

Inequality and Entrepreneurial Risk-Taking of Organizations.
The Impact of Change in the Kibbutz on Risk-Taking of Entrepreneurs

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Abstract

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, 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 concerning new venture creation.

According the portfolio theory, there is a positive relationship between expected return and risk. The conventional idea states that non-existence relation between income and rewards (as existing in egalitarian economies) should cause a decrease in the risk-taking propensity of entrepreneurship. Without denying the reasoning behind that conventional thought, we claim that our results support a counter point to the convention.

In our research we investigated 58 Kibbutzim. 36 Kibbutzim underwent organizational change processes towards increasing individualism between the years 1997 to 2004, whereas the remaining 22 of the sample continued the traditional collective-oriented style.

We gathered data concerning entrepreneurial activities in the Kibbutzim dividing them into groups in terms of operational risk level. In addition, demographic, economical and financial data of the Kibbutzim served as independent variables.

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 cultures.

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.

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

Introduction

Entrepreneurs – people who formulate new ideas, recognize opportunities, and translate these into added value to society by assuming the risk of starting a business – are a major source of economic growth for many economies (Hatten, 1997; Holt, 1992). The theoretical framework of kibbutz entrepreneurship is located within the field of corporate entrepreneurship.

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 in order 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).

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 involve in more entrepreneurial projects.

Entrepreneurs do not vary significantly in their responses to a risk propensity scale, meaning that they do not perceive themselves as being any more predisposed to taking risk than non-entrepreneurs. But, they tend to view some situations as "opportunities", even though others perceive them to have little potential. (Palich & Bagby, 1995).

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 such a collective-reduced 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 former reduced non-systematic risk characterizing collective oriented organizational

systems. 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 & Kelley, 1997); decision-making heuristics (Tversky & Kahneman 1978); risk-taking propensity (Brockhaus, 1980; Gomez-Mejia & Balkan, 1989) and cognitive theory (Palich & Bagby, 1995). In this paper, we intend to add a new line of argumentation integrating the issue 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 chapter 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 chapter. In our last chapter 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 (Dess et al., 2003; Ireland et al., 2002; Zahra et al., 2000). Various studies deal with organizational factors of corporate entrepreneurship (Dess et al., 2003; Zahra et al., 2000; Zahra & Nielsen, 2002; Kanter, 1986; Lumpkin & Dess, 1996). These studies can then be categorized into contingency approaches (e.g. Dess et al., 1997; Zahra, 1993) and configurationally approaches (e.g. Wiklund & 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 & 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. Entrepreneurship might then not only contribute to the economic and social development of a community but also reinforce existing structural patterns. In the framework of this article we focus upon the issue of culture. 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 & 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 & Berry, 1989; Triandis 1993).

Individualistic cultures – on the other hand – stress self-orientation, short-term goals and individual achievement. Social ties are loose and much 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.

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 1994, 1997 and 2004.

	1994	1997	2004
N (Kibbutzim)	60	60	60
Mean (Number of Ventures)	4.37	9.03	9.27
Std Deviation	3.369	5.155	5.358
Sum of Ventures	262	542	556

The data reveal that there is 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 is 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. Thus, the entrepreneurial outcomes in collective oriented cultures are relatively small units implementing and improving organizational outputs whereas individualism produces breakthroughs and major innovations. 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 the 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.

Entrepreneurship, Risk aversion and Inequality aversion

Entrepreneurship is closely related to risk aversion. Petrakis (2004) claims that the risk premium the economic agent enjoys is the entrepreneurship premium.

It is usually assumed that the more risk-averse the person is, the less he is involved in entrepreneurial activity. 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.

According to Rampini (2004), risk-averse agents choose between a less risky project and a risky project with higher expected output. He 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. Rothschild and Stiglitz (1970) provide three coinciding definitions for a random variable Y to be riskier than a random variable X. According to definition II of R&S, an individual with an unknown utility function who prefers the less risky alternative according to the integral rules, must be a risk averter. The same methods are used to define inequality aversion. 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 he will have in the world, then he will prefer income distribution with a lower standard deviation.

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 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; Pfingsten, 1988; Amiel & 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 & 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 maintaining 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 & 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 & 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” (Risk Homeostasis, 2006). 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 is counterpoint to the standard line of argumentation assuming the requirement of inequality to encourage effort.

The Kibbutz Crisis and Change

In spite of many expert judgments, the Kibbutz movement, in contrast to most of the 19th and 20th century communes, was considered an economic and social success for many years. Many studies proved that after 60 years of the Kibbutz experiment, there was no doubt about its efficiency in the production sphere (Helman 1992).

