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## ABSTRACT

We study the effects of labor market liberalization on political behavior and attitudes towards free-market capitalism and socialism, exploiting a reform whereby the Israeli socialist communities called kibbutzim shifted from equal sharing to market-based wages. Our identification strategy relies on this reform's sharp and staggered implementation in different kibbutzim. We first examine changes in behavior associated with this labor market liberalization and document that the reform led to a shift in electoral voting patterns, resulting in decreased support for left-wing political parties and increased support for the center and right parties in national elections. Using annual survey data on attitudes over 25 years, we show that the reform led to increased support for free-market policies such as full privatization and differential wages. Moreover, it decreased support for socialist policies such as the joint ownership of production means. Yet, the reform increased support for the safety net to support weak members through mutual guarantee. These effects appear to be driven by an increase in living standards and work ethics that resulted from the reform. We conclude that introducing market-based wages led to a shift in attitudes towards a market economy with compassion, revealing a change in members' support from their traditional democratic socialist model to a social democratic model.

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Capitalism is the exploitation of man by man; socialism is exactly the opposite!

*–Old anarchist joke*

## 1. Introduction

We study the effects of labor market liberalization on political voting and attitudes towards free-market capitalism and socialism. Our setting is the Israeli kibbutzim (plural of kibbutz), communities in Israel considered among the most successful and longest-lived experiments in voluntary socialism. Starting in the late 1990s, kibbutzim shifted away from equal sharing and socialism for the first time. Lifestyles changed, moving the emphasis in kibbutz life from the collective to the individual. Specifically, kibbutzim reformed their decades-long equal sharing of incomes and wages and moved into market-based wages. We examine how this labor market liberalization affected kibbutz members' voting patterns and how it affected labor market norms and social values, such as their attitudes towards income equality, collective ownership of the means of production, and mutual guarantee.

When studying political orientation, we focus on the national elections to the Israeli Parliament (Knesset) from 1996 to 2013. Kibbutz members traditionally voted in huge numbers to the left, which is affiliated with socialist ideology. The center and the right parties are more supportive of free markets.

We classify each party in the Knesset as left, center, or right and measure the voting rates to each of these groups to capture each kibbutz's political orientation. Our identification strategy exploits the sharp and staggered implementation of the labor market liberalization reform in different kibbutzim. We take advantage of the different timing of the reforms and the difference in the years of exposure to the reform.

We employ two strategies to identify the reform's effect on voting patterns. The first one is a regression discontinuity strategy based on the staggered implementation of the reform. To estimate the reform's effect, we compare kibbutzim that reformed a year before national elections with kibbutzim that reformed a year after national elections. Our identification assumption is that the coincidence between kibbutzim reform timing and national elections timing is random in this sample. We support this assumption by showing balancing in characteristics of the treatment and the control groups.

Our second empirical strategy is a standard difference-in-differences method. We compare kibbutzim that reformed early (1997-1998) to kibbutzim that reformed late (2000-2001), before and after the early reform but before the late reform (that is, in the 1996 and 1999 elections). We

show no differential voting time trends before 1999 between the treatment and the control kibbutzim.

These two strategies show that the labor liberalization reform led kibbutz members to vote more for the center and right parties at the expense of the left parties, reflecting a shift in ideology away from socialism and towards free markets.[1] The effect is driven by less ideological kibbutzim (those that belong to the Takam movement).[2]

We next turn to directly examine the reform's effect on kibbutz members' attitudes and beliefs. To measure attitudes towards a market economy, capitalism, and socialism, we use surveys that the Institute for the Research of the Kibbutz and the Cooperative Idea at the University of Haifa conducted annually over the past 25 years. These surveys contain demographic characteristics such as gender, age, family status, education, and respondents' attitudes, values, and norms. Our sample includes approximately 14,600 person-year observations from 240 kibbutzim over 1993-2011. In addition, we link survey respondents to the dates in which their kibbutz reformed, allowing us to distinguish between individuals in kibbutzim that introduced labor market liberalization earlier versus later.

We estimate a dynamic difference-in-differences specification that allows us to study the causal impact of the reform on norms and values while controlling for time as well as personal and kibbutz attributes. Our identification assumption is that in the absence of the reforms, members in kibbutzim that reformed earlier or later would have been similar. We provide evidence that kibbutzim members who reformed at different times were very similar in their characteristics, values, and attitudes before the reform.

We find that labor market liberalization led to increased support of open labor market policies such as competitive labor market mechanisms, increased pay for overtime work, and differential wages. It decreased support for socialist policies, such as the joint ownership of the means of production. Still, it did not affect beliefs in the Marxist principle "from each according to his ability, to each according to his needs", a principle which stands at the core of socialist egalitarian perception. At the same time, the reform also led to increased support for the safety net

[1] In the political economy literature, the word 'ideology' receives different meanings. For some, it means what type of policies a person supports. For others, it means a more general concept of a worldview and beliefs about the world. Our 'ideology' variables directly capture support for policies and parties. But as pre-reform attitudes and norms were deeply rooted in a worldview of socialism, we believe that our findings reflect more than just a change in support for policies, but rather a more profound shift in beliefs about the world.

[2] In Israel, voting behavior is also an indication of political preferences towards the Israeli-Palestinian conflict. Therefore, a shift from left to right may reflect a shift away from supporting a peace process with the Palestinians. However, this reality does not affect the validity of our identification strategy and estimates because it affects the treatment and control groups similarly, especially between two adjacent elections.

in the form of a mutual guarantee for weak members. We find that kibbutz members started to embrace market mechanisms that enhance productivity while still adhering to their core principles of mutual guarantee and limited disparities. Consistent with the fact that deliberation on a reform starts about two years before it is passed, we see a change in attitudes starting two years before privatization. However, we present evidence of a significant additional change once the reform is passed.

The support for competitive labor market policies increased for members of all ages, education levels, and genders, although their support of specific principles varied. For example, we find that the effect on women is mostly concentrated in their reduced support for the principle of equality. In contrast, the effect for men is concentrated on increased support for mutual guarantee. In addition, men adopted a more favorable attitude towards collective ownership of production, while women favored transferring personal assets to private ownership.

The effects we document appear to be driven by an increase in living standards and work ethics that resulted from the reform. Equal sharing in the traditional kibbutz encouraged shirking and free riding. While strong idealism among founders helped kibbutzim reduce these problems in the past, idealism declined over time, and the second and third generations became less idealistic than the founding generation (see Abramitzky 2018 for a discussion). By the 1990s, before reforms took place, members complained about shirkers.[3] As reported by members in surveys, our findings provide quantitative evidence that the reform improved kibbutzim's members' economic conditions and work ethics. These improvements might have, in turn, contributed to the more favorable attitudes of kibbutz members towards open labor market policies. Such improved economic conditions and work ethics might explain why even groups that stood to lose in relative terms from the reform, such as older and less educated members, supported it. The improved economic conditions and work ethics meant that even if these groups experienced declines in their relative income (as they found themselves at the bottom of the kibbutz's income distribution), they may not have lost in terms of absolute income. Moreover, these groups may have concluded that a shift away from equal sharing was inevitable for the long-term survival of their kibbutz, and accordingly became more favorable to market mechanisms after the reform.[4] Specifically, older kibbutz

[3] For example, one member was quoted saying that "people like me who started as socialists concluded that you can work hard and get nothing while others don't work hard. It is so unfair." (See Muravchik 2003). Another member said that his kibbutz was a "paradise for parasites." And one member of kibbutz Gesher told Mort and Brenner (2003, p. 76) that "[M]ost strong members said that they don't want to carry on their back those who don't earn, that they want to take care of themselves."

[4] Naturally, individuals care about their absolute income, but evidence shows that they also care about their income relative to others. See, for example, Luttmer (2005) for evidence on the effect of relative income on happiness and Card et al. (2012) for evidence on the impact of a decline in relative income on job satisfaction.

members realized that their children support the reform, and that that might leave if the reform is not implemented.

We conclude that introducing market-based wages led to a shift in attitudes towards what we call a market economy with compassion, changing from their traditional democratic socialist model to a social democratic one. Although most kibbutz members support the differential pay reforms, they still want to maintain their core principle of mutual guarantee. When reflecting on how they want to live and build their society, most members want to live in neither a traditional socialist kibbutz nor a capitalist city. Most of them prefer something in the middle – a market economy within a compassionate society with a comprehensive safety net.

In recent decades, the western world has strived to find an institutional structure that will exploit the efficiency that markets hold while balancing it with sufficient safety nets and shared prosperity (Acemoglu, 2019). The road paved by the reformation of the kibbutzim exemplifies how broader lessons to the developed world could be learned.

Surprisingly, we find that even older and less educated people, who one might a-priori think would potentially stand to lose from a shift towards market wages that rewarded participation in the labor market and higher education, also increased their support for the free labor market approach. Since these groups were likely below the median income in the kibbutz after the reform, it is not surprising that they increased their support for the principles of equality and mutual guarantee, which would benefit them. While it is impossible to nail the mechanisms underlying these findings, this increased support in the market economy could have been mediated by the belief that such reforms were necessary for the kibbutz's continued survival (for example because they knew their children support the reform and would otherwise leave) or because people witnessed improved economic conditions soon after the change. And the increased support for mutual guarantee could have been mediated by a realization that the market economy creates winners and losers. Indeed, the kibbutzim that reformed provided some safety nets to the elderly and members with very low earnings.

The paper is organized as follows. The next section briefly reviews the relevant literature and our related contributions. In section 3, we describe the background of the pay reform and ideology in kibbutzim. Section 4 presents the data. Section 5 presents empirical strategy and results for the electoral behavior analysis. Section 6 outlays the empirical strategy for examining the effect of reforms on values and norms. Section 7 presents results, and section 8 discusses possible mechanisms. Finally, section 9 provides conclusions and a discussion of external validity.

## 2. The Paper's Contributions in the Literature Contexts

A growing literature has documented the long-lasting effect of historical events on preference formation. We bring three examples for this strand of research. Giuliano and Tabellini (2021) bring evidence that waves of immigration to the United States shaped the long run support of redistribution. In another paper (Acharya et al. 2016), it is shown that in the United States, slavery has altered political attitudes 150 years after it has ended. Finally, Alesina et al. (2013) have claimed that the allocation of gender roles can be traced back to the practices of traditional local agriculture. Our paper is part of this growing body of research, and it studies the effect of liberating labor markets on political attitudes and preferences.

More elaborately, our paper contributes to five strands of literature. First, it relates to the literature on the effect of economic shocks on voting behavior. An extensive literature has emphasized the importance of economic self-interest in forming political opinions and voting behavior. For example, people tend to vote for parties that advocate for policies that can improve their material position (Hout et al. 1993, Cusack et al., 2006 Rueda 2007, Margalit 2009). However, personal experiences and ideological dispositions may affect voting, even when a vote goes against self-interest (Redlawsk 2002, Shayo 2009, Kitschelt & Rehm 2014, Margalit 2019). We contribute to this debate by providing empirical evidence of ideological attitudes in electoral decision-making. We show that even though the self-interest of kibbutz members was to support leftist parties, which have always been much more supportive of kibbutzim due to the historical, political, and institutional affiliations, some members increasingly voted for rightist parties after their kibbutz reformed. We also show that even though labor market liberalization improved work ethics and living standards in all reformed kibbutzim, it did not affect voting behavior in kibbutzim with strong socialist ideology before the pay reform.

