The Impact of Change in the Kibbutz on Risk-Taking of Entrepreneurs

Liema Davidovich, Sibylle Heilbrunn and Avraham Polovin*

Abstract

In the last decade the Israeli Kibbutz movement underwent crucial changes as to its level of cooperation. More than half of the Kibbutzim have changed towards a less cooperative system now characterized by increasing individualism. Since the process of organizational change occurred during a defined period of time, Kibbutzim can be considered a laboratory for investigating the changes in risk-taking. Thus, it is the aim of our paper to investigate the relation between the levels of inequality in Kibbutz organizations and its impact on their risk-taking propensity regarding new venture creation. We investigated 58 Kibbutzim; 36 underwent organizational change processes towards increasing individualism between the years 1997 to 2004, whereas the remaining 22 continued the traditional collective-oriented style. The comparison of differential-oriented Kibbutzim and collective-oriented ones in 2004 shows a difference of distribution of operational risk level between the two organizational cultures. We found higher degree of risk-taking in more collective-oriented organizational cultures.

Key words: Kibbutzim; Organizational culture; Risk-aversion; Inequality-aversion

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Introduction

The Israeli Kibbutz constitutes an "extended household" model characterized by "symbiosis of family and firm, or alternatively as a firm-cum-family organization" (Barkai, 1977). Kibbutz is a communal society and a political community. Maintenance of its members, rather than cash surplus, is the primary object: Economic success is not a value in itself but a means to realize social goals and values (Heilbrunn, 2005). Although the traditional Kibbutz was a sort of "Gemeinschaft" described by Toennies (1887) as a cohesive social unit organized on the basis of shared values and a high degree of social solidarity, it also encompassed a ‘regular’ organization dealing with cyclic processes of input – throughput – output – of discernable commodities and services (Samuel, 1996).

Therefore the classic Kibbutz is an entity that owns many economic activities including a variety of entrepreneurial ventures. The total gains of the system are shared equally among its members. The shared ownership is some sort of a portfolio of entrepreneurial ventures. The reduced risk encourages the system to become involved in more entrepreneurial projects.

During the last decade, many Kibbutzim underwent processes of change in the direction of privatization. Collective elements weakened and people received salaries positively related to their individual economic contribution to the system. In the emerging individualistic system, the gains of successful entrepreneurship are allocated directly to the entrepreneur, who is individually taking the risk, which is then no longer part of the reduced non-systematic risk characterizing collective system. Therefore one might suspect the following: the less collective the system becomes, the less entrepreneurial it will be.

Multiple streams of research have explored the risk-taking construct: opportunity recognition (Hills et al., 1997; Rice and Kelley, 1997); decision-making heuristics (Tversky and Kahneman 1978); risk-taking propensity (Brockhaus, 1980; Gomez-Mejia and Balkan, 1989) and cognitive theory (Palich and Bagby, 1995). In this paper, we intend to add a new line of argumentation integrating the subject of inequality risk into the risk-taking context.

Benefits received from privately owned ventures are expected to be allocated to the person who took the risk upon him. Thus, the dispersion of income, as well as inequality, will increase. If we assume inequality aversion, we expect that higher equality motivates higher risk taking entrepreneurship.

The first section of our paper deals with entrepreneurship in the kibbutz and describes the literature on the effects of individualism and of collectivism on entrepreneurship. The second part deals with inequality and risk and their mutual effects on entrepreneurship. In the third part we use the Israeli Kibbutzim as an example in order to assess our statement. Analysis and results of the study are
presented in the fourth section. In our last section we discuss the results, concluding with suggestions for further research.