In the beginning of the 1980's 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-wise 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 1980's, 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.

The Kibbutzim, which moved from collectivism to individualism, may serve us as perfect example. We now may explore the entrepreneurial risky nature of collective versus individualistic systems.

Table 2: Trends of change in organizational structure of Kibbutzim.

	Differential Organizational Setting in 1997	Collectivistic Organizational Setting in 1997	Differential Organizational Setting in 2004	Collectivistic Organizational Setting in 2004
Population of Kibbutzim (N = 277)	3 (1.2%)	274 (98.8 %)	163 (59%)	114 (41%)

Table 2 shows a major shift in terms of organizational structure during the years 1997 – 2004. Whereas in 1997 nearly all Kibbutzim are still basically of collective nature, meaning that there is no connection between Kibbutz members' value of work and the egalitarian budget they receive from the community, in 2004 about 60% of the Kibbutzim have 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.

In terms with the presented lines of argumentation our study intends to analyze the following hypothesis.

Hypothesis: The proportion of risky entrepreneurship will be higher in the more egalitarian organizations.

The Study

a. Data Source

The sample of this study included 60 Kibbutzim constituting 23% of the Kibbutz population (270 Kibbutzim). 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).

Table 3: Organizational setting of the Kibbutzim in 2004

	Differential organizational settings in 2004		Collectivistic organizational settings in 2004	
	n	%	n	%
Population of Kibbutzim (N = 270)	163	59	114	41
Sample Kibbutzim (n = 60)	36	60	24	40

b. The dependent variable: Type of Kibbutz venture.

By means of a questionnaire submitted to the 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 Davidovitch et.al., 2006)

Table 4: Type of ventures according to the organizational setting of the Kibbutzim in 1997 and 2004.

Type	Group A Collectivistic organizational settings in 2004 (n=36)		Group B Differential organizational settings in 2004 (n=22)	
	1997	2004	1997	2004
1 Industrial Production	8 (7%)	4 (3%)	9 (4%)	3 (1%)
2 Agricultural Production	14 (12%)	8 (5%)	30 (12%)	20 (9%)
3 Workshops	18 (15%)	29 (19%)	36 (14%)	29 (13%)
5 Professional Services	20 (17%)	44 (28%)	41 (16%)	46 (21%)
6 Personal Services	48 (40%)	55 (35%)	98 (38%)	88 (40%)
7 Maintenance Services	13 (11%)	15 (10%)	42 (16%)	33 (15%)
Total	121 (100%)	155 (100%)	256 (100%)	219 (100%)

Table 4 depicts the types of ventures that are categorized into 7 types. 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 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).

According to Samuel and Heilbrunn (2001):

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.

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 art 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 not to include tourism ventures (Type 4) 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 and amusement 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 D&B (Dun & 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&D is exposed to 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.

c. 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.

d. Control variables

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 and human capital development. That is to say, one might expect that not only the organizational setting of the Kibbutz but also its economic situation, the age of the Kibbutz and the population size and development would influence the choice of type of entrepreneurial ventures of the Kibbutz.

Economic strength

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).

Human resource

Demographic data of the Kibbutz population were acquired via the statistical yearbook published by the Kibbutz movement (Maron, 1994). We used the change trend in resident numbers between the years as an independent variable.

Age of the Kibbutz.

Data were acquired via the statistical yearbook published by the Kibbutz movement (Maron, 1994). The sample Kibbutzim were divided into 2 groups. (1 = Kibbutzim which were founded before the year 1948 and 2 = Kibbutzim which were founded after 1948.) In table 4 we describe the control variables of our study in both organizational settings.

Table 5: Descriptive statistics of the Kibbutzim.

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

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 6: Risk levels of entrepreneurial activities in collective versus differential Kibbutzim 1997

1997	High risk	Medium risk	Low risk	Total
Collectivistic organizational settings in 2004 group A	22 (18%)	38 (32%)	61 (50%)	121 (100%)
Differential organizational settings in 2004 group B	39 (15%)	77 (30%)	140 (55%)	256 (100%)
Total	61	115	201	377

Figure 1: Risk levels of entrepreneurial activities in collective versus differential Kibbutzim in 1997.