Second, our paper contributes to the literature on how engagement with markets affects social values and political preferences. Building on a long and important literature going back to Montesquieu (1748) and Marx and Engels (1848), Margalit and Shayo (2020) conducted a large field experiment to evaluate the impact of financial markets. They found that engagement in the stock market shifted rightward attitudes on economic fairness, inequality and redistribution, and the role of luck in economic success. Our paper adds to this literature by studying a non-experimental setting in which variations in the introduction of markets naturally occurred and documenting how market experiences affected norms and values.

Third, much has been written about the failure of socialism and its rejection worldwide (see, for example, the discussion in Abramitzky 2018). At the same time, there is a growing concern with the increase in income inequality in more capitalist countries like the US and Israel, as shown by the social justice protests in Israel and the Occupy Wall Street movement in the US (both in

2011). Influential works by Saez and Piketty (2003, 2006, 2013), Piketty (2014), and Saez and Zucman (2019, 2020) uncovered the rise in income and wealth inequality in the US and around the world. This brought attention to the problems of income inequality under capitalism.

Nevertheless, Ashok, Kuziemko & Washington (2015) show that while inequality in the US has risen, demand for redistribution remained flat or even decreased, especially among the elderly and African Americans. Our paper contributes to these discussions by providing evidence from one of the longest-lived and most successful democratic socialist communities. We document how kibbutz members who experienced open markets developed norms and attitudes that support a model that is neither full capitalism nor full socialism. Instead, members whose kibbutz shifted away from full income equality became increasingly supportive of a model similar to present-day Norway and Sweden. Since we estimated this change based on many post-reform years, we view this reaction as a long-run transition in the long run.

Additionally, prior literature on the causal effect of policies and reforms on attitudes towards redistribution focuses on non-democratic countries. Alesina and Fuchs-Schündeln (2007) find that Eastern Germans' experiences with socialism made them more supportive than West Germans of government intervention. However, they expect convergence to take place eventually. Abramitzky and Sin (2014) find that the collapse of Communism in Eastern Europe resulted in an increased preference for Western knowledge, as measured by Western titles' translations. In China's context, Cantoni et al. (2015) studied the effect of textbook reform on students' political attitudes in China between 2004 and 2010. The new curriculum led to more positive views of China's governance and increased skepticism toward free speech. Chen et al. (2017) show that parents' experiences with the wealth equalization movements during the Communist Revolution in China (1947-1956) affected their children's preference for redistribution. Specifically, the authors find that making these historical experiences salient for a random set of respondents turn the respondents to support government redistribution. We add to this literature by examining how attitudes and norms towards equality and capitalist and socialist policies are formed in a democratic setting. Our findings suggest that in democratic environments, experience with labor market liberalization is consistent with and could enhance support for market-oriented capitalism while at the same time enhancing support for mechanisms to ensure a comprehensive safety net for those who stand to lose from exposure to these markets.

Finally, while external validity should not be exaggerated, our paper may contribute to our understanding of the processes that took place in the transitions of central and eastern European countries from centrally planned to market economies after the fall of the Iron Curtain (see Brainerd 1998), the abolition of village collectives in China in the 1980s, and Vietnam's labor market

liberalization in the mid-1980s (see Moock, Patrinos, and Venkataraman 1998, and Svejnar 1999). Our findings suggest that once an economy introduces market liberalization, citizens may increase their support for market forces while at the same time becoming more concerned about those who might be left behind and so become more supportive of providing a safety net.

## 3. Brief background

### 3.1 Kibbutzim and the pay reform

This section is based on Abramitzky (2018), Palgi and Getz (2014), Russell, Hanneman, and Getz (2013), and Palgi, Sofer, and Heilbrunn (2020), and only provides a brief overview of kibbutzim and the labor market reform.[5] Kibbutzim are socialist, voluntary, communities in Israel that have survived for over a century. For most of their existence, kibbutzim were based on full income equality, collective property ownership, and a strong mutual guarantee among members. In a traditional kibbutz, members received an equal income allowance regardless of their contributions, following the Marxist principle, "From each according to his abilities, to each according to his needs." Members who worked outside their kibbutz had to give their full salaries to the common pull of the kibbutz income. While kibbutz members have always accounted for a small share of the Israeli population, they have played a large role in Israeli society, for example, by producing some of its ideological, political, and intellectual leaders.

Beyond socialist ideology, mutual guarantee among members has always been a key principle. The kibbutz bylaws (our translation from Hebrew) emphasize the commitment to "provide for the economic, social, cultural, educational, and personal needs of members and their dependents... [and] to ensure a decent standard of living for kibbutz members and their dependents."

Surveys conducted in kibbutzim in the late 1960s suggested the importance of both the principles of equality and mutual guarantee. Among the values listed as most important were socialist values such as "collectivity and equality" and "developing a model socialist society," alongside mutual guarantee values such as "full social security" and "an adequate standard of living" (Rosner 1990).

Our paper focuses on the effects of the shift away from full sharing and equal income to market-based wages in kibbutzim. Since the late 1990s, many kibbutzim shifted from equal sharing by introducing market-based wages, creating for the first time a link between members' productivity and their earnings. This labor market liberalization was a response to changing

[5] See, also, Near (1992, 1997).

external pressures and circumstances facing kibbutzim, such as a decline in the world prices of agricultural goods of which kibbutzim produced a large amount, bad financial management, a high-tech boom during the mid-1990s that made the outside option for jobs more attractive, and a major financial crisis that hit kibbutzim and many other businesses in the late 1980s.

Shifting away from equal sharing was considered a huge change and required an overwhelming majority. According to the Cooperative Societies Regulations, since the kibbutz's legal status is a cooperative society, any amendment of the Articles of Association had to be approved by a majority of at least 75% of the votes present at the general meeting (Manor 2004, Cooperative Societies Regulations 1995). A quorum of at least two-thirds of the association members at the meeting was required. Furthermore, every change in the articles is subject to the approval of the Registrar of the association. In practice, the Registrar was the authority that ensured that the new articles included sufficient protection for the minorities' rights and provided an adequate social security net and proper mechanisms to protect the needs of the weaker population (Manor 2004).

In reformed kibbutzim, members could now keep their earnings for themselves for the first time. For the members who worked outside their kibbutzim (approximately one-fourth of all members), market wages were those they earned from their outside employers (to reiterate, before the reforms, these wages were added to the kibbutz income pool). For members who worked inside, market wages were set to reflect wages of non-kibbutz workers with similar occupations, education, skills, and experience.

Important in our context is that despite the shift towards a more "capitalistic" model, the language used to describe reformed kibbutzim – "a safety net model" – suggests that even reformed kibbutzim still take care of weak members in need. The language reveals that mutual guarantee remains a core objective of the kibbutzim's mission. In reformed kibbutzim, a "kibbutz tax" was deducted from members' gross wages to guarantee a safety net for older members and very low-wage earners in the kibbutz.

One question that many in Israel asked was whether a reformed kibbutz could still be considered a kibbutz. Kibbutzim's shift away from equal sharing led the government to appoint a public committee, the Ben-Rafael Committee, which extended what a kibbutz is to include both the "renewed kibbutz" and the "collective kibbutz." This committee legitimized the renewed kibbutzim

model that still adhered to core kibbutz values and facilitated the transformation of kibbutzim that departed from the traditional collective model (Ben Rafael and Topel 2011).[6]

We will later consider differences by how ideological a kibbutz was, measured by their movement affiliation. Kibbutzim varied in their commitment to socialist values, with kibbutzim that belonged to the "Kibbutz Artzi" movement more ideological than those who belonged to the "Takam", the other major movement. Kibbutz Artzi has traditionally been more conservative in preserving the original values. Established in 1927, Kibbutz Artzi Federation was a Socialist-Zionist movement associated with Ha'shomer Ha'tzair and the Marxist-Zionist political party Mapam (ancestor of the modern-day Meretz political party). The Takam movement was also a socialist-Zionist movement but traditionally more practical and less ideological.

### 3.2 Political Background

Since we focus on the reform's effect on voting patterns in the Israeli Parliament, we present a brief description of the Israeli national political system. The Israeli governance system is a parliamentary one. Citizens do not vote for the prime minister directly but rather for the Knesset (the Israeli Parliament). The voting for the Knesset takes place in a multi-party system. Over a dozen parties contend for the 120 legislative seats every election, and usually, more than 10 of them win representation. Thus, the Israeli parties' map changes between elections, as some parties are not reelected, and other new parties appear. Post-election negotiations led to a multi-party coalition of at least 61 parliament members, led by a prime minister elect. The rest of the parties serve as opposition parties.

Since the mid-nineties, the Israeli Parliament has had three main political camps – the left, the center, and the right – where the two former camps are allied against the latter. Even though the center and the left have allied together, there are still substantial differences between them. The most important is that the center parties hold a less socialist economic ideology. The Kibbutz Movement is historically very strongly affiliated with the left camp. Israel itself was founded by socialist labor movements with close connections to kibbutzim, and the country as a whole held socialist ideology and materialized it for decades. However, kibbutzim diverged their support to different parties within the left camp. The more ideological kibbutz Artzi movement favored

[6] Despite the shift from a socialist to a capitalist model, Abramitzky (2018) writes that: "A member of Kibbutz Kfar Ruppin, which moved to a capitalist model relatively early, remarked that it was important for the kibbutz to preserve cooperation and mutual aid even under the capitalist model, because "the capitalists have taught us that a worker who feels secure and who identifies with his company is more productive" (ibid., p. 222). Another member of Kfar Ruppin was asked whether it should still be called a kibbutz. He answered, "Call it what the hell you want. If people live together and help each other, I think that's a kibbutz!" (ibid., p. 227)."

Mapam, a communist party that supported the Soviet Union's early days. Takam, the more moderate movement, supported the historic Mapai party that governed Israeli unchallenged until 1977. Mapai advocated for more restrained socialist policies and wished to create strong bonds with the US, unlike its more minor ally (Mapam party).

These historic parties still have representation in contemporary Israeli politics. Mapai has turned into the labor party, and Mapam, jointly with the Ratz party, created the Meretz party in 1992. These two parties are the main leftist parties in Israel. Since 1992 they have consistently won parliamentary seats, and in many elections, they were the only leftist parties contending. However, their relevant strength has weakened steadily. In 1992, they had 56 legislative seats, but in the final elections of 2020, they only won 6.

Meanwhile, the two other political camps gained popularity. The center parties did not hold any parliamentary seats in 1992 but gained 33 in the 2020 election. In comparison, the right camp grew more moderately, and the number of seats they held increased from 58 to 65 during the same period.

## 4. Data

### 4.1 Electoral Data

We focus on the six national elections between 1996 and 2013, which closely parallels our analysis of survey questions.[7] Our research is based on data from the Central Elections Committee of Israel, published for the general public. For every election to the Knesset (Israeli Parliament), the data includes a locality identifier and election polls identifiers, the number of eligible voters, and the number of votes cast for each political party running. In most cases, all eligible voters in an election poll are from a specific kibbutz, allowing us to measure how kibbutz members voted. In very few cases, election polls combine people from a kibbutz or a few kibbutzim with people living outside a kibbutz. As a result, we cannot distinguish kibbutz members' votes from non-kibbutz members' in these voting polls. Out of more than 250 kibbutzim, only 18 did not have a unique voting poll, and including them in our sample will attenuate the estimated effects. Therefore, we prefer to drop these kibbutzim from the sample, leaving us with 232 kibbutzim with local voting polls for all six elections.