**Kibbutz Entrepreneurship**

The theoretical framework of kibbutz entrepreneurship is located within the field of corporate entrepreneurship, which is widely discussed in the entrepreneurial literature (Zahra et al., 2000; Ireland et al., 2002; Dess et al., 2003). Various studies deal with organizational factors of corporate entrepreneurship (Kanter, 1986; Lumpkin and Dess, 1996; Zahra et al., 2000; Zahra and Nielsen, 2002; Dess et al., 2003). These studies can then be categorized into contingency approaches (e.g. Zahra, 1993; Dess et al., 1997) and configurationally approaches (e.g. Wiklund and Shepherd, 2005), both dealing with internal and external environmental factors influencing corporate entrepreneurship and firm performance (Heilbrunn, 2008). Kibbutz entrepreneurship refers to activities aimed at initiation and implementation of new business ventures within a kibbutz (Samuel and Heilbrunn, 2001). Although entrepreneurial behavior appears at first sight as the incarnation of capitalist values of achievement, profit orientation, competitiveness and so forth, one could simply assume that the introduction of entrepreneurship as legitimate and even desirable behavior is another step in the direction of the end of the communal society (Heilbrunn, 2005). On the other hand, entrepreneurship is said to flourish in organizational climates, which enable people to strive for autonomy, achievement and self-fulfillment within the framework of the organization. Berger (1997) maintains that "it is culture that serves as the conductor and the entrepreneur as a catalyst". Based upon the cultural approach to entrepreneurship, Lee and Peterson (2000) argue that the cultural set-up of a society will either foster or constrain entrepreneurial orientation. Following Hofstede (1980) and Trompenaars (1994), they further maintain that a number of cultural dimensions have a significant impact upon entrepreneurship. They argue that cultures stressing universalism, individualism, acceptance of uncertainty, achievement orientation and masculinity (the degree of stress placed on materialism) will be more conducive to entrepreneurship than those cultures that are particularistic, stress collectivity, have a strong uncertainty avoidance, are ascribed oriented and more feminine (Lee and Peterson, 2000: 404-405). Whereas Lee and Peterson's (2000) level of analysis concerns the impact of culture on entrepreneurial orientation, Tiessen (1997) presents a theoretical framework identifying how cultural orientation of the organization influences corporate entrepreneurship.
Following Tiessen (1997) collectivism is group-oriented, stressing long-term goals, pro-social conformity, security and tradition. While conflicts are expected with out-groups, in-group relations are harmonious, and social ties are few but close. While failure is attributed to a lack of effort, success is a result of the group as a whole. Tiessen (1997) further maintains that in collectivistic cultures people perceive themselves as interdependent members of an "in-group", sharing the same fate (Triandis, 1993), and tending to act cooperatively in their group's interest (Hofstede 1980, 1991; Kagitcibasi and Berry, 1989; Triandis 1993).

Individualistic cultures – on the other hand – stress self-orientation, short-term goals and individual achievement. Social ties are loose and success is attributed to a person's ability (Heilbrunn 2005). Whereas collectivist orientation motivates people to serve their group's interest, in individualist frameworks people are motivated by their own benefit expectation.

In the beginning of the 1980s the Kibbutz economy showed an annual turnover of US$ 2 billion and a surplus of more than US$ 120 million, with more assets than debts (Maron, 1994). But the report of the state comptroller of 1990 showed an overall debt of the Kibbutzim, and their political and economic organizations, of about US$ 2.3 billion. In approximately ten years the Kibbutz economy deteriorated into a crisis, the reasons for which have yet to be explored. Rosolio (1994) maintains that the crisis affected about two thirds of the Kibbutzim in the two major movements (Takam and Kibbutz Artzi) at the same time. The crisis was system-wide and affected single Kibbutzim as well as the entire movement at all levels.

Changes have always been part of the development of the Kibbutz. Since the crisis of the 1980s, though, views as to the impact of the crisis differ: some researchers think that they are a not merely an additional adaptation to new conditions, but instead constitute a major change in the value system: encompassing way of life, institutional structure, principles of collectivity and equality, legitimacy of the system and self-perception of Kibbutz members (Getz, 1998; Topol, 1995).