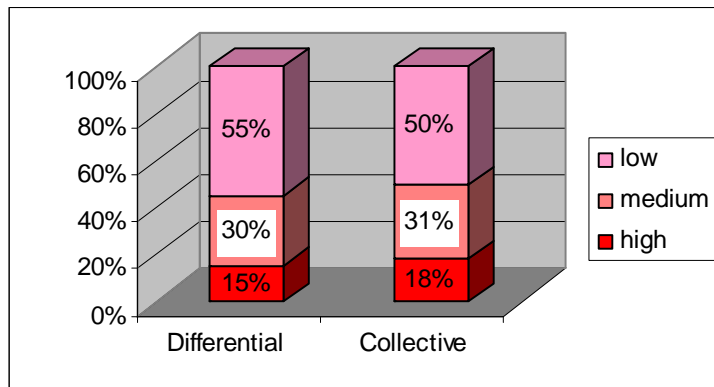


Table 6 shows the number of entrepreneurial activities for each group of Kibbutzim. Keep in mind that in 1997 nearly all of the Kibbutzim in our sample and in the Kibbutz population were considered the classic collective Kibbutz system.

Figure 1 depicts the venture distribution according to their operational risk. 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 ($\chi^2(2,n=58) = 0.77, NS$).

Table 7: Risk levels of entrepreneurial activities in collective versus differential Kibbutzim 2004

2004	High risk	Medium risk	Low risk	Total
Collectivistic organizational settings in 2004 group A	12 (8%)	73 (47%)	70 (45%)	155 (100%)
Differential organizational settings in 2004 group B	23 (11%)	75 (34%)	121 (55%)	219 (100%)
Total	35	148	191	374

Figure 2: Risk levels of entrepreneurial activities in collective versus differential Kibbutzim in 2004.

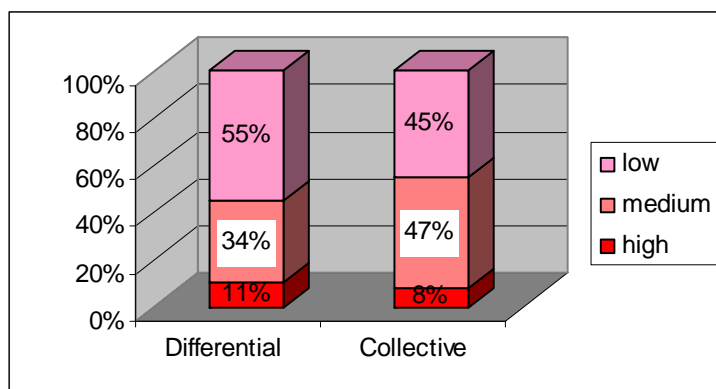


Table 7 shows the number of entrepreneurial activities for each group of Kibbutzim after the crisis. Figure 2 depicts the distribution of the entrepreneurial activities in 2004

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

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.

As previously explained, economic strength, trend in human capital and age of the Kibbutzim were used as control variables, in addition to the organizational setting of the Kibbutzim.

In the first stage we examine the correlation between the control variables and the proportion of the three types of entrepreneurial activities.

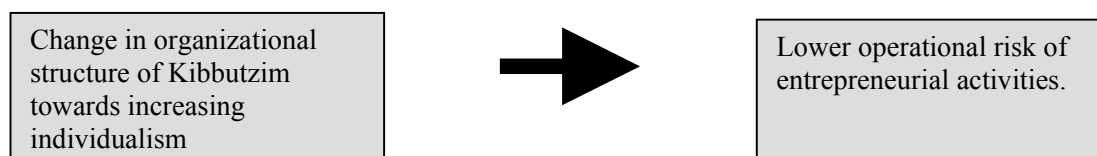
We did not find any significant effects. (See table 8)

Table 8: Pearson correlations coefficients

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

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

In the second stage we test our hypothesis:



A simple regression model for each type of ventures tests the hypothesis. The correlation coefficients are presented in table 8.

Table 9: Pearson correlation coefficients of the organizational structure.

	<u>High risk</u>	<u>Medium risk</u>	<u>Low risk</u>
Organizational structure	0.025	-0.215**	0.136*
	0.395	0.011	0.077

**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.

Conclusions

In our basic hypothesis we argue that there is some relation between equality and risk-taking in the Kibbutzim, assuming that the more equal the Kibbutzim encourage riskier entrepreneurship than less equal Kibbutzim.

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.

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 like 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, nobody else shares neither the risk nor the premium of an entrepreneur. Individuals in both groups need capital sources to finance the basic investment of 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. Anyhow, 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 clear enough what happens in this case 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.

Further research should investigate issues of inequality, risk-taking and entrepreneurship using larger representative samples.

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