We use the data for the parties that have won seats in Parliament in at least one election in our period, dropping parties that did not. We assign each political party into one of three political camps – left, center, and right. Our categories are based on Shenhav's (1985, unpublished, updated

[7] We cannot include the elections of 1992 in our sample, as no center parties were contending in that year it is incomparable to the remaining years in our sample.

by the author in unpublished work up to the 2020 elections) political parties map and the parties' self-proclaimed political affiliation.[8] The classification is year-specific.

No party changed its political orientation during the analysis period. Some parties disappeared from the sample in some elections (either because they dissolved or did not get enough votes) while new parties emerged. For example, in the 1999 election, Shinui and The Center Party were classified as the center. However, in 2003 The Center Party did not win any seats leaving Shinui as the only center party in Parliament. In 2006 Shinui did not win parliament seats, and instead, a new center party, Kadima, formed and was elected to Parliament as a center party.

Our objective is to identify the effect of the labor liberalization reform on voting patterns in kibbutzim. We want to assess whether, in the post-reform elections, support for left parties declined and center and the right parties increased. Accordingly, our outcome variables are the percentage of voting in each kibbutz for all parties that are part of each category, out of all cast votes. We are also interested in the voting turnout, defined as the proportion of voters among the eligible.

While we document a move from the left to both the center and the right, we note that these changes should be interpreted differently. A member that moves from the left to the center remains within the same political alliance. Though it implies increased support for a less socialist party, it is still within the same political camp. But a move from the left to the right marks crossing to the opposite camp.

Table 1 presents summary statistics for all variables we use to study the effect of reforms on political orientation and voting. Panel A presents descriptive statistics for the group of kibbutzim that have already reformed and panel B for the group of kibbutzim that have not reformed. These two groups' compositions change from election to election because more kibbutzim reform as time passes. The variables are the number of kibbutzim, the unweighted average number of eligible voters per kibbutz, the voter turnout rate, and the proportion of votes for the left, center, and right

[8] In more detail, we categorize the left as the Labor Party and the Meretz Party (both of which won seats in all elections), the party Am Ehad (which split from Labor in 1999 and united with it again after 2003), and all Arabs parties. In the center, we include The Third Way, The Center Party, Shinui, Kadima and Yesh Atid (none of which won seats for more than three elections during our period of interest). Finally, on the right, we include the Likud party (which won seats every year), Israel Beiteinu, Moledet, and all strictly religious Jewish parties, including ultra-orthodox parties. We exclude two parties that did win seats in Parliament during our period. One party is Israel Be'aliya, which won seats in 1996-2003. This party was indeed affiliated with the right to some extent. But not only did it merge capitalist and socialist economic ideologies, it was also highly sectorial, and its electorate consisted almost exclusively of immigrants from the Soviet Union. We also exclude the Gil party that won seats in 2006. Gil was an outlier in Israel's politics. Its main agenda was advocating for senior citizens' rights, and the voting for it was later by and large identified as an act of protest. Therefore, deriving political affiliation from voting for Gil is without much merit.

parties. The first column clearly shows the increased number of reformed kibbutzim over election years and the respective decline in the number of control (unreformed) kibbutzim. Column 2 shows that the number of eligible voters per kibbutz increases over time in both groups. (This increase is at a higher rate in kibbutzim that reformed, reflecting that the kibbutzim that reformed early tend to be slightly smaller. If we exclude kibbutzim that reformed before 1998, the mean number of voters per kibbutz is very similar in both the reformed and unreformed groups.) A vast majority of kibbutzim members voted for left parties. However, this support declined continuously throughout the period, both in treatment and control groups. At the same time, we see an increase in the vote share for center parties. We emphasize that though this trend reflects a general shift in the political camp's popularity in Israel, the trends in reformed Kibbutzim are steeper than the general trends in Israel: they demonstrate a sharper reduction in the left's support and a more significant increase in support of the other two political camps. The table also shows that there is a decrease in voter turnout for both control and treatment groups. This reflects a general population trend over the time that we focus on.

**4.2 Survey Data**

We use data from a yearly survey conducted among kibbutz members by Institute for the Research of the Kibbutz and the Cooperative Idea (IRK) at the University of Haifa. This survey contains demographic characteristics (gender, age, family status, level of education), answers to questions about personal well-being and kibbutz's economic condition, and opinions on different aspects of the reforms and kibbutz's way of life. In addition, we merge this data with IRK reports about the dates on which the pay reform was implemented in each kibbutz, allowing us to distinguish between kibbutzim that introduced labor market liberalization earlier versus later.

The survey was implemented in most years since 1991, except in 2006, 2008, and 2010. Until 1998 the survey was carried out by filling out paper questionnaires, and since then in an online format. The sample included about 200 (randomly chosen from the 268) kibbutzim every year and targeted individuals randomly selected in each kibbutz. However, since it went online, the sample mainly contained people who responded. Therefore, different kibbutzim were included each year, so in terms of the number of kibbutzim, our sample grows to include 240 different kibbutzim. As a check, we compare the means of demographic variables (age, gender, education, affiliation with one of the two kibbutz movements) of the sample to the means of all kibbutzim populations and find that the sample is overall representative. This evidence is presented in the online appendix Table A1. Since the survey is anonymous, we cannot link individuals' responses over time. Therefore, the data is structured as repeated cross-sections at the kibbutz level.

The sample we use for studying the effect of reforms on voting includes approximately 14,600 person-year observations from 240 kibbutzim over 1993-2011. We focus our analysis on these years because the survey questionnaire was very similar. Sample statistics are presented in Table 2, including the number of kibbutzim that reformed that year, the number of distinct kibbutzim, the number of survey respondents, and the number of respondents from kibbutzim that reformed. The first reforms occurred in the mid-1990s (except for very few that reformed in 1992), so the sample includes all affected individuals in these kibbutzim.

Table 3 presents the sample descriptive statistics by the "treatment" and "control" groups. Each kibbutz was considered a control until the year after it implemented the pay reform. The table presents the estimated differences between the groups controlling for year-fixed effects. The table shows that the treatment group has a slightly higher female share and contains fewer respondents born or raised in a kibbutz. Additionally, given that it is more populated in later survey years, the treatment group is 2.34 years older and has a lower share of single respondents. Lastly, the treatment group includes fewer respondents from the Artzi movement – the more ideological of the two movements. Table A2 presents a similar table for four periods of grouped years: Until 1998, the year large numbers of kibbutzim started to implement the pay reform, 1999-2001, 2002-2004, and 2005-2007. Because the pay reforms only began in the late 1990s, the sample until 1998 (inclusive) includes mostly control individuals, and from 1999 onwards, the treated group grew while the control group shrank. By 2007, the sample included 31.5 percent control individuals, while the entire sample (1991-2011) included 72.97 percent control individuals. Table A3 presents descriptive statistics for kibbutzim that either reformed early (in 1998-1999) or kibbutzim that reformed later (in 2003-2005), by grouped years. The responses from kibbutzim that reformed early are similar to those from kibbutzim that reformed later, except for a few spurious differences in some variable-year cells. We note that in comparison to kibbutzim that reformed later, in kibbutzim that reformed early there are fewer respondents from kibbutzim affiliated with the Artzi movement. This is consistent with the ideological differences between the two movements.

The kibbutz survey questionnaire addresses various aspects of the kibbutz environment. We use multiple sections' questions about attitudes and norms and the kibbutz's economic and social status, work ethics, and inequality among members. The respondents are asked to rate on a 5-point Likert scale ranging from 1 (strongly oppose/disagree) to 5 (strongly support/agree) the extent to which they support/agree with a series of statements.

Some of the survey questions are irrelevant to this study (e.g., members' opinions on the kibbutz youth movement and newspaper). Therefore, we focus on the questions dealing with three aspects: (1) We include questions on members' opinions regarding recent or planned reform

elements such as paying extra work hours or differential salary. We refer to this group as labor market norms. (2) We include questions on members' beliefs about the contribution of traditional kibbutz social norms to overall equality and mutual guarantee. We refer to this group as social norms. (3) We include questions on members' beliefs about the contribution of egalitarian-traditional kibbutz norms regarding collective ownership of the means of production or kibbutz's assets. We refer to this group as collectivist beliefs.

We follow Katz et al. (2006) and build summary measures using all related questions for both the labor market norms and collectivist beliefs. The summary measure is computed by taking an equal-weighted average of Z-scores of each relevant question. The Z-scores are calculated using the untreated observations' mean and standard deviations from the same survey year (using a year-specific control group for each question).

## 5. Effects of Labor Market Liberalization on Political Orientation

### 5.1 Empirical Strategy: RDD

To assess the reform's impact on voting patterns, we exploit kibbutzim reforms in different years and offer two different alternatives, though complementary, estimation strategies. The first strategy, a form of a sharp regression discontinuity (RD) design, takes advantage of the fact that some kibbutzim reformed just before national elections, and others reformed just after them. To isolate the reform's effect from electoral patterns, our analysis focuses only on the 120 kibbutzim that reformed exactly a year before or after one of the elections between 1996 and 2013. We classify the 61 kibbutzim that reformed a year before an election as treated kibbutzim and the 59 kibbutzim that reformed a year after an election as control kibbutzim. We observe each kibbutz only once at the elections adjacent to its reform timing. So, if a kibbutz reformed in 1995, it will be observed only at the elections of 1996, and it will be considered treated. Likewise, a kibbutz that reformed in 2004 will only be observed at the elections polls in 2003 and will be classified as control.

Our identification assumption is that the coincidence between a kibbutz's reform date and the general election's year is random within the sample. So, there will be no systematic differences between control and treated kibbutzim at the baseline. This assumption is plausible for two different reasons. First, elections are often not anticipated in the Israeli system but rather occur due to dynamic political circumstances. In our sample, all six elections took place earlier than required by law. Thus, it is unlikely that kibbutzim managed to plan their reform to occur just before or just after an election. Second, passing the reform in each kibbutz is an internal process involving arranging technicalities, performing negotiations, and garnering support. This process usually takes at least two years, and occasionally even longer. For a reform to occur in close proximity to an

election, negotiations must start much earlier, when the prospect of an election is still far away. Moreover, unanticipated elections are not likely to trigger an immediate response in the reform timing, as the latter gradually unfolds. We conclude that if an election's timing has anything to do with a reform's timing, it is only at the margin, positing no serious threat to our design.

Thus, based on our identification assumption, any difference we detect in voting behavior is caused by the reform. Therefore, to identify the reform's influence on voting patterns, we estimate the following regression model:

$$Q_{it} = \alpha Treatment_{it} + \beta Artzi_i + \gamma Year_t + \varepsilon_{it} \qquad (1)$$

Where $Q_{it}$ is the number of votes for the left, center, or right, or the voting turnout for kibbutz $i$ in year $t$. $Artzi_i$ is a control for whether the kibbutz belongs to the Artzi movement. $Year_t$ is a set of dummies for each different year. The variable of interest is $Treatment_{it}$ which is equal to 1 if kibbutz $i$ reformed just before $t$, and 0 if it reformed just after it. Finally, $\varepsilon_{it}$ is the error term.

To support our identification assumption that belonging to the control or treatment group is random, we present balancing tests using the survey data we have on hand. First, we take a series of questions asked in the survey until 1994 and regress the answer to these questions on the treatment indicator, including year fixed effects. The results are presented in Table 4, columns 1-3. As can be seen, before 1995, the kibbutzim did not differ in any of the observed variables, except that in treated kibbutzim there is a slightly larger likelihood that members will have post-secondary schooling. Then, as a robustness check, in columns 4-6, we also perform the same analysis, dropping kibbutzim that reformed in 1995 and 1997 and taking survey questions until 1997. This also allows us to add another question to the analysis. Again, there is no systematic difference between the two groups of the kibbutzim at the baseline.

