

In effect, the industry adopted both approaches. For southerners, companies almost universally (yet independently) employed every possible means of legally voiding policies. Alternatively, in the North, the industry embraced its public duty—or at least wrapped itself in the image of that duty. While creating a united front and collectively charging an exorbitant war premium to cover the uncertainties of war, they simultaneously claimed to be patriotically supporting the Union and defending families from some of the worst consequences of war. In hindsight, their tactics were genius. The goodwill and publicity engendered with the payment of each death claim, combined with a generally heightened awareness of mortality, greatly increased interest in life insurance. Suffering little loss as a result of their war risk policies, the industry converted this reputation capital into huge gains as postwar demand for life insurance skyrocketed. Life insurance in force surged from approximately 70,000 policies collectively worth \$150 million in 1860 to more than 800,000 policies totaling \$2.3 billion (in 1860 dollars) just a decade later. Life insurance had quietly become a necessity for the average middle-income American family.

SHARON ANN MURPHY, *Providence College*

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The Limits of Equality: An Economic Analysis of the Israeli Kibbutz

My dissertation is a theoretical and empirical analysis of the puzzle that the Israeli Kibbutzim (plural of Kibbutz) present to economists. Kibbutzim are communities whose aim is equal-sharing; thus, they are expected to unravel because of moral hazard and adverse selection problems. Yet, the Kibbutzim have persisted for most of the twentieth century and formed one of the largest communal movements in history. I ask: How did Kibbutzim mitigate the problems of moral hazard and adverse selection?

Ran Abramitzky is Assistant Professor, Department of Economics, Stanford University, Lan-dau Economics Building, 579 Serra Mall, Stanford, CA 94305. E-mail: ranabr@stanford.edu.

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What limits their level of equality? And, what is the role of economic factors in communities often claimed to be driven by ideology?

My dissertation contributes to our understanding of organizations that are subject to the problems of adverse selection and moral hazard, including professional partnerships, cooperatives, and labor-managed firms, which are often based on revenue-sharing.¹ More generally, it contributes to a wide range of literature incorporating economic analysis into the study of social institutions.²

THE TRADE-OFF BETWEEN INSURANCE AND PARTICIPATION: THEORY

Standard economic theory assumes that people are selfish and pursue self-interest. However, the pioneers of the Kibbutz movement were anything but selfish individuals. They were ideological Zionists and Socialists devoted to ideals of equality. Indeed, sociologists highlight the ideological factors in the persistence of Kibbutzim as equal-sharing arrangements.³ So, one way to explain what holds Kibbutzim together is that ideology “trumps” moral hazard and adverse selection. Indeed, scholars attribute the recent shift of Kibbutzim away from equal-sharing to the disappearance of earlier collectivist and socialist values.⁴

I develop and evaluate an alternative hypothesis that highlights economic factors in the persistence of equal-sharing in Kibbutzim and their recent shift away from it. Specifically, I evaluate the hypothesis that the high propensity of high-ability types to leave, rather than moral hazard or ideological factors, is the main limit on equality in Kibbutzim. Equal-sharing provides insurance but discourages participation of high-ability types. Common ownership of assets alleviates this trade-off, by locking in members and thus facilitating equal-sharing. Members who leave the Kibbutz lose their share. To keep the most productive members from leaving, these communal assets have to be valuable. Common ownership of valuable assets thus facilitates equal-sharing without the loss of productive individuals.

I build a model of a Kibbutz to capture the trade-off between insurance and participation. In the first period, ex-ante identical individuals make a sunk contribution to the Kibbutz and set an income-sharing rule (the degree of equality). In the second period, individuals learn what type they are (high or low ability), and decide whether to stay in the Kibbutz. The equilibrium level of equality is determined endogenously in the model. High equality improves insurance, but high-ability individuals will prefer to leave and earn a premium for their ability outside the Kibbutz. Low equality reduces insurance but keeps high-ability individuals in. The wealth of the Kibbutz facilitates equal-sharing by locking its members in.

The model yields two main predictions. First, the high-ability types will have the highest propensity to leave. Second, higher levels of total wealth will lead to less exit

¹ For example, in professional partnerships such as law firms, just as in Kibbutzim, high-ability partners can exit to earn a wage premium for their ability outside of the partnership. The partnership, in turn, has to take this potential selection into account when deciding on the sharing-rule. See Abramitzky, “Limits,” for a list of references.

² Such institutions can be found throughout history and in both developed and developing countries. Examples include Greif, *Institutions*; Townsend, “Financial System”; and Berman, “Sect.” See Abramitzky, “Limits,” for a full set of references.

³ See, for example, Talmon, *Family*; Don, “Altruism”; Rosner and Getz, *Kibbutz*; and Leviatan and Rosner, “Belief.”

⁴ Abel, “Viability,” argues that cooperatives can only succeed when incentives such as ideology and solidarity are more important than economic incentives.

and to a higher degree of equality, because the participation constraint is not binding for wealthier Kibbutzim.

THE TRADE-OFF BETWEEN INSURANCE AND PARTICIPATION: EVIDENCE

I test the model's predictions using individual-level and Kibbutz-level data. The first dataset is a panel of individuals exiting and entering Kibbutzim. The dataset is a random representative sample of individuals linked between the 1983 and the 1995 Censuses of Population, and it contains 4 percent of the Israeli population. A total of 343 out of the 1,577 individuals in the sample between the ages of 21 and 54 left the Kibbutz between 1983 and 1995; that is over 20 percent. A total of 77 out of 15,948 individuals entered a Kibbutz in this period, less than 0.5 percent. This dataset allows me to test for selection in exit from and entry to Kibbutzim.