The major change relevant to the framework of our study is the introduction of a connection between input and output of community members in terms of differential salaries, which divides the Kibbutz movement into two distinct groups: those with the old collective-oriented organizational structure and those with the new differential-oriented and more individualistic organizational structure.
Figure 1: Trends of change in organizational structure of Kibbutzim.

Figure 1 depicts a major shift in terms of organizational structure during the years 1997 – 2004. Whereas in 1997 nearly all Kibbutzim were still basically of a collective nature, meaning that there was no connection between Kibbutz members’ value of work and the egalitarian budget they received from the community, in 2004 about 60% of the Kibbutzim had introduced some form of differential salary, that is a connection between members’ contribution to the community in terms of financial income and the "budget" (now called salary) which they receive. This shift constitutes a major change of the Kibbutz movement, crystallizing an increasingly heterogeneous organizational outlook.

Former studies on entrepreneurship in kibbutzim revealed, that organizational structure, organizational culture and institutionalization mechanisms influence entrepreneurial activity in terms of scope and variety of types (Heilbrunn, 2005, 2008).

Table 1: Descriptive statistics of number of businesses per Kibbutz

<table>
<thead>
<tr>
<th></th>
<th>1994</th>
<th>1997</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (Kibbutzim)</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Mean (Number of ventures)</td>
<td>4.37</td>
<td>9.03</td>
<td>9.27</td>
</tr>
<tr>
<td>S.D.</td>
<td>3.369</td>
<td>5.155</td>
<td>5.358</td>
</tr>
<tr>
<td>Sum of Ventures</td>
<td>262</td>
<td>542</td>
<td>556</td>
</tr>
</tbody>
</table>
The data reveal a significant increase of average business number per kibbutz from 1994 to 1997, and a minor increase of average business number per kibbutz between the years 1997 and 2004. In all years there are kibbutzim with no entrepreneurial businesses, but the maximal number of businesses increases over the years, whereas in 1994 the highest business number was 18, in 2004 one kibbutz had 35 entrepreneurial businesses. Also note that the total number of ventures in the 60 sample kibbutzim more than doubled in a period of ten years (Heilbrunn, 2005).

Tiessen (1997) maintains that the cultural orientation of the firm will influence its entrepreneurial activity. His theoretical framework does not determine which organizational culture produces more or less entrepreneurial ventures, but rather argues that the process and the outcome of entrepreneurial undertakings are of different character. Whereas the concept of risk applied in Tiessen’s (1997) theoretical framework includes only operational aspects and ignores the risk of inequality, risk-aversion and inequality aversion constitute the level of analysis of our study.

**Risk aversion and Inequality aversion**

It is usually assumed that the more risk-averse the person is, the less he is involved in entrepreneurial activity. Petrakis (2004) claims that the risk premium the economic agent enjoys is the entrepreneurship premium. Therefore, one can imagine that any reduction in risk might encourage entrepreneurship. That means that any situation causing firms to reduce their willingness to engage in risk-taking might discourage entrepreneurial and innovative activity.

Rampini (2004) argues that risk aversion of entrepreneurs, who cannot fully diversify the idiosyncratic risk of their projects for incentive reasons, is an additional mechanism making economic activity more volatile. The expected output of the risky project exceeds the output of the risk-less project, because agents have to be compensated for risk. He expects more productive economies to be better able to share project-specific risk, and hence to engage in more entrepreneurial activity. The risk may be non-systematic (can be reduced in some circumstances) or systematic (characteristic of the total market).

