (Guinnane, 1992). In this case conflicts could arise within the family which may result in the loss of all potential successors and the eventual collapse of the business. This last point draws attention to the importance of the quality of the match between the owner-operator and his/her designated successor. In an uncertain environment, information about the quality of the match is gathered over time and gradually reduces uncertainty. Before designating a successor, the owner accumulates information about his children. At a certain point in time, the marginal value of information becomes smaller than the cost of delaying the decision, and then one child is announced as a successor. This is similar to courting in the marriage market except that searching on the *"extensive margin"* of additional potential successors is ruled out (Becker, 1991: 325), and to searching for a job while unemployed when information about compensation is acquired sequentially (Mortensen, 1986: 850). During the apprenticeship period, information about the quality of the match continues to accumulate. If a poor match is revealed, the owner could change his/her mind about transferring the family business to the designated successor. This can be compared to worker-firm matching models (Devine and Kiefer, 1991: 229) and the theory of divorce (Becker *et al.*, 1977). The main difference between those models and the current application is again that search is limited to family members. In the context of this example, if the match with the older child looks hopeless, the owner can try again with the younger, but if that one also turns out to be a failure, no other alternatives remain. This is one of the reasons why older successors are often preferred. Up to now the focus has been on the owner-operator's point of view, but the children have motives of their own. They too are involved in a continuous search process during which they compare their prospects in and out of the family business. The implications of this for the owner are that he has to condition his choice of succeeding child on the willingness of that child to succeed, and he has to consider the possibility that the succeeding child will quit at some point in time during the apprenticeship period. Both the owner and the designated successor seem to have an interest in starting the apprenticeship period as early as possible. If pure two-sided altruism were present, the timing

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of ownership transfer would not matter to the profitability of the family business (Kimhi, 1994). In reality, parents care about their own welfare more than about their children's and, perhaps to a greater extent, children care less about their parents'. This leads to a conflict in which each side has an incentive to control the business. In terms of the discussion above, the child faces the risk of being replaced and hence may demand earlier transfer of ownership of the business, while the owner wishes to delay the ownership transfer in order to better assess the quality of the match. This may lead to strategic behavior on both sides. If one chooses to ignore conflicts and strategic behavior, the emphasis is put on the interaction of human and financial capital of the business-operating family as the major determinant of the timing of intergenerational succession. In particular, the family has an incentive to bring in the successor as soon as possible in order to use his business-specific human capital and to enhance his future managerial ability. On the other hand, there is an incentive to allow the designated successor to work off the business for a while and accumulate financial wealth, which can be later used in the business, especially in the presence of borrowing constraints.

Kimhi (1994) has shown that the succession timing decision is made on the basis of age profiles of business-specific human capital of the operator and the designated successor. Specifically, the transfer of managerial responsibility will be made in the declining portion of the operator's human capital profile and in the rising portion of the successor's human capital profile. Kimhi (1997) has shown that in the presence of credit constraints, the timing of succession is likely to occur earlier. He further developed a model in which there is disagreement between the operator and successor about the post-transfer business strategy. Both sides can negotiate a compromise, but such a compromise is not guaranteed to be feasible. It depends, to a large extent, on the alternatives of the operator and the successor. Pesquin *et al.* (1999) further developed the bargaining approach to include implicit intra-family annuity arrangements, extending the framework offered by Kotlikoff and Spivak (1981) for the case of married couples. This is relevant for business owners who need to rely on business income for old-age consumption. Without these arrangements and in the absence of appropriate pension schemes, the operator will hold the business and delay the ownership transfer beyond the optimal time. The proposed arrangement involves a transfer of the business to the successor and the commitment of the successor to pay a fixed annuity to the owner. Because longevity is unknown, the risk of longevity can be split between the owner and the successor. In practice, however, the successor bears most of the risk because his life expectancy is higher than the owners'. To illustrate this conceptual framework, think of the owner and operator each having a known stock of wealth that has to be allocated for consumption over their life cycle. Assume for simplicity that the life expectancy of the successor is longer than that of the owner with certainty. If the owner allocates his own wealth for consumption, he has to keep sufficient