In Table 5, we present equation (1) estimation results. Panel A depicts our benchmark results with a one-year window as described in the previous section. In Panel B, we omit kibbutzim that reformed a year before or after the elections of 1996 (that is, in the years 1995 and 1997). In Panel C, we also omit kibbutzim that reformed near the 1999 elections (in 1998 and 2000). In Panel D, we omit kibbutzim that reformed near the 2013 elections (in 2012 and 2014). We analyze these different samples, as we will also examine them when conducting placebo experimentations.

We also investigate what happens when we broaden our definition of treatment and control groups while moving away from the RD cutoff date. In panel E, we take kibbutzim that reformed two years before or after an election. This sample includes almost all the kibbutzim in Israel that ever reformed. We define the kibbutz as a control if it reformed up to two years after the elections and treated if it reformed up to two years before it. Some kibbutzim appear twice in this specification: once as control and once as a treated. For example, kibbutzim reformed in 2004 will

be part of the control group in 2003 and the treated group in 2006. In all specifications, we control for the indictor of affiliation in the more ideological Kibbutz Artzi movement.

The main result that is shown in all specifications is that the reform caused kibbutzim members to vote less for left parties and more for the center and right parties The reform had no systematic impact on voting turnout. The main results can be presented graphically. In Figure 1 we show the estimated treatment coefficients and the confidence intervals (95%) from all specifications used. We group the estimates by the different samples we use in correspondence to the evidence we present in Table 5. For each sample, we present the estimates from left to right: turnout (black), support of the left parties (blue), support of the center parties (green), and support of the right parties (red). As can be seen the estimated coefficient for voting for the left is always negative and significant, and the coefficients for voting to the center and the right are always positive and almost always significant.

To strengthen the credibility of the interpretation we offer to these findings, we employ two placebo exercises. First, we remove from our primary sample kibbutzim that reformed around the 1996 elections and set each kibbutz's treatment status one election backwards. So, a kibbutz that reformed in 1998, just before the elections of 1999, is considered in this placebo set-up as treated for the 1996 elections (though, in reality, it was treated for the 1999 elections). Similarly, a kibbutz that reformed in 2000 will be considered a control for the 1996 elections. We also do a similar analysis and set the treatment or control year one year forward. So, for example, the kibbutz reformed in 1995 will be treated for the 1999 elections. These placebo estimation results are presented in Table A4, Panels A and B.

In Panels C, D, and E, in the same table, we present results for our second set of placebo tests. In Panel C, we take the sample that reformed after 1997 and divide it into treatment and control based on their actual treatment/control status. However, we run the regression using only voting results in the 1996 election – before any kibbutzim have reformed. Similarly, in Panel D we take kibbutzim that reformed after 2000 and examine their voting patterns in the 1996 and 1999 elections. Finally, we also implement a placebo estimation based on omitting kibbutzim that reformed after 2011 and using the remaining kibbutzim as outcomes in the regressions of the 2013 election results (namely, a round of voting after all the kibbutzim in the sample have already reformed). As seen in all these placebo estimations, the point estimates show null effects, which is consistent without interpretation of the original results.

Finally, we separate kibbutzim that belonged to the Kibbutz Artzi Movement and Takam Movement to identify any heterogeneity in the results by level of ideology. Table A5 in the online appendix presents results for Takam kibbutzim (columns 1-4) and Artzi kibbutzim (columns 5-8).

This table shows that all the effect we document is driven by less-ideological kibbutzim, while more-ideological kibbutzim didn't change their voting patterns after the reform.

### 5.2 Empirical Strategy: DiD

Our second empirical strategy is a standard difference-in-differences strategy. We take kibbutzim that reformed in 1997-1998 (treatment) and kibbutzim that reformed in 2000-2001 (control). We compare the voting patterns of the kibbutzim in the elections in 1996 and 1999. None of the kibbutzim reformed in the first year (1996), so we expect to find no significant difference between the groups. However, in the second election, the first group had already reformed. Therefore, we interpret any systematic difference between the two groups in these elections as causally resulting from the reformation of the first group.

Our identification assumption for this strategy is that the treated and control kibbutzim would share the same trend without the reform. We support this assumption by analyzing the voting patterns of the two groups in the years 1984 to 1996. In Table A6, we show no differential pre-trends between the two groups. The table presents, separately for every year between 1984-1996, the estimate when regressing the dependent variables on the treatment, where treatment kibbutzim are those reformed in 1997-1998, and control kibbutzim are those reformed in 2000-2001. We include a control for kibbutz affiliation with the Artzi movement. We chose to start from 1984 because many of the kibbutzim in our primary sample did not have designated voting pools beforehand. As can be seen, before 1999 there is no difference in the voting behavior of the two groups.

Given the identification assumption, we estimate the causal effect of the reform on voting patterns using the following model:

$$Q_{it} = \delta Kibbutz_i + \theta Time_t + \vartheta Interaction_{it} + \varepsilon_{it} \qquad (2)$$

Where $Q_{it}$ is the same as before, $Kibbutz_i$ is a kibbutz fixed effect, and $Time_t$ is 1 at the year 1999 and 0 at the year 1996. Finally, $Interaction_{it}$ is the variable of interest, and it is 1 if the year is 1999 and the kibbutz has already reformed, and 0 otherwise.

We now proceed to show the results from the second identification strategy. Table 6, Panel A shows the results when estimating equation (2). The results indicate that the reform caused members to vote to a lesser extent to the left, and to a bigger extent to the center. In Panel B, we conduct a placebo analysis. We define the groups as treatment and control in the same manner. However, instead of checking the difference between the 1996-1999 elections, we do so for the 2003-2006 elections. The interaction terms for voting for different political camps are significant for the treatment and are not significantly different from zero in the placebo analysis. This indicates

that there is a convergence in voting patterns after kibbutzim reform, in line with evidence we show about changes in values in section 7.

### 5.3 Discussion

Both empirical strategies yield similar results: members in reformed kibbutzim moved to vote to the center and possibly right at the expense of the left (Tables 5 and 6 and Figure 1). In the related literature, changes in electoral voting are usually attributed to either a shift in self-interest or a change in ideology. We believe that the change in electoral behavior witnessed in the kibbutzim is driven by the latter. Historically, the leftist parties have been closely politically affiliated with the kibbutzim, and they represented their interests in the Israeli Parliament and government. This has not changed due to the reformation process in the kibbutzim – the left parties are still much more favorable to any kibbutz than parties in the center and right. However, as we show in the next section of the paper, reformed kibbutzim's members have become more oriented toward the ideology of liberalized markets, which in Israeli politics is more affiliated with the center and right parties. Thus, we explain the shift in voting behavior as driven by these changes in ideological attitudes.

Additional evidence supporting our interpretation of the findings is that all of the change in voting patterns comes from the less-ideological kibbutzim (Takam, Table A5). As we later show, the reform affected attitudes to a similar degree in both movements. However, since Artzi kibbutzim were more leftist at the baseline, they remained more supportive of the left even after the reforms. So, even after the shift to the right, the marginal voter in these kibbutzim remained closest to the leftist parties and continued to vote for them. However, Takam kibbutzim started to the right of the Artzi kibbutzim at baseline.[9] So when they moved to the right, the marginal voter became closer to voting to the center and the right.

We should note that while the chief difference between leftist and center parties is in economic perception, the right parties are different on additional dimensions, including the conflict with the Palestinians, civil rights, and the place of religion in the public sphere. It is possible that some kibbutz members had agreed on these issues with the right parties even before the reforms but were reluctant to vote for them due to the disagreement regarding economic issues. Once kibbutz members became less opposed to free markets, they became increasingly more likely to vote for the right parties. Alternatively, it is also possible that economic considerations became

[9] Due to space considerations, we do not add a table depicting voting trends for each movement separately.

more important in members' voting decisions, and so they decided to vote to the right even if they disagreed with it on other issues.

## 6. Effect of Labor Market Liberalization on Norms and Values

### 6.1 Empirical Strategy

In this part of the paper, our empirical strategy relies on the different timing of the reform in different kibbutzim. We use a difference-in-differences methodology to estimate the reform's effect while controlling for various personal and kibbutz attributes. The first significant wave of reforms took place in 1998, and most of the kibbutzim reformed in the following few years. Therefore, a natural model for identification is a difference-in-differences model, where the period that determines before and after treatment is chosen based on sample size. This DID model was used in Abramitzky and Lavy (2014) and Abramitzky, Lavy, and Perez (2021). The benefit of this model is its simplicity and transparency. However, this model has three important drawbacks in the context of this study. First, it does not exploit all available information. For example, using as a treatment group only kibbutzim that reformed in the early years (say, up to 2000) will completely ignore information from kibbutzim that reformed post-2000 even though some of this information can contribute to the statistical power. Second, this model uses arbitrary boundaries. For example, why does the treatment group include kibbutzim that reformed before 2000, but does not include those that reformed in 2000 or 2001? Moreover, treatment intensity is not considered, as these arbitrary boundaries have the same treatment level imposed in the years since the reform.

And so, this paper uses an *augmented* DID specification to exploit all available information and variation in exposure to the treatment. We create a treatment variable that varies by year of survey and reform. It equals 0 for observations up to, and including, the year of the reform of the kibbutz. We define kibbutz members as treated in all survey years after the year that the kibbutz reformed, and we define kibbutz members' control observations in all survey years up to the reform year. This data structure implies that the treatment group is staggered over time as more and more kibbutzim implement a reform. We view this model as a 'dynamic' difference-in-differences model because the thresholds vary by year of reform. Each kibbutz 'contributes' observations to the control group (before reformed) and the treatment group (after reformed). We also allow the treatment effect to vary by year since the reform was implemented, and we explain this specification when discussing the results. Another advantage of this model is that it improves statistical power, which will help us to explore the heterogeneity of effects (as discussed below). We also show that the main results are robust when using the more standard difference-in-differences method. Finally,

we also present estimates based on the unbiased and efficient estimator proposed by Borusyak, Jaravel, and Spiess (2021), which is appropriate for our unique setting.

Using this model, we regress the outcome variable on the treatment variable, kibbutz fixed effects, a complete set of survey years dummies, and additional control variables. Like the standard DID specification, the treatment variable is solely identified by (reform year) * (survey year) interactions.

We estimate the following dynamic difference-in-differences model regression equation:

$$Q_{ikt} = \eta_k + \gamma_t + X_{it} + \beta\,(Reformed_{kt}) + u_{ikt} \qquad (3)$$

Where $Q_{ikt}$ is the answer person $i$ from kibbutz $k$ gives to a specific survey question in survey year $t$, $\eta_k$ are kibbutz fixed effects, $X_{it}$ is a vector of demographic controls for individual $i$ in survey year $t$, $\gamma_t$ is a survey year fixed effect, and $(Reformed_{kt})$ denotes whether the individual belongs to a kibbutz that was already reformed at year $t$. Standard errors are adjusted for clustering at the kibbutz level.

The coefficient of interest, $\beta$, identifies the extent to which the mean of $Q_{ikt}$ in kibbutzim that reformed as of date *t* changes relative to the mean in the control group (kibbutzim that did not yet reform).

For the estimation in equation (3) to have a causal interpretation, the unobserved determinant of the answer to a question must be uncorrelated with the treatment indicator. The kibbutz fixed effects control for potential confounding factors that vary across kibbutzim but are fixed over time. The year fixed effects control for time-varying unobserved factors correlated with the answers to each question.