Risk can take many forms, one of which is risk of income inequality. In a world of uncertainty about the expected relative income, a lower standard deviation income distribution is preferable. At a deeper level, one can perceive the choice between income distributions as though an individual is making a choice amongst random prospects behind a veil of ignorance, as in Harsanyi (1955). Namely, in a world of uncertainty, when one is under a veil of ignorance as to the position she
Atkinson (1970), Kolm (1969), Harsanyi (1977) and others applied the Second-degree Stochastic Dominance (SSD) rule to define inequality rather than risk. Over the last decade a substantial literature has been developed on questionnaire-experimental methods in the analysis of attitudes towards income distribution. If the less unequal state is selected, then, the individual is defined as an inequality averter (see: Gleiser et al., 1977; Gevers et al., 1979; Cowell, 1985; Amiel and Cowell, 1992).

Unfortunately in these studies the decision-makers had to select between two alternatives with the same mean but a different level of inequality-risk. Kroll and Davidovitz (2003) claim that the decision to choose the less disperse economy may reflect an aversion to risk, rather than an aversion to inequality. According to their approach, the attitude toward inequality should be analyzed as a response to a change in inequality among individuals, while holding the moments of income distribution constant. They made a distinction between inequality aversion and risk aversion and showed that sometimes the subjects have the ability to trade off one against the other (Davidovitz and Kroll, 2004).

The conventional opinion states that no relation between income and rewards (as existing in egalitarian economies) causes a decrease in the risk-taking propensity of entrepreneurship.

If the subjects can trade off inequality and risk then we may assume that investors will agree to accept more risky activities while inequality is avoided. In other words, if risk aversion as well as inequality aversion is assumed, then higher equality among participants can motivate people to make risky efforts. This positive impact can be obtained if the risky results of efforts are shared more evenly among the inequality-averse participants (Davidovitz, 2007; Kroll and Davidovitz, 2003).

Risk homeostasis theory, pioneered by Wilde, contends that humans behave in such a way that if risk is identified in a given system, and is reduced by design, then a compensatory increase in risk-taking will occur somewhere else in the system. Wilde (1982) defines “target risk” as “the level of risk a person chooses to accept in order to maximize the overall expected benefit from an activity”. We claim that individuals who behave according to a sum of risks will activate riskier ventures if the risk of inequality is lowered.

The idea that equality can increase risk taking and entrepreneurship constitutes a counterpoint to the standard line of argumentation assuming the requirement of inequality to encourage effort.
The Kibbutzim, which moved from collectivism to individualism, may serve us as perfect example to test our hypothesis that the proportion of risky entrepreneurship will be higher in more egalitarian organizations.

The Study

Data Source

The sample of this study included 60 Kibbutzim, 23% of the 270 total Kibbutz population. In terms of the issue of organizational setting the sample can be considered representative (see table 2). The organizational setting (collectivistic or individualistic) was determined following the study of Heilbrunn (2005) discussing the impact of organizational change on entrepreneurship in community settings, and in accordance with the yearly publications of the Kibbutz movement (Pavin 1997, 2004). In 2004, 59% of all 270 Kibbutzim were of a differential organizational setting versus 41% which remained traditionally collective (Pavin, 2004). In our sample 60% are of differential and 40% of collective organizational setting.

The dependent variable: Type of Kibbutz venture

By means of a questionnaire submitted to the same 60 Kibbutzim in 1997 and in 2004, with a reply rate of 97% we gathered the data concerning number and type of ventures of 58 of the sample Kibbutzim (see Davidovich et.al., 2006).

Table 2 depicts seven types of ventures. The categories emerged after applying the multi-dimensional scaling method (MDS) which analyzes a distance-like set of objects according to their dissimilarity or similarity. Ventures then are characterized as profiles, each profile consisting of several parameters. Identical profiles are grouped together into objects, and are represented by one point in the multidimensional space (Samuel and Heilbrunn, 2001).