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amounts for the later periods of his potential longevity. If he survives beyond his life expectancy, he must gradually reduce his projected consumption stream so that his remaining wealth can suffice. If, however, the owner "buys" an annuity stream from the successor, he can be assured of his annual consumption regardless of longevity. If he dies relatively early, the successor keeps the remaining value of the annuity. If he happens to live longer than expected, the successor will have to cut his own consumption in order to continue the provision of annuity payments. Persquin *et al.* (1999) show how to compute the consumption streams in each of these scenarios, estimate the present value of this annuity arrangement, which is denoted as pension wealth, and estimate the certainty equivalent in terms of wealth of the risk associated with the arrangement. It should be noted that the successor, being risk averse, would be willing to sacrifice part of the household wealth in return for the possibility to engage the owner in an actuarially fair pension plan. The size of this sacrifice could be measured after calculating the certainty-equivalent wealth. We denote this as the risk premium. If the risk premium is higher than the pension wealth, the successor may not choose to engage in the annuity arrangement. However, if the annuity arrangement is only one part of the succession contract, he may have to do so in order to obtain the business. In the case study illustrated below, we compute pension wealth as well as the risk premium for two typical Israeli farm households and show how these values depend on business characteristics.

3. INSTITUTIONAL STRUCTURE OF THE MOSHAV

A Moshav (Moshavim in plural) is an agricultural cooperative that consists of all the residents of a single village. In each Moshav, production is individual as well as consumption, and only matters of mutual concern are handled collectively. These include purchasing inputs, marketing, financial transactions and other activities in which economies of scale exist. However, members are constrained by an external set of regulations imposed by the settlement institutions, by the internal village constitution and by decisions of the elected governing bodies. Members are also subject to externalities that prevail within the small, partly closed society of the village (Zusman, 1988). This institutional structure is now different in many Moshavim (Schwartz, 1999), but still prevailed in our sample Moshav at the time the data were obtained. Moshav members do not own their land, but rent it from the National Land Authority on a long-term basis. Thus, land is not tradable, but practically, members can sell the right to use the land. The important aspect of this land ownership regime is that a member is only allowed to sell the right to the whole farm, including farm buildings and family residence, and move out of the village; trading portions of land is not possible (Berck and Levy,

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1986). Credit pooling is done for reasons of risk sharing, and collective marketing is used to control income flows and impose loan repayment. Other than these and other common regulations, cooperatives differ widely in degree and nature of cooperation (Haruvi and Kislev, 1984). Some have strong central planning, direction and services; others are only loosely organized communities. Because of the strict land regulations in Moshavim, mobility in and out of a Moshav is fairly limited. Even when there is an economic incentive to quit farming because of failure or old age, the cost of a quit is dramatically increased by the necessity to leave the family residence as well, and the inability of farmers who leave to afford a comparable standard of living elsewhere with the amounts they can obtain for their farms. As a result, even inactive farmers remain in the Moshav, and most farm transfers are from parents to children, as a farm transfer to a child allows the succeeding child to build another house on the parents' plot and hence allows the parents to remain in their residence as long as they live. While the process of farm succession is complicated in any setting, in the case of the Moshav the legal framework, which is neither simple nor clear, makes it even more problematic (Regev, 1995). At the root of the problem is a conflict between the dual role of the farmer as the holder of the property rights to the farm on one hand, and as a member in the cooperative on the other hand. Each of these roles is governed by a different set of rules and these rules have built-in conflicts that may interfere with the farm succession process. The confusion with respect to the legal issue may explain the fact that some elderly farmers indefinitely postpone the declaration of the succeeding child and are left to grow old on their own as the farm business deteriorates. Of course, there are other reasons for this phenomenon, both social (Nevo, 1995) and economic (Kimhi and Nachlieli, 2001).

4. THE SAMPLE MOSHAV

As in most Moshavim, land in the sample Moshav is equally distributed; every family has an area of 5.5 hectares of land, used for farm, fields and dwellings. Farms are, however, not identical; due to ability, choice and luck, they vary in structure and income. In comparison with many other Moshavim, the economic situation in the sample Moshav is good. Average annual sales were approximately $220,000 per farm in 1992 values. The main source of income is the dairy enterprise, which together with cattle (mostly male dairy calves) comprises 75 per cent of farm income in the sample Moshav. Sixty per cent of the farms in the sample Moshav produce milk, beef or both. Dairy is the only line of agricultural production in Israel that has remained subject to effective planning and regulation. Milk is produced under a quota system, and local beef competes with imports which are controlled by the government. Consequently, the dairy enterprise is comparatively profitable