As mentioned earlier, we have several measures for the categories of labor market norms and collectivist beliefs. For each category, we create a summary measure (an index) that combines this category's outcomes to increase power and avoid bias due to multiple testing, which could be an issue when estimating heterogeneous treatment effects. We use the typical method of combining variables in the literature, which is to take the simple average of the standardized outcome variables.

### 6.2 Sample Means and Balancing Between Treatment and Control Observations

We use the specification of equation (3) for balancing regressions. The predetermined variables are the dependent variables in these regressions, which we use to test whether kibbutz members in treatment and control kibbutzim are different in their demographic characteristics. These controls include gender, age, education, and family status. Again, we note that each kibbutz is considered a

control until after the year that it implemented the liberalization reform. The regressions include kibbutz fixed effects and year dummies, and the standard errors are clustered at the kibbutz level.

Table A7 in the online appendix shows that the treatment and control groups were well balanced when the early and late reforms were defined based on a fixed time gap (say, those reformed in 1998-1999 versus those reformed in 2003-2005). Overall, these findings align with the evidence presented in Abramitzky and Lavy (2014), Abramitzky, Lavy and Segev (2020), as well as Abramitzky, Lavy, and Perez (2021).

## 7. Effect on Norms and Social Values

### 7.1 Event Study Analysis

We start the presentation of the results with event study evidence. We first show standard event study estimates based on a given threshold that distinguishes between early and late reformed kibbutzim within a given sample. Second, we offer event study results corresponding to the dynamic difference-in-differences model based on pooling all data together. The first, more standard event study approach is helpful because it shows how the reform's effect on early reformers vanishes once the later reformers implement labor market liberalization. The second approach of the event study shows the dynamic impact throughout the years relative to the reform.

We first show standard event study estimates based on distinguishing between earlier and later reformed kibbutzim within a given sample. We focus on labor market norms because, unlike questions about social norms and collectivism, questions about labor market norms were present in the survey for multiple years before the start of reforms.[10] Figure 2 illustrates this part's main finding: the pay reform affected norms regarding labor market practices. It shows evidence for two outcomes: norms regarding differential wages and the broader index of labor norms (of which differential index is a component). The online appendix also shows the other components of the labor norms index estimates, namely full privatization and pay for overtime. The graphs show the mean treatment-control difference for five years before the reform (lags) and five years after (leads). The evidence shows that kibbutzim reformed in 1998-1999 (early reformers) versus kibbutzim that reformed in 2004-2005 (late reformers). Due to the sample size, we group two years of early reformers and two years of later reformers. We also show in online appendix Figures A1-A3 similar event study estimates based on alternative year groupings of treatment and control,

[10] Table A12 in the online appendix lists the questions that appear in each survey since its inception.

specifically the sample of kibbutzim that reformed in 1998-2000 (1999-2000) as early reformers and kibbutzim that reformed in 2004-2006 (2005-2006) as late reformers. All samples reveal the same pattern.

In Figure 2, we see that three to five years before the reform the treatment and control differences in norms were constant and close or equal to zero. (As indicated by the 90% confidence intervals, they were not statistically different from zero.) These patterns indicate both good balancing and no differential trends before the year of the reform. However, the treatment-control difference in support of labor market norms increases during the two years before the reform. This was when kibbutz members debated the reform and subsequently held voting.

Since shifting from equal sharing was such a fundamental change in kibbutzim, many kibbutzim held more than one voting round until the required special majority rate was achieved. In some cases, members appealed in court the voting results, which delayed the final approval and implementation of the reform. In a survey of about 50 kibbutzim, we found that these deliberations took around two years, consistent with the pattern we observed in the event study graphs.

In the post-reform year, the treatment-control difference increased and became more statistically significant. It continues to grow, reaching a peak of a 1.4 point difference in the Likert scale 3-4 years after the reform. However, this gap starts to decline during the two years before the late reforms in this sample, as discussions began in these late reformed kibbutzim. So, this again suggests that some of the effect was in anticipation of the reform, and some were due to the reform itself. The gap is entirely eliminated two to three years after the late reforms and becomes statistically insignificant, indicating the convergence in labor market norms among kibbutzim that reformed. This same pattern, of a gap opening in kibbutzim that reformed earlier and closing following the late reforms, holds for the other labor market norms (such as the norm regarding differential wages and the index of labor market norms).

Figure 3 shows event study results from specifications pooling all data based on sub-periods. We first use data from all kibbutzim that reformed in 1997-2000. We then add to this sample kibbutzim that reformed in 2001. Extending the sample to 2002 yields the same results. (As we want to use leads and lags for five years, this stretches the latter sample to 2007 and limits us to not extending beyond 2002 for years of the reform.)

We normalize the reform year to zero in each sample and look at the effect from -5 to +5 years since year 0. The results from this dynamic event study, presented in Figure 3, align with the evidence in Figure 2. We see that the treatment effect starts appearing two years before the reform, right as kibbutzim began discussing the reform. From the year of the reform (marked by a vertical red line), the difference between treatment and control in the index of the labor market norms and

differential wage norms increased, reaching a level at which they remained constant until five years after the reform. The effect is statistically significant for all five lead years. Figures 3a and 3b show the same pattern. Figures 4a-4b show the dynamic event study evidence for the variable that measures support for a differential wage. The patterns seen in these graphs are practically the same as those seen in Figure 2.

A concern might be raised that the effect we see in both event study graphs during the two years before the reform is evidence of a pre-trend that continued at the same pace after the reform got underway. We acknowledge that norms and values already changed *before* the final vote on the reform. It is very likely that the discussion of market reforms has already convinced some members that a liberalized labor market is good. As a result, they have already shifted their opinions. This change, however, could be thought of as part of the reform's effect if we consider its implementation process as part of the reform.

Nonetheless, these changes were small relative to the differences observed later. Once the reform is implemented, there is an additional increase in support of liberalized labor markets, perhaps because people observe that the kibbutz's work ethic and living standards have improved. We also note that our estimation model only picks up fixed time (year) effect after the final vote on the reform. An alternative model would have been to account explicitly for kibbutz-specific time trends (KSTT). Then, it could rule out potential violations of the parallel trend assumption. However, if the treatment affected the trend itself, adding a KSTT would underestimate the reform's effect.

To demonstrate further that we find an effect of the reform in addition to the change witnessed two years before the reform, we run the same specification on a sample that includes only pre-period observations from two years before the reform. As shown in Table 7, columns 3 and 6, we find a statistically significant effect of the reform in this sample as well, though marginally smaller in magnitude. We discuss Table 7 further in the next section.

There is a long discussion in the literature about adding unit-specific time trends. For example, Friedberg (1998), studying the effect of divorce flexibilization in the US on the number of divorces per state, adds a linear and a quadratic state-specific trend specification. Wolfers (2006) criticized this approach, arguing that it is impossible to separate preexisting trends from the dynamic effects of the policy shock. This problem is exacerbated when few observations are available before the treatment. The same issue was addressed in different empirical contexts, for example, Freyaldenhoven et al. (2019), Goodman-Bacon (2021), Lee and Solon (2011), Neumark et al. (2014), and Meer and West (2016). The general conclusion from these studies is that unit-specific linear time trends over-control for time-varying treatment effects.

Notwithstanding this evidence, some authors (Burgess et al., 2015; Dobkin et al., 2018; Neumark et al., 2014) show results when adding unit-specific time trends as additional specifications or robustness checks, and this is the approach we take. We follow them by using a model with kibbutz fixed effects and year fixed effects as our main specification and show (in the appendix) results from a model that includes KSTT. These results are discussed at the end of the following section.

### 7.2 Regression Analysis

Figure 5 illustrates the main results. It shows the point estimates and confidence intervals of the effect of the pay reform on perceptions of how individuals should be compensated for their work as well as social norms regarding equality and redistribution. The reforms increased support for market forces governing labor market outcomes for kibbutz members. Furthermore, while the reform resulted in less support for collective property ownership and overall income equality, it positively impacted mutual guarantee and assistance to weak members. These findings are consistent with a shift in preferences towards a "capitalism with compassion" model.

Regression analysis supports the findings in the figures. In Table 7, panel A, columns 1-2, we present the effect of the transition to a competitive labor market on 'labor market norms'. We use three different measures of such norms, and we also aggregate them into one summary measure (an index). The first measure is "support for paying for overtime work". The mean of this measure before the labor market liberalization reforms was 3.316. The estimated effect is 0.257, and the standard error (SE), which is clustered at the kibbutz level, is 0.061. This effect amounts to an 8 percent increase relative to the pre-reform mean.

The second and third rows' estimates show the large increase in support for competitive labor market mechanisms following the labor market liberalization. The estimated support for full privatization increased by 0.414, a 22 percent increase relative to the pre-reform mean. An almost identical increase is estimated in support of differential wages among the kibbutz members following the reforms. These two labor market norms are related. Hence, it is encouraging to see a similar estimated effect for both, even though the pre-reform level of support for differential wages was much higher (43 percent) than full privatization support. The impact on the summary measure of labor market norms is positive (0.291) and statistically significant (se=0.036), as expected, given the abovementioned evidence.

In columns 4-5, we present estimates replacing the Likert scale measure as a dependent variable with a 0/1 indicator. The indicator is equal to 1 for values 4-5 on the Likert scale and 0 otherwise. The advantage of this alternative measure is that we do not impose linearity and

cardinality in the relationship between the Likert values and the dependent variables. We also capture the effect of moving from low or no support to strong support of free labor market norms. Overall, the estimates in columns 4-5 are consistent with those presented in columns 1-2. However, the effect sizes are larger because we group the values of the Likert scale and, as noted above, capture larger swings in support of free labor market mechanisms. The results do not change when we redefine the binary indicator to equal 1 for values of 3-5 (instead of 4-5 as previously defined) on the Likert scale.

In columns 3 and 6 of Table 7, we restrict the sample to include only two years before the reform in the pre-period. We do this to capture the reform's effect relative to the two-year period in which the reform was discussed but not yet implemented. The findings suggest that the reform had an effect above and beyond the effect of the deliberations. The reform's effect is still statistically significant and only marginally smaller than those presented in columns 2 and 5.

Recent advances in the Difference-in-Differences literature raised methodological concerns regarding the treatment effect estimators obtained by dynamic models using two-way fixed effects (TWFE) regressions, such as those in this paper. This strand of literature offers several alternative estimators, and practical Stata or R solutions are continuously written and improved. The details of this paper present some complexity over the basic settings, namely that treatment is at the kibbutz level and observations are at the individual level, data are repeated cross-sections, and we need to control for many covariates. However, when we estimate the treatment effect using a suitable robust estimator, we get results almost identical to Table 7. Online appendix table A8 presents the estimates from the OLS regressions and the unbiased and efficient estimator proposed by Borusyak, Jaravel, and Spiess (2021), which is appropriate for our unique setting. The point estimates obtained by BJS's method are very similar to those of the OLS. Although about 25 percent of the observations drop in the social norms and collectivism questions, our results remain robust.

Table 8 presents estimates from standard difference-in-differences models, with two alternative pre/post period definitions. In the first sample, we define treated kibbutzim as those that reformed in 1998-1999 and control kibbutzim as those that reformed in 2004-2005. In the second sample, we define treated kibbutzim as those that reformed in 1998-2000 and control kibbutzim as those that reformed in 2004-2006. The table presents estimates only for the labor market questions, as the other questions entered the surveys in 2001 and cannot be estimated in the "pre" survey years. The results from the DID models show similar, albeit less precise, point estimates, as the number of observations is smaller than in Table 7. The point estimates for the labor index are very similar: In Table 8 the two estimates are 0.346 and 0.252, compared to 0.291 in Table 7. We note

that these standards DID estimates are consistent with the event study evidence presented in Figure 2.