Samuel and Heilbrunn (2001) identify seven types of activities:

Type I - Industrial Production: This type consists of ventures dealing with new product development that require high levels of knowledge, advanced technologies, and considerable amounts of capital investment. From the corporate viewpoint, these business enterprises depart from the product lines of the parent organization. Thus they are essentially novel. New ventures such as biotechnological laboratories, design of printed circuits, and development of electronic gadgets represent the innovative type.
Table 2: Type of ventures according to the organizational setting of the Kibbutzim

<table>
<thead>
<tr>
<th>Type of ventures</th>
<th>1997</th>
<th>2004</th>
<th>1997</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Industrial Production</td>
<td>8</td>
<td>4</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(7%)</td>
<td>(3%)</td>
<td>(4%)</td>
<td>(1%)</td>
</tr>
<tr>
<td>2. Agricultural Production</td>
<td>14</td>
<td>8</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>(12%)</td>
<td>(5%)</td>
<td>(12%)</td>
<td>(9%)</td>
</tr>
<tr>
<td>3. Workshops</td>
<td>18</td>
<td>29</td>
<td>36</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>(15%)</td>
<td>(19%)</td>
<td>(14%)</td>
<td>(13%)</td>
</tr>
<tr>
<td>5. Professional Services</td>
<td>20</td>
<td>44</td>
<td>98</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>(17%)</td>
<td>(28%)</td>
<td>(16%)</td>
<td>(21%)</td>
</tr>
<tr>
<td>6. Personal Services</td>
<td>48</td>
<td>55</td>
<td>98</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>(40%)</td>
<td>(35%)</td>
<td>(38%)</td>
<td>(40%)</td>
</tr>
<tr>
<td>7. Maintenance Services</td>
<td>13</td>
<td>15</td>
<td>42</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>(11%)</td>
<td>(10%)</td>
<td>(16%)</td>
<td>(15%)</td>
</tr>
<tr>
<td>Total</td>
<td>121</td>
<td>155</td>
<td>256</td>
<td>219</td>
</tr>
<tr>
<td></td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

Type II - Agricultural Production: Unlike traditional agriculture, this type represents ventures that nourish special flora and fauna. Such ventures are likely to rise in rural areas where land and water as well as breeding experience are available. Therefore, they are new extensions of in-house resources. In these study greenhouses, aquarium fish rearing, dog breeding and domesticating are typical examples. Similar kinds of ventures are horse riding schools, cultivation of new flowers, and crocodile farms.

Type III - Workshops: Ventures of this type are mainly workshops that make single or small batches of arts and crafts. Businesses of this kind, such as pottery and jewelry making, utilize creative talents and design skills of some organizational members for commercial purposes. Many ateliers, film studios, fashion design workshops and artistic photography labs operate as subsidiary companies of large corporations.
Type V - Professional Services: This entrepreneurial type consists of knowledge-intensive offices rendering professional services. Their tasks are mainly, but not exclusively, data processing. From the parent organization’s point of view, this kind of business represents a new line of activity. In the present sample, they include lawyers, accountants, architects and designers. Ventures of this type are also subsidiary companies specializing in preparation of payrolls for governmental agencies as well as to private corporations, organizational consulting firms, financial analysts and brokers.

Type VI - Personal Services: A new venture of this type is an extension of certain in-house personal services to clientele outside the organization on a commercial basis. They are neither capital intensive, nor do they require sophisticated technological set-ups. In the Kibbutzim, they typically include nursery schools, homes for the elderly, alternative medicine clinics, hairdressing and beauty parlors.

Type VII - Maintenance Services: This type of corporate entrepreneurship represents conversion of maintenance, logistics and other internal support units of the organization into profit centers. Carpentry, locksmith, TV lab, and car repair are typical in our sample. Similar kinds of ventures such as cleaning, gardening and catering services are now available as offspring activities run by large scale organizations attempting to better utilize their in-house facilities and work force.

In the current study we decided to exclude tourism ventures (Type IV) because tourism depends upon the geographic location of the Kibbutz, thus the income of tourist ventures is highly influenced by political circumstances impacting differentially in different geographic areas. In addition there is a high degree of variety within the group that may include anything from hotels, amusement parks to kiosks.