and stable. Poultry enterprises are second in importance in the sample Moshav (9.2% of farm income), and many of the growers produce breeding material. Other sources of farm income are fruits (8.2%), vegetables (3.9%), field crops (2.2%), sheep (1.2%), and flowers (0.8%). Farmers that do not operate a dairy enterprise experienced relatively low and unstable income in the last decade, due to market conditions. This Moshav is not representative for Moshavim in Israel. It is at the top end of the distribution with regard to economic success, stability and organization. However, we chose it because it is perhaps the only Moshav that keeps records that have enough details to study the issue of interest.

5. ILLUSTRATION OF SUCCESSION ARRANGEMENTS

Both actual and simulated variables are used to illustrate the calculation of pension wealth and discuss the possible intergenerational contracts. The calculations are presented in a brief manner only. More details are in Pesquin et al. (1999). The actual data include annual farm income statistics, detailed by type of production, for 30 farms for six years (1987-1992). Using these data, farm income and its variance were estimated as functions of the levels of land per crop and number of livestock. Two typical types of farms that roughly represent the sample Moshav's population are considered. Type A is mainly a dairy enterprise, while Type B has both dairy and poultry enterprises. Other crops were added to the two types of farms so as to make them similar to the patterns found in the sample Moshav. For each type of farm, farm income and its standard deviation were simulated using the estimated coefficients. Net farm income was computed by deducting labor costs, depreciation, interest and taxes. Type A farms are usually operated by a single elderly farmer, often with some help from the spouse. A succeeding child, if such was designated, is in most cases working off the farm, expecting to join it when the parents retire. For the elders this is a risky situation – the child may develop a career elsewhere and not be available when the need arises. This risk is not considered explicitly here. Farm B provides employment and earning opportunities for one and a half family workers. Its annual income is 42% higher than that of Type A and, since its larger size is due to non-dairy enterprises, the variability of its income is also higher (the coefficient of variation is 19% and 23% for types A and B, respectively). It is assumed that the planning horizon is 30 years from the time of succession. In Type B farm, the retiring owner continues to work on the farm for ten years after succession, and the children of the successor join the farm work force subsequently. Net farm income is gross income less depreciation and tax, which amounts to NIS 33,203 in Type A farm and NIS 35,423 in Type B farm. Initial household wealth includes the present value of net farm income (discounted by the cost of equity for 30 years – see Pesquin et al. (1999) for details), the imputed value of family labor and the value of

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the residence. The owners are assumed to be 65 years of age at the time of transfer and the successor is assumed to be 30 years of age. The reservation wealth of the owner is the assessed market value of the farm, while the reservation wealth of the successor is the value of his labor off the farm. The higher capital value of Type B farm makes the owner's reservation wealth larger, thereby increasing the bargaining power of the owner versus the successor. The difference between the initial wealth and the total reservation wealth is denoted the farm cooperation surplus. This is the value of intergenerational succession in these farms. This surplus is not negligible, in the calculations presented in *Table 1*, it reaches close to 40% of total household wealth. Consumption plans are calculated using the framework described by Pesquin *et al.* (1999). A utility function of the form $U(C)=C^{1-\gamma}/(1-\gamma)$ is assumed for both the owner and successor. The interest rate is 3.5% and the subjective discount value is 0.99. Survival probabilities are based on demographic tables in the 1993 Statistical Abstract of Israel. These were adjusted to the maximum age of 95 in our model, and were taken to be identical for males and females. Two alternative values for the coefficient γ, 0.75 and 1.25, are used. The consumption plans of the owner and the successor are computed separately, subject to their reservation wealth. These are used to calculate the reservation utilities. The fixed annual consumption that has to be given to the parents throughout their life in order to keep them on their reservation utility is then found. The difference between the reservation wealth of the parents and the probabilistically discounted present value of the fixed annual consumption plan is the gross pension wealth. We can see in *Table 1* that the gross pension wealth could be between 25% and 40% of the farm cooperation surplus. Finally, the risk associated with the owner's longevity is considered. For this, the amount of household wealth that the successor would be willing to sacrifice in return for the possibility to enroll the owner in an actuarially fair pension fund is computed. This is denoted as the annuity risk premium. Technically, Pesquin *et al.* (1999) use a dynamic programming framework in order to find the consumption plan of the successor subject to the initial household wealth, provided that the owner is entitled to a fixed annual consumption and attain his reservation utility. Then they calculate the wealth required by the successor in order to attain the same utility level without having to provide for the owner's consumption. The difference between this wealth and the initial wealth is the net pension wealth. The annuity risk premium is the difference between the net pension wealth and the gross pension wealth. We can see in *Table 1* that in Type A farms, the risk premium is higher than the gross pension wealth, resulting in a negative net pension wealth. Hence, successors in Type A farms are willing to participate in the intergenerational contract in order to enjoy the farm cooperation surplus, despite the fact that the annuity provided to the owner becomes a burden as a result. In Type B farms, on the other hand, the owners have a higher reservation utility, hence gross pension wealth is higher, and despite a higher risk premium