Next, we present evidence on the impact of labor market liberalization on social norms. Recall that we cannot do the same elaborate exercises with social norms, because they were not consistently measured until the 2001 survey. Therefore, in a robustness test, we consider kibbutzim as treated if they reformed from 2003 onwards and allow for two years (2001 and 2002) as pre-reform. These results are presented in Table A9 and are similar to those presented in Table 7.

The estimated effects on social norms are presented in Figure 5 and in Panel B of Table 7. The reforms decreased support for overall equality among community members but increased support for mutual guarantee – the idea that the community should care for its weaker members. This latter social norm can be viewed as joint community insurance against bad times and misfortune. These effects are relatively modest, with only a 4 percent change in support for each norm, but they statistically significant. However, the effect sizes are more extensive when using the dummy indicator instead of the Likert scale values. The reform caused a 0.13 standard deviation change in each of the two norms.

These two estimates, coupled with the evidence in Panel A of Table 7, are the first sign of the overall narrative we present in this paper: embracing market mechanisms, in theory, can enhance productivity while still encouraging care about social cohesion and controlled disparities.

In Panel C of Table 7, we also present the effect of labor market liberalization on three distinct norms that characterize collectivist societies. These are the Marxist principle 'From each according to his ability, to each according to his needs,' and the collective ownership of both the means of production and personal assets. In the kibbutz, this principle corresponds to the support of free access to and equal distribution of goods and services. It is a norm that was a building block in kibbutzim from the outset in the early part of the 20$^{th}$ century, and it lasted through the century until the introduction of the labor market reforms we study in this paper. However, the pre-reform mean of this norm is almost at the mid-range of the Likert scale, 2.767. It is much lower than the mean of the two social norms (overall equality and mutual guarantee). It could be that the support for this ideological principle was already low years before the reform, which is why we find it was not affected by it. The estimated effect, presented in Panel C, is practically zero, -0.035 (se=0.062). The same null effect is seen when using the 0/1 indicator instead of the full Likert scale (column 3). So, while our estimates reveal support for a 'capitalism with compassion' model –increased support for free and competitive labor markets coupled with an increase in support for a mutual guarantee for weak members – this compassion did not include increased support for this classic 'communist' norm ('from each according to his ability, to each according to his needs').

Next, we study the effect on the collective ownership of the means of production and find that liberalization did not impact them. To understand this finding, we should note that the pay reform did not abolish the collective ownership of production means but instead left it intact. All kibbutz members continued to jointly own the agricultural inputs (land, orchards, livestock, and so on), manufacturing plants, and tourism assets (motels, hotels, and resorts). The collective ownership of these means of production still, to some extent, exists in kibbutzim. The evidence of no effect on attitudes towards property rights in the kibbutz is a striking contrast to the decision to 'free' each individual's physical and human capital from the existing contract of collective ownership. One interpretation and explanation of this is that kibbutz members still viewed the joint ownership of the means of production as a means for mutual guarantee and as a mechanism to hold together the social structure they still value. This interpretation is consistent with the findings in Panel B of increased support for mutual guarantee. Another related interpretation of the holding of the group ownership of these assets is that it is another form of insurance.

At the same time, Panel C shows a decline in the support of collective ownership of assets and a subsequent increase in the support of the transfer of ownership of personal private assets to individuals. Before the reform, the mean of this variable is 2.629 (recalling that the scale is 1-5), and it declines by 0.143 (se=0.054). This estimate reveals the well-known recent tendency of kibbutzim to allow families to own their apartments rather than to require collective ownership, demonstrating the increase in individualism within kibbutzim.

Table A10 in the online appendix presents the results of adding kibbutz-specific time trends as a control to the estimated regressions. The estimated effect on each labor market norm is positive and statistically significant, though lower in absolute magnitude — support for overtime pay declines from 0.257 to 0.140, privatization from 0.414 to 0.193, and differential wages from 0.618 to 0.371. This evidence supports the conclusion that pre-reform kibbutz-specific time trends do not drive our results. We draw the same conclusion concerning the two social norms. Adding KSTT lowers the estimated effect on support for overall equality, but it strengthens the effect on the mutual guarantee norm, from 0.174 to 0.206. The effects on the 'collectivism' norms are more mixed. However, we note that the sample used in Panels B and C includes kibbutzim that reformed before 2001, while the questions about these social norms were included in the surveys from 2001 onwards. Therefore, the estimation of the KSTT in these models is dominated by the post-reform period. Consequently, we expect a more significant decline in the estimated treatment effects. But when we used only kibbutzim in the sample that reformed from 2003 onwards, thus allowing for two pre-reform years, the results were not different from Table A10.

### 7.3 Heterogeneity in Estimated Effects

A reasonable prior is that the labor market liberalization will primarily affect the norms and attitudes of individuals who stand to benefit following the change to market-determined wages. The primary potential beneficiaries of this change are working age, educated, and skilled workers. For example, the older members in kibbutzim were more likely to object to the reform and sometimes even contest it in court. Another group that stood to lose from the reform was working-age adults with lower human capital, education, and skills. We next test whether the reform disproportionally affected the older and less educated. Surprisingly, we find only a small difference in the effects across these groups, suggesting that even members who stood to lose from the reform may have realized that such reforms were beneficial for the kibbutz's continued survival.[11]

**Age:** One might think that older kibbutz members had more to lose from the reform as they got closer to the age of retirement.[12] Table 9, columns 1-3, presents estimates by stratifying the sample into three age groups: 18-35, 36-60, and 61 plus. The first group includes young adults, the second primarily working-age adults, and the third group is individuals towards or in retirement. We find that the change in labor norms is very similar across the three age groups, as seen from the estimated effects on the summary index of all four norms: 0.219, 0.242, and 0.344. Based on the estimates on individual items (see Table A11, columns 1-6, in the online appendix), the older group's estimated effect is somewhat higher, perhaps because the pre-reform means of this group are lower throughout. This typical pattern also carries to Panel B's first social norm, as support for more equality in the kibbutz decreased equally in all three age groups. However, some differences emerge in effect on the second social norm. The increase in support for mutual guarantee comes mainly from the younger and older age groups with no impact on the sizeable working-age group. We first note that this norm's mean support was already very high before the reform for all three groups (3.8 for all three groups). Second, perhaps this age group (36-60) is less vulnerable, on average, to economic shocks, and therefore its members did not want to expand their support for mutual guarantee. Another divergence from a typical pattern across age groups is the increased

[11] Bursztyn et al. (2020) study, in a lab experiment, how social norms can change rapidly when new information becomes available. They also estimate heterogeneous treatment effects by race, gender, age, marital status, education, and income. Their findings show that the direction of the treatment effect is the same in all subgroups, and differences in the magnitude of the effects between subgroups are never statistically significant. Ashok, Kuziemko, and Washington (2015) study the effect of increases in economic inequality in the US on support for redistribution. Overall, they find no average effect, but demonstrate substantial heterogeneity by demographic groups. In particular, by age and race.

[12] Gavron (2000) interviewed a few veteran kibbutz members. One said: "[T]hey have stolen the kibbutz away from me" and, "I came here to live a certain way of life, and it has been turned on its head. If the others want a non-kibbutz, so be it, but at least they should give me—and anyone else who wants it—the option of living the old way" (Gavron 2000, p. 101).

(reduced) support of the young adult (mid-age) group to the norm of "From each according to his ability to each according to his needs" (see Table A11). Perhaps it is expected, as the former will likely benefit from such a norm (while still forming human capital in school) while the latter will have to pay for it. All three age groups started from a high level of support for collective ownership of production assets (a pre-reform mean of around 4), and it remained unchanged. The decline in support for private ownership of personal assets does not vary by age.

Overall, the similarity across age groups in pre-reform norms and their effect might seem unexpected, given the impression that the debate over the reforms was strife between generations. It is also surprising because the older generation founded the kibbutz and built its ideology. At the same time, the founders' 'survival' instincts might have led them to support the less egalitarian model over the idealistic original 'dreams' of the past. As the economic condition of the kibbutz improved following the reforms, the older cohorts in the kibbutz may have realized that free markets were necessary to make the younger generation happy and sustain their pensions (see more discussion of qualitative evidence in Abramitzky 2018). Importantly, even the kibbutzim that reformed continued to care for its elderly and provide them with a safety net.

The fact that we do not find a significant difference in the treatment effect between the age groups stands in contrast to Alesina and Fuchs-Schündeln's (2007) findings. They find that seven years after the fall of the Berlin wall, support for government intervention increased markedly with age amongst people who lived in communist eastern Germany. However, one should note that Alesina and Fuchs-Schündeln's study takes place in a different social context. Specifically, the context in which they measure preferences has changed from a communist regime to liberal democracy. Therefore, it is plausible that the elderly, perhaps having more difficulties adjusting their values and behavior, would demonstrate more reluctance toward such a sharp. In addition, as we already noted above, in our context, reformed kibbutzim continued to care for their elderly, guaranteeing a certain standard of living through a formal safety net.

In contrast, we examine labor market liberalization within the same democratic regime. Not only did the kibbutzim members not have to change their beliefs and political behavior entirely, but even before the liberalization, they often interacted with people from non-kibbutzim communities, most notably during their mandatory service in the Israeli military around between the ages of 18 and 21. Beyond interactions in the military, some kibbutz members worked outside the kibbutz, and others spent a few years living outside the kibbutz in other parts of Israel. Life in the post-reform kibbutz changed much less than in East Germany following the collapse of communism.

**Gender:** Women tended to work in lower-paying occupations (Abramitzky and Lavy 2014), so we expected that they might stand less to gain from the pay reforms than men. In Table 9, columns 4-5, we present results by gender. As seen in the online appendix Table A11, columns 7-10, in the pre-reform period, men and women shared the same norms regarding pay incentives in the labor market (paying for overtime and based on productivity) and full privatization in the kibbutz. The labor market liberalization reform also affected these norms equally for men and women.

In the pre-reform period, men and women also shared the same norms regarding social norms and collectivism. However, the estimates on these norms reveal two significant differences by gender. First, following the labor reforms, women reduced their support for equality while men had no change in this norm. The opposite is true for mutual guarantee. Gender differences are apparent concerning asset ownership norms: men adopt a more favorable attitude towards collective ownership of production assets, while women become more in favor of transferring personal assets to private ownership.

**Education:** Since market wages meant higher earnings for more educated members, we expected less support among less-educated members. Table 9, columns 6-7, presents results by level of education. We stratified the sample into two groups. The first group includes individuals without academic education and the second with post-secondary academic schooling. First, we note the striking similarity in the pre-reform means in the labor market norms, social norms, and ownership norms between the two education groups (Table A11, columns 11-14). This similarity means that these norms are not correlated with education but rather determined by other factors that shape the norms in the same way for both education groups.

Second, the reform's effect is similar across education groups: we find a similar increase in support for the three main measures of the free labor market (paying for overtime, differential wages, and full privatization). For example, the impact on the summary measure of the labor norms is almost identical for the two groups (0.312 for the lower schooling group and 0.258 for the higher one). The more educated group increased its support for the mutual guarantee and reduced its support for equality in the kibbutz, just as the lower education group did. The two groups' attitudes towards collective asset ownership were not changed (Table A11). The overall similarity in the effect of the wage reform by the level of education is quite striking, as the higher education group benefited much more from allowing the labor market to determine the value of workers' productivity freely. Yet, the lower education group norms and attitudes changed almost by the same magnitudes. This finding may seem surprising, as even members who potentially stood to lose from more liberal labor markets nevertheless supported them. In reality, while the less educated may

have lost from the reforms in relative terms, they may have gained in absolute terms, because the shift away from equality was perceived as important for the continuing survival of their kibbutz.