Type 1 and Type 2 require a high level of capital investment, while types 6 and 7 require a low level of capital investment. Whereas types 6 and 7 are commercial applications of available infrastructures within their Kibbutzim, types 1, 2, 3 and 5 represent new forms of businesses. Note that as to size of the ventures included in our sample (as well as in the sample of ventures on the basis of which the MDS was performed), there were no considerable differences.

The operational risk level of Kibbutz ventures was determined following data of Dun and Bradstreet and data provided by the Kibbutz Industries Association (www.kia.co.il). Types 1 and 2 were considered to be of high operational risk. These types of ventures deal with new product development. Investment in R and D is exposed to a high failure rate. Types 6 and 7 were considered to be of low operational risk, since they are based upon existing resources. Types 3 and 5 are most dependent upon personal professional know-how of entrepreneurs, require a relatively low level of investment, and can therefore be considered of medium risk.
The independent variable: Organizational setting of the Kibbutzim

The independent variable of our study – the organizational setting in terms of individualism versus collectivism or in other words, differential organizational setting versus collective organizational setting has been introduced in tables 1 and 2.

Results and Analysis

In order to test our hypothesis that the proportion of risky entrepreneurship would be higher in the more egalitarian organizations we used the Chi-square test. For statistical reasons (cells with less than 5%) we had to merge the entrepreneurial activities into three groups.

The data of the entrepreneurial activities in the Kibbutzim were divided into the three groups in terms of operational risk level: high risk, medium risk and low risk.

<table>
<thead>
<tr>
<th>1997 risk level</th>
<th>Collectivistic organizational settings in 2004 group A</th>
<th>Differential organizational settings in 2004 group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>High risk</td>
<td>22 (18%)</td>
<td>39 (15%)</td>
</tr>
<tr>
<td>Medium risk</td>
<td>38 (32%)</td>
<td>77 (30%)</td>
</tr>
<tr>
<td>Low risk</td>
<td>61 (50%)</td>
<td>140 (55%)</td>
</tr>
<tr>
<td>Total</td>
<td>121 (100%)</td>
<td>256 (100%)</td>
</tr>
</tbody>
</table>

Table 3 shows the number of entrepreneurial activities for each group of Kibbutzim. Keep in mind that in 1997 nearly all of the Kibbutzim in our sample and in the Kibbutz population were considered the classic collective Kibbutz system. Notice that there is no considerable difference between the two distributions. The chi-square test shows, as was expected from the data, that there is no significant difference between the two groups ($\chi^2(2, n=58) = 0.77$).
Table 4: Risk levels of entrepreneurial activities in collective versus differential Kibbutzim, 2004

<table>
<thead>
<tr>
<th>2004 risk level</th>
<th>Collectivistic organizational settings in 2004 group A</th>
<th>Differential organizational settings in 2004 group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>High risk</td>
<td>12 (8%)</td>
<td>23 (11%)</td>
</tr>
<tr>
<td>Medium risk</td>
<td>73 (47%)</td>
<td>75 (34%)</td>
</tr>
<tr>
<td>Low risk</td>
<td>70 (45%)</td>
<td>121 (55%)</td>
</tr>
<tr>
<td>Total</td>
<td>155 (100%)</td>
<td>219 (100%)</td>
</tr>
</tbody>
</table>

Table 4 shows the number of entrepreneurial activities for each group of Kibbutzim after the crisis. Here there are differences in the distribution of entrepreneurial activities. In the Kibbutzim that underwent processes of organizational change towards increasing individualism we can see a shift from medium risk ventures to low risk ventures. We ran a Chi-square test and found a significant difference in the distribution of the two groups ($\chi^2 (2, n=58) = 6.33, p=0.04$).