The second dataset is detailed, at the Kibbutz-level, assembled through my archival work. This dataset has 184 Kibbutzim (70 percent of all Kibbutzim) and includes annual demographic information on each Kibbutz: the number of members, exit and entry, the average household size; information on Kibbutzim's postcrisis wealth and the extent to which it was hit by the financial crisis; information on Kibbutzim's ideology level as measured by its affiliation with movements of different ideological commitment to equality and by the percentage of members voting for socialist parties in elections. This dataset allows me to test the model's predictions and to evaluate the relative importance of the economic and sociological conjectures.

To identify the impact of common wealth on the level of equality, I rely on a financial wealth shock that hit Kibbutzim's common assets asymmetrically in the mid-1980s; this provides me with a "natural experiment." After a government anti-inflation program, Kibbutzim unexpectedly found themselves in different economic positions. My model predicts that Kibbutzim hit by the crisis will shift away from equal-sharing to retain productive individuals. The sociological conjecture predicts that the less ideological Kibbutzim, or those whose ideology-level declined, will be more likely to shift away from equal-sharing.

All of the patterns in the data are consistent with the model's predictions. First, individuals who left the equal-sharing communities were positively selected in their education and skills compared to stayers, and they earned higher wages upon exit. Second, the wealth shock limited Kibbutzim's ability to provide insurance and to maintain high skill. Third, Kibbutzim that remained wealthy after the shock saw less exit and were more likely to maintain their commitment to equal-sharing. Finally, because Kibbutzim are well aware of the tendency of low-ability types to enter, entrants are screened and entry is low. Despite screening, I find that entrants are adversely selected in their pre-entry earnings, wealth, and hours worked compared to nonentrants.⁵

Furthermore, economic forces predominated. A Kibbutz's level of ideology, as measured by its affiliation to movements with different ideological commitment to equality and by the percentage of members voting for socialist parties in elections, did not affect its level of equality.

⁵ The finding of positive selection in exit and negative selection in entry is one of the first micro-level empirical supports for Borjas's hypothesis (Borjas, "Self-Selection") that migrants' self-selection depends on the difference in earnings inequality between origin and destination.

AN ECONOMIC REINTERPRETATION OF KIBBUTZ

The economic approach employed in my dissertation provides a new interpretation of the Kibbutz. In particular, my hypothesis is consistent with the creation of Kibbutzim, their rules and internal organization, their demographic patterns, and their recent shift away from equal-sharing.

The model suggests that insurance may have been a major objective of the founders of Kibbutzim, an aspect previously neglected by scholars. The founders of Kibbutzim arrived as young individuals in a land filled with uncertainty, and they sought insurance. They were in their “ex-ante” stage, in the sense that they were young, had similar background and training and had similar expected prospects.⁶ Creating communities based on equal-sharing was an attractive form of insurance in the absence of developed insurance markets.

The founders must have realized, however, that members who turn out to have high abilities might later leave the Kibbutz and earn a premium for their ability outside. This realization seems to have shaped Kibbutzim’s internal organization. To mitigate the tendency of the best members to leave, the founders created lock-in devices—such as collective ownership of property, no private savings, restrictions on working outside the Kibbutz, and high provision of local public goods that can only be enjoyed by stayers—that would make ex-post exit costly.

Another lock-in device was the provision of Kibbutz-specific human capital to members. Comparing human-capital formation in the Kibbutz movement to that of the rest of the Jewish population in Israel between 1960 and 1995 reveals that members tend to have Kibbutz-specific human capital and that they are less likely to have higher education. The same analysis reveals that Kibbutz members work in diverse occupations, consistent with an insurance story, and that they tend to work in industries that facilitate mutual monitoring, which alleviates the free rider problem.

The system worked well as long as Kibbutzim were rich relative to the general population. Accepting entrants at an “ex-ante” stage (through the army or from youth movements abroad) and screening entrants mitigated adverse selection. The wealth shock of the mid- 1980s, however, weakened the lock-in, and the technology-oriented growth of Israel in the 1990s increased the returns to skills outside the Kibbutz. These resulted in massive exit of the most productive individuals and a subsequent shift away from equal-sharing in an attempt to stop the “brain drain.”

WHY ISN’T THE ENTIRE WORLD A KIBBUTZ?

If insurance is valuable and the sharing-rule can be adjusted to mitigate brain-drain, then why is not the entire world a Kibbutz? And, why are all Kibbutzim relatively small? One answer is that social ties between members are important in mitigating the moral hazard problem and facilitating insurance. Interestingly, membership size does not affect a Kibbutz’s likelihood to shift away from equal-sharing. At a first glance, this finding may suggest that the shirking problem is not a driving force in Kibbutzim’s commitment to equal-sharing; otherwise, larger Kibbutzim, where monitoring is more difficult, would be more likely to shift away from equal-sharing. However, all Kibbutzim have fewer than 1,200 members, so they may be equally effective in monitoring and in mitigating the shirking problem. The lack of privacy that is a by-product of the monitoring may explain why not everyone wishes to live in a Kibbutz.

⁶ Talmon, *Family*.

Finally, why did the Kibbutz movement persist where many other communes in history did not? One answer is that the Kibbutz movement, despite facing competition from the outside world, was flexible throughout its existence. Other communes with radical and rigid belief systems placing them at the margin of society dissolved in response to changes. The Kibbutzim's flexibility may be a key factor that will allow them to continue to survive in a changing economic environment, even if in an altered form.

RAN ABRAMITZKY, *Stanford University*

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