**Founders and Kibbutz Children Generations**: The length of time people live in an environment may affect how deeply rooted their norms and ideology are. This is not so clear in the case of the kibbutz environment. Table 9, columns 8-9 presents evidence for two groups distinguished by the age of arrival to the kibbutz (born/as a child versus an adult). In the first group, we include the kibbutz founders, those born in the kibbutz, and those who arrived young. In the second group, we have those who came as adults. The pre-reform means are the same for the two groups in all norms and measures of ideology. Perhaps this similarity should not come as a surprise, as those who joined the kibbutz most likely did so *because* of its norms and values. However, it is remarkable that the reform strengthens almost equally the support for the free labor market and privatization norms of people in the two groups. This second group's response is somewhat surprising because one would expect a more resolved ideology among the members who made a proactive choice to live in a kibbutz. The lack of heterogeneity results in the length of time people have lived in the kibbutz are also significant because they prove that our findings are not driven by any selection of those who immigrate into the kibbutzim. They also rule out that a differential exit from the kibbutzim (for example, the possibility that those who are the most 'socialists' leave the kibbutz) causes our results after reform. Showing evidence based on a sample of founders or those born in the kibbutz is in the spirit of panel data, following the same type of people over time and after the reform.[13]

**Strength of Ideology**: Table 9, columns 10-11, presents evidence from two sub-samples distinguished by the strength of the kibbutz's socialist ideology. Two kibbutzim movements polarize this distinction: the Artzi Kibbutz movement (with the stronger socialist-communist ideology) and the Takam movement (with a more moderate socialism ideology). Surprisingly, the pay reform's impact is similar in all labor, social, and collectivist norms and values.

In summary, we find increased support for competitive labor market policies among members of all ages, cohorts, education levels, ideological movements and genders, albeit with some differences across these groups in their attitudes towards the principles of equality and mutual guarantee.

[13] The kibbutz founders might be different from those born in the kibbutz in their norms and values. Therefore, as an alternative, we compare individuals that chose to live in a kibbutz (founders and those that joined as adults) to the group that include children born in the kibbutz or those who arrived as children. These results are presented in online appendix Table A11, columns 15-18. The results are similar to those presented in Table 9 columns 8-9, though there are minor differences in point estimates. For example, the estimated positive effects on labor market norms and on mutual guarantee are larger for the first group, though they are not statistically different from those of the second group.

## 8. Mechanisms

We have shown above that the labor market liberalization reform significantly enhanced the cultural transition in kibbutzim from cooperative to more capitalistic. For example, the reform caused the endorsement of further privatization reforms, productivity-based wages adoption, less support for collective ownership of production means, and overall equality. Simultaneously, the reform also increased support for the safety net to support weak members through mutual guarantee. These relatively quick updates in individuals' norms and values are unusual given the persistence of cultural traits and kibbutzim norms that previously existed for over half a century. This pace is also different from other related experiences discussed in recent literature that document, in other contexts, the persistence of cultural traits and norms over extended periods (Voigtländer and Voth 2012; Fernández 2007; Giuliano 2007; Algan and Cahuc 2010; Alesina, Giuliano, and Nunn 2013, Drelichman, Vidal-Robert, and Voth 2021).[14] However, much remains unknown about what factors might lead long-standing social norms to change, or even more so, to change quickly (Giuliano & Nunn, 2021). This section examines several factors that might have affected the speed of updates in individuals' norms and values.

**Improved living standards:** The change in norms and social values could also result from changes in living standards that improved in the post-reform period. For example, in a traditional kibbutz based on full equal sharing, a higher effort is not rewarded with higher earnings, which might have reduced incentives to work hard and encouraged shirking (Abramitzky 2018). To examine this channel, we used four questions in the survey that asked about the current economic condition, work ethics of members, social relationships, and equality among members in the kibbutz. On a 1-5 scale, the options ranged from 'not good at all' to 'very good'.

Labor market liberalization increased the financial reward for effort and improved incentives to work hard. Indeed, Figure 6 shows that the pay reform improved members' (perceived) work ethics and increased living standards. Table 10 shows that these patterns hold in regression analysis following the reform: respondents thought the economic conditions of the kibbutz improved significantly. The pre-reform means of the kibbutz's economic conditions assessment was 2.936, and it increased by 0.213 (se=0.068), a 7 percent improvement. A more dramatic improvement is seen in how people assess the work ethics in the kibbutz. This assessment increased by 0.490, implying a 15 percent increase relative to 3.108 in the pre-labor liberalization

[14] Another interesting angle of our results is that they document that adults can relatively quickly change their views (what we call ideology). Most of the literature in cultural economics suggests that cultural change happens *intergenerationally*, and yet we find a within-generation change in traits (that can be thought of as entrenched cultural values).

reform period. The change in work ethics likely translated to improved labor productivity, contributing to the kibbutzim's economic situation. These improvements should be seen in the intense debate in kibbutzim about communal production, work ethics, free riding, and the high provision of public goods (Abramitzky 2018).

**No improvement in the social atmosphere:** Against the above two statistically significant improvements, it is interesting that kibbutz members did not think that the social relationship among them improved after the labor liberalization reform. The labor market reforms may have improved incentives without affecting social relationships. The effect on equality among members, referring to economic disparities, is negative but only marginally significant, and the estimated effect is also very small. The relatively minor changed perception about equality following the pay reform stands in contrast to the inequality in earnings that emerged when market forces freely set wages. Perhaps members were discreet about their salaries and revealed consumption behavior that did not reflect the widening income inequality. For example, it was not until many years after that pay liberalization that expanding or building new houses was allowed.

**Pre-reform values:** The extent of updates to norms and social values depends naturally on the prevalence of 'new winds' of ideology before the reform. The higher the support before the reform, the lower the extent and speed of updates post-reform, if only for the 'ceiling effect' (when all kibbutz members reach the utmost support for these norms and social values). This mechanism should lead to a negative relationship between the reform's effect and pre-reform levels of support. We thus conduct regressions where we add an interaction term between the treatment variable and the support for norms and values before the year of reform. We measure this 'lagged' support as an average of the past 2, 3, or 4 years. We do not include a 'main' effect of the lagged values in the regressions because its impact is absorbed by the kibbutz fixed effect.

These results are presented in Table 11. The interaction term estimate is negative and statistically significant for most norms and values. Simultaneously, the treatment's main effect is still significant with the same sign in a specification without the interaction term with the lagged support. It is important to note that we should distinguish between voting in favor of the reform and supporting the free market and capitalistic ideas. Some people likely voted for the reform because of the economic crisis and the reality of the kibbutz almost going bankrupt, while still believing in socialist-leftist norms and values.

However, another potential factor that can lead to such a negative relationship between the support for free market norms and social values and the reform's effect is how the referendum result was a surprise. A special majority voting of two-thirds (in some cases, three-fourths) was needed to approve the reform. Anecdotal evidence suggests that in many kibbutzim, the referendum's

outcome on the reform was uncertain. In many cases, multiple referendums were held until the needed special majority vote was reached. Therefore, the referendum result might have led to updates in individuals' perceptions of what people around them think about norms and values. The larger the support for the reform before the referendum, the smaller the likelihood that it was a 'surprise,' and vice versa. Therefore, the extent to which pro-capitalism expressions were negatively judged and sanctioned by others was perhaps negatively correlated with the saliency of the support for the reform before the referendum. And so, the update about how extensive this support was could have induced faster changes in the social acceptability of holding and expressing opinions moving away from communist and socialist norms. Bursztyn et al. (2020) provide experimental evidence of this mechanism from a lab experiment, arguing that aggregators of private opinions in a society, such as elections, might erode social norms quickly when new public information arrives naturally as an election outcome.[15]

## 9. Conclusions

This study provides evidence of the causal effects of introducing a free market system on the population's political orientation as well as economic and social norms and values. These effects cannot be identified in most social contexts because the treatment (the nature of the economic system) and outcomes of interest (social norms and values) evolve jointly over time. We deal with this difficulty by exploiting a unique setting where the change in the economic system, from an absence of market incentives to a system where labor compensation is based on productivity, is quasi-random. Using RDD and DiD strategies, we find that the market liberalization induced kibbutzim members to alter their political orientation, voting more for the center and the right political parties and less for the left parties. These results are dramatic because the left parties historically embraced and supported the Kibbutz Movement, while the right parties always positioned themselves against any interest of the kibbutzim. We interpret this shift in the political orientation as resulting from a change in ideological norms and values, sometimes invoking kibbutz members to vote against their self-interest. This finding shows that changes towards a free market system, particularly the labor market, can fundamentally transform ideological perceptions. Moreover, it may explain why sometimes people vote against redistribution, even when it is anticipated to benefit them.

[15] Bursztyn et al. (2020) examine this possibility using two experiments. Through revealed preference experiments, they first show that Donald Trump's rise in popularity and eventual victory increased individuals' willingness to express xenophobic views publicly. Secondly, they show that individuals are sanctioned less negatively if they publicly said a xenophobic view in an environment where that view is more popular.

While external validity cannot be exaggerated, we think this evidence is relevant for the broader Israeli society and for other countries. Kibbutz members interact regularly and are fully integrated with non-kibbutz members during childhood (in schools and military service) and adulthood (in universities and the workplace). Thus, our work can shed light on how the liberalization of markets affects political behaviors and perceptions in various democratic contexts. These findings may be relevant for understanding the history of Western societies that went through liberalization processes throughout the 19th and 20th centuries. It can also uncover the consequences of liberalization processes that still take place in developing countries today. Overall, this paper demonstrates that the implications of transformations in economic systems are economical but also ideological and political. These latter dimensions should be considered when assessing the impact of economic and financial markets reformation.

Finally, we show how kibbutzim adopted, starting from the mid-90s, a unique economic system that closely integrates the action of free markets with institutions of mutual support. It is not implausible that the crisis induced by the Covid-19 virus will raise similar sentiments across the globe. We believe that the case study of the Israeli kibbutzim may serve as an example of how such "compassionate" social and economic institutions can be formed.