Following other studies on entrepreneurship in the Kibbutz environment (Heilbrunn, 1999, 2005) we decided to check upon the possible impact of organizational resource variables such as economic strength, the age of the Kibbutz and human capital development. That is to say, one might expect that not only the organizational setting of the Kibbutz but also the above variables would influence the choice of type of entrepreneurial ventures of the Kibbutz.

Based on data of the Kibbutz movement CPA's and expert judgment of office holders in the "Administration of the Kibbutzim Settlements Agreement" the financial strength of the Kibbutzim was determined in order to evaluate the economic strength of the sample Kibbutzim in 2004. The sample Kibbutzim were divided into 5 groups and evaluated from 1 to 5 (1 = very high on the economic strength scale to 5 = very low on the economic strength scale). As to the kibbutzim age, we divided the sample into two groups: 1 = Kibbutzim which were founded before the year 1948 and 2 = Kibbutzim which were founded after 1948. Demographic data of the Kibbutz population were acquired via the statistical yearbook published by the Kibbutz movement (Maron, 1994). We calculated the change in human resource (number of Kibbutz residents between the years 1997 and 2004). We used the economic strength; the age of the Kibbutz and the
population size as control variables. Table 5 describes these variables in both organizational settings.

**Table 5: Descriptive statistics of the Kibbutzim.**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>STD</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Collectivistic organizational settings in 2004 – Group A</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic strength 2004</td>
<td>22</td>
<td>2.27</td>
<td>1.03</td>
<td>1-5</td>
</tr>
<tr>
<td>Change in human resource</td>
<td>20</td>
<td>-8.35</td>
<td>46.06</td>
<td>-</td>
</tr>
<tr>
<td>Age</td>
<td>22</td>
<td>1.36</td>
<td>0.492</td>
<td>1-2</td>
</tr>
<tr>
<td><strong>Differential organizational settings in 2004 – Group B</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic strength 2004</td>
<td>36</td>
<td>3.22</td>
<td>1.15</td>
<td>1-5</td>
</tr>
<tr>
<td>Change in human resource</td>
<td>29</td>
<td>-65.48</td>
<td>57.15</td>
<td>-</td>
</tr>
<tr>
<td>Age</td>
<td>36</td>
<td>1.22</td>
<td>0.422</td>
<td>1-2</td>
</tr>
</tbody>
</table>

In the first stage we examine the correlation between the control variables and the proportion of the three types of entrepreneurial activities. We did not find any significant effects (See table 6).

**Table 6: Pearson correlations coefficients**

<table>
<thead>
<tr>
<th></th>
<th>High risk</th>
<th>Medium risk</th>
<th>Low risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic strength 2004</td>
<td>0.055</td>
<td>-0.116</td>
<td>0.057</td>
</tr>
<tr>
<td></td>
<td>(.283)</td>
<td>(.111)</td>
<td>(.274)</td>
</tr>
<tr>
<td>Change in human resource</td>
<td>0.087</td>
<td>0.126</td>
<td>-0.112</td>
</tr>
<tr>
<td></td>
<td>(.203)</td>
<td>(.114)</td>
<td>(.141)</td>
</tr>
<tr>
<td>Age</td>
<td>-0.046</td>
<td>-0.111</td>
<td>0.093</td>
</tr>
<tr>
<td></td>
<td>(.317)</td>
<td>(.122)</td>
<td>(.165)</td>
</tr>
</tbody>
</table>

Significance is in parentheses (all tests are one-tailed).

In the second stage we test our hypothesis: Change in organizational structure of Kibbutzim towards increasing individualism will lead to lower operational risk of
entrepreneurial activities. A simple regression model for each type of ventures tests the hypothesis. The correlation coefficients are presented in table 7.

**Table 7: Pearson correlation coefficients of the organizational structure.**

<table>
<thead>
<tr>
<th>Organizational structure</th>
<th>High risk</th>
<th>Medium risk</th>
<th>Low risk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.025</td>
<td>-0.215**</td>
<td>0.136*</td>
</tr>
<tr>
<td></td>
<td>0.395</td>
<td>0.011</td>
<td>0.077</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.05 levels;**
*Correlation is significant at the 0.1 levels;
All tests are one-tailed.