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as well, the net pension wealth is still positive. In Type B farms, the successors can enjoy the benefit of the pension wealth if they are able to keep the owners on their reservation utility. However, even when the net pension wealth is positive, it is a rather small amount compared to the farm cooperation surplus. Pesquin *et al.* (1999) show that in a Nash bargaining solution, in which the parents get more than their reservation utility, the net pension wealth is negative even for farms of type B. *Table 1* also shows that the total cooperation surplus does not vary much with farm type. It has to be positive, though, to make the intergenerational succession contract attractive to both owners and successors.

TABLE 1

Initial and Reservation Wealth, Pension Wealth and Cooperation Surplus

		Farm Type A		Farm Type B
Cost of Equity		0.0415		0.0473
Net Income[a]		563,834		561,707
Labor[b], successor		679,256		634,285
owner				156,480
Residence[c]		324,679		324,679
Initial Wealth		1,567,771		1,677,151
Reservation Wealth				
owner		350,000		500,000
successor[e]		735,682		735,682
Farm Cooperation Surplus		482,089		441,469

Utility Coefficient	γ=0.75	γ=1.25	γ=0.75	γ=1.25
Farm Cooperation Surplus	482,089	482,089	441,469	441,469
Gross Pension Wealth	120,197	128,114	171,710	183,020
Annuity Risk Premium	163,342	135,256	170,496	147,008
Net Pension Wealth	(43,145)	(7,142)	1,214	36,012
Total Cooperation Surplus	438,944	474,947	442,683	477,481

Notes:
All magnitudes in the table are present values capitalised over 30 years, except owner's labor, which is capitalised over 10 years. Monetary values are in CPI corrected December 1992 NIS (New Israeli Sheqels; US$1.00=NIS2.764).
a. Net annual income discounted at the cost of equity.
b. Returns to family labor discounted at the cost of equity.
c. Value of residential services. Annual flows are 3.5% of value of land and houses, capitalised at 3.5% for 30 years.
d. Sale value of the farm, market assessments.
e. Opportunity cost of off-farm employment capitalized at 3.5%.

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6. SUMMARY AND CONCLUSIONS

In this paper, the contribution of implicit annuity arrangements to intergenerational succession contracts on family businesses is analyzed. Illustrating with a case study from Israel, it was shown that in most cases these arrangements are a burden on the successors, but they are willing to accept this burden in order to enjoy the benefits of succession, comprising the value of the business. The conclusion is that these succession arrangements are mostly beneficial in businesses that are relatively valuable. In less valuable family business, intergenerational succession could be much less attractive to potential successors.

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Resumo

Transferências de direitos entre gerações são extremamente importantes em empresas familiares, por causa das vantagens económicas que decorrem, em termos de "continuidade", da passagem do negócio para a próxima geração. A fim de passar o negócio, como uma "continuidade", é necessário que os agentes e respectivos sucessores trabalhem juntos por um determinado período de tempo. Esta "cooperação entre gerações" permite que a família empreendedora usufrua de benefícios de velhice em matéria de pensões. Neste estudo, sugerimos um método para calcular o valor presente desses benefícios, denominado "pensão riqueza". Estas pensões de velhice podem, também, representam riscos financeiros perante a possibilidade dos sucessores contrabalançarem os benefícios das famílias com acordos implícitos de anuidades. Iremos ilustrar a utilidade desta proposta com dados de explorações agrícolas familiares em Israel.

Palavras-chave: Empresas Familiares, Sucessões entre Gerações, Pensões.

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