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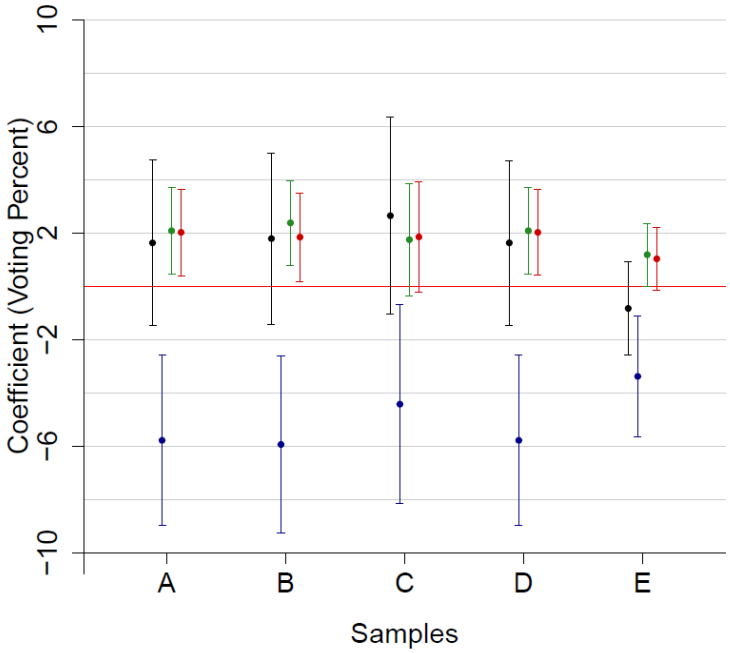
## 10. Figures

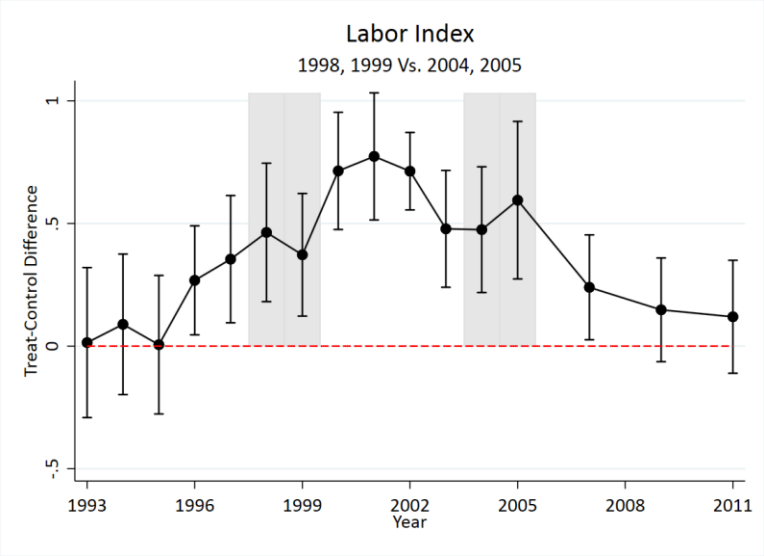
**Figure 1 – The Effect of the Reforms on Electoral Behavior by Different Samples**



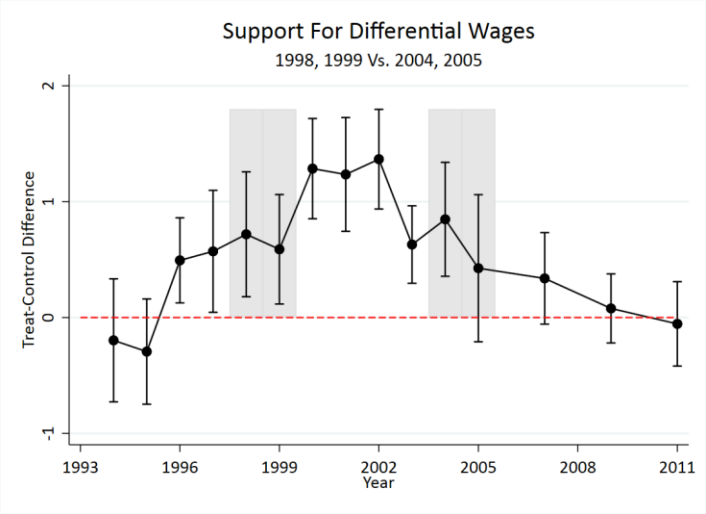

Notes: This figure presents the estimated coefficients of the treatment dummy variable and their confidence intervals (95%), which are shown in Table 5. The treatment variable receives 1 if the kibbutz reformed before the election year and 0 otherwise. We control for affiliation with the Artzi movement and a set of year dummies. For each group, the coefficients from left to right are turnout (black), support for the left (blue), support for the center (green), and support for the right (red). The red line in the middle is Y=0 (the estimated effect is null). We group coefficients of each panel A-E separately. We include all kibbutzim that reformed a year before or after an election in panel A. In panel B, we drop kibbutzim that reformed in 1995 and 1997. In panel C, we also drop kibbutzim that reformed in 1998 and 2000. In panel D, we include all kibbutzim but exclude those reformed in 2012 and 2014. In Panel E, we broaden the window around elections and take all kibbutzim that reformed two years before or after an election.

**Figure 2 – Event Study Comparing Early (reformed 1998-1999) Vs. Late (reformed 2004-2005)**

Panel A



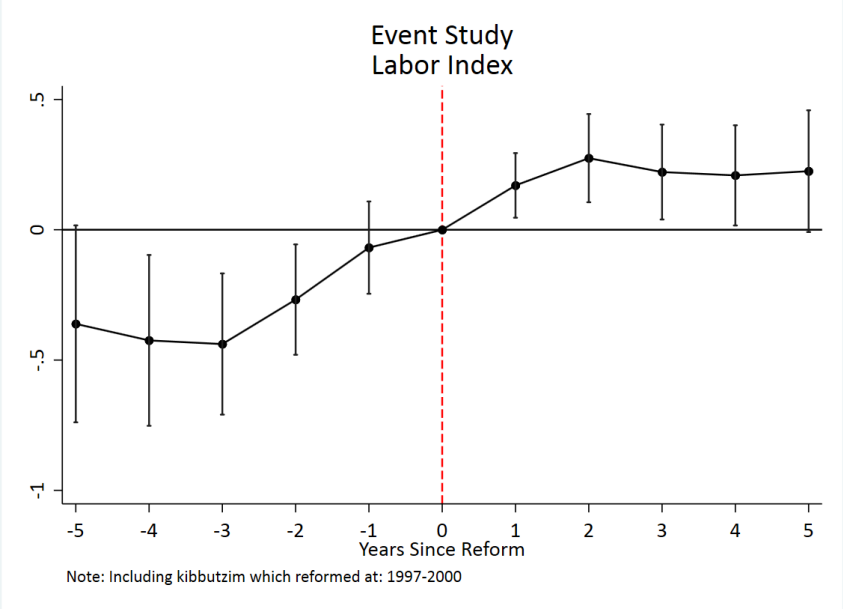

Panel B



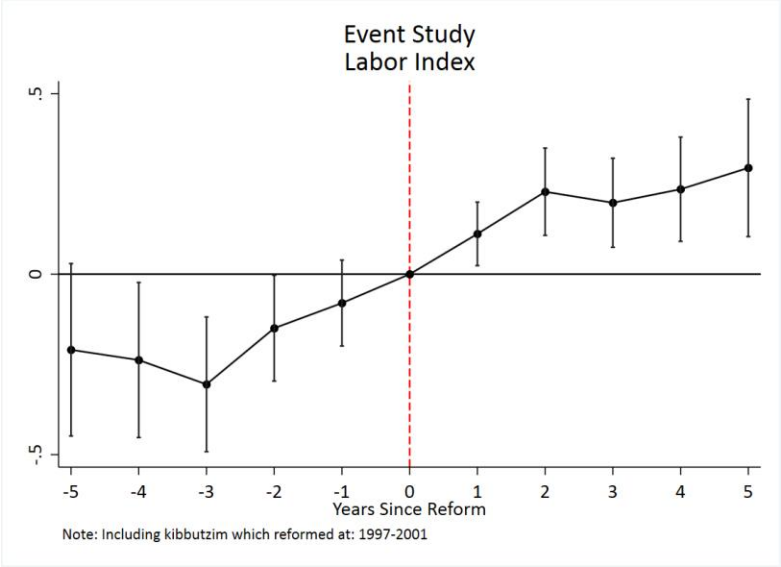

Notes: This figure depicts an event study comparing early reformed kibbutzim (reformed in 1998-1999) to late reformed kibbutzim (reformed in 2004-2005) regarding their support of free labor markets. In both panels, we show for every year separately the coefficient when regressing the dependent variable on being part of the early reformers, including 90% confident intervals. In Panel A, the dependent variable is the labor index, while in Panel B, it is the answer to supporting differential wages questions. The X-axis is the years, while the Y-axis is the estimated effect of the treatment. In both panels, shaded areas are periods of reformation for early and late reformers.

**Figure 3 – Dynamic Event Study Pooling Observations from Kibbutzim Reformed within a Range – Labor Index**

Panel A



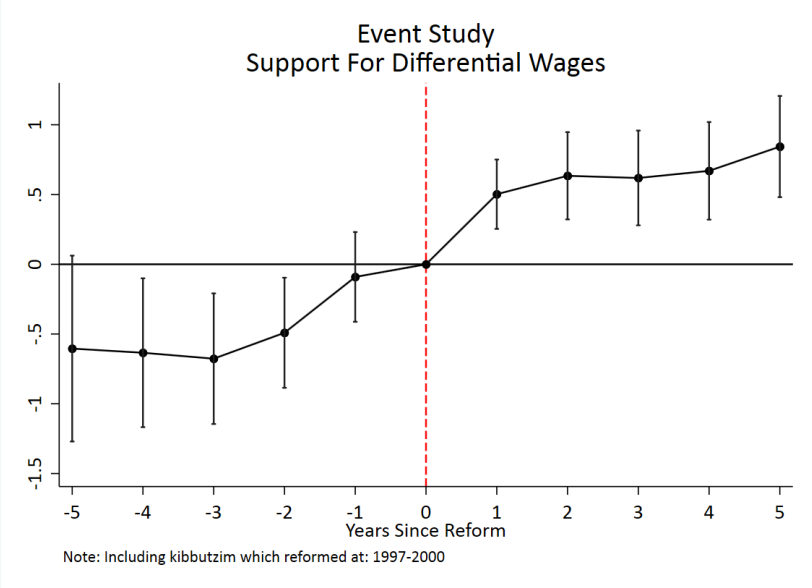

Panel B



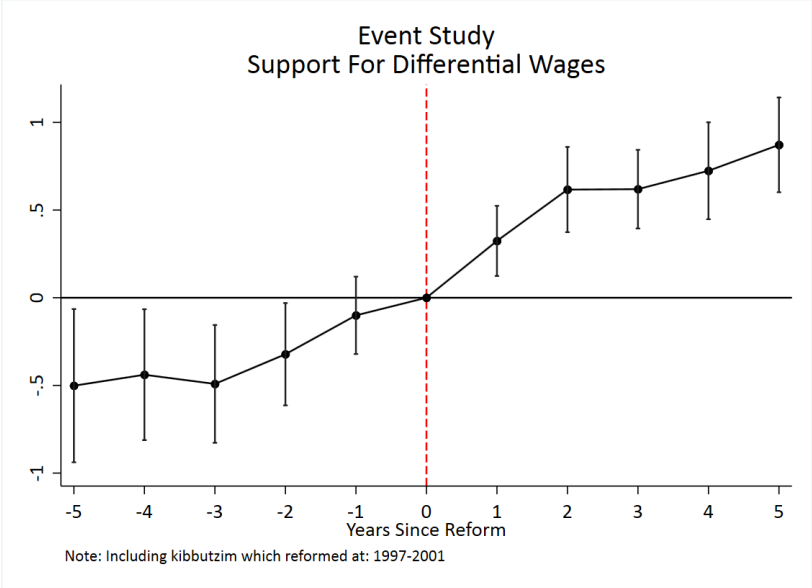

Notes: In this figure, we present an Event study based on a sample of kibbutzim that reformed between 1997-2000 (panel A) or between 1997-2001 (panel B). For each kibbutz, we normalize the time of reform to be 0. Then, for each period from -5 to +5 we regress the labor index on the full set of period dummies. Period 0 (the year of the reform) is the omitted period. We report the coefficients from the regression with a 90% confidence interval. The red vertical line emphasized when the reform started, while the black horizontal line signifies that the estimated effect is null.

**Figure 4 – Dynamic Event Study, Pooling Observations from Kibbutzim Reformed within a Range – Support For Differential Wages**

Panel A