As we predicted, the Kibbutzim that underwent privatization changes increased the proportion of the lower risk ventures: The proportion of the medium risk ventures is lower in the Kibbutzim that underwent privatization changes (p=0.045, r=-0.215). We found a positive effect, on the border of significance, within the lower risk ventures (p= 0.77, r=0.136). We did not find any significant effect on the proportion of the high risk ventures.

Since the macro-economic changes of the environment influence both groups in the same way, we can infer that the difference in the distribution of the entrepreneurial activities is related to the level of collectivity of the groups.

**Conclusions**

The Israeli Kibbutz is worldwide known as an example for a cooperative system existing for more than a century. In the last decade the Kibbutz movement underwent crucial changes as to its level of cooperation. More than half of the Kibbutzim have changed towards a less cooperative system now characterized by increasing individualism.

Since the process of organizational change occurred during a defined period of time, Kibbutzim can be considered a laboratory for investigating the changes in risk-taking level while moving from collective-oriented culture to a more differential-oriented organizational culture. Thus, we investigate the relation between the levels of inequality in Kibbutz organizations and its impact on their risk-taking propensity concerning new venture creation.
In our basic hypothesis we argue that there is some relation between equality and risk-taking in the Kibbutzim, assuming that more equal Kibbutzim encourage riskier entrepreneurship than less equal Kibbutzim.

Our findings show significant differences between the two groups concerning the nature of their entrepreneurial activities. We are able to relate our findings to the difference in the level of collectivity of the groups, since the macro-economic changes of the environment influence both groups in the same way.

The comparison of differential-oriented Kibbutzim and collective oriented ones in 2004 shows a difference of distribution of operational risk level between the two organizational cultures, especially in the medium risk entrepreneurship category. This category contains mostly individualistic ventures such as handcraft, workshops and free professions such as lawyers. These activities were found in a higher percentage in the collective-oriented Kibbutzim than in the privatized ones. Thus, we found that higher equality motivates individuals to take more risky challenges.

One explanation can be that people in collective systems are more willing to become involved in risky ventures, knowing that any risk and failure will be equally shared by all the community members. In the non-collective system, no one will share the risk or the premium of an entrepreneur. Individuals in both groups need capital sources to finance the basic investment for a new project. In the meantime both need a steady periodical income to support their household. In the communal system, the entrepreneur obtains his household needs like any other member of the community, while the risky investment funds are raised by the community which shares the risk with him. The entrepreneur is not exposed any personal risk, while enjoying any extra entrepreneurial benefits.

In addition, entrepreneurs in individualistic oriented Kibbutzim are responsible for financing their ventures and are personally exposed to the banking system. They have to pay for goods and services supplied by the community. But potential benefits of the entrepreneurial undertaking will be solely enjoyed by the individual entrepreneur. In some cases the individualistic Kibbutz might lend money to the entrepreneur, after making sure he has a feasible business plan, at the same time making clear arrangement as to the return of the loan and its interest. It is not apparent enough what happens if the venture fails.

The fact that we found that the percentage of the less risky ventures in the privatized Kibbutzim was higher than in the collective ones, supports this explanation. Our findings that higher equality can motivate risky efforts, contradicts Tiessen (1997), relating more risk to less collective entities. This might be explained by the fact that Tiessen (1997) ignored the inequality aversion effect. Inequality aversion may reduce and even reverse the negative impact of egalitarian economy on risky entrepreneurial ventures.
The implications of our study will enable policy makers to better understand the economic impact of entrepreneurial policy caused by the organizational change. Furthermore, the added value of the paper is the insight of an existing trade-off in the market place between risk aversion and inequality aversion. Suppression of inequality enables the inequality adverse person to take higher risk levels.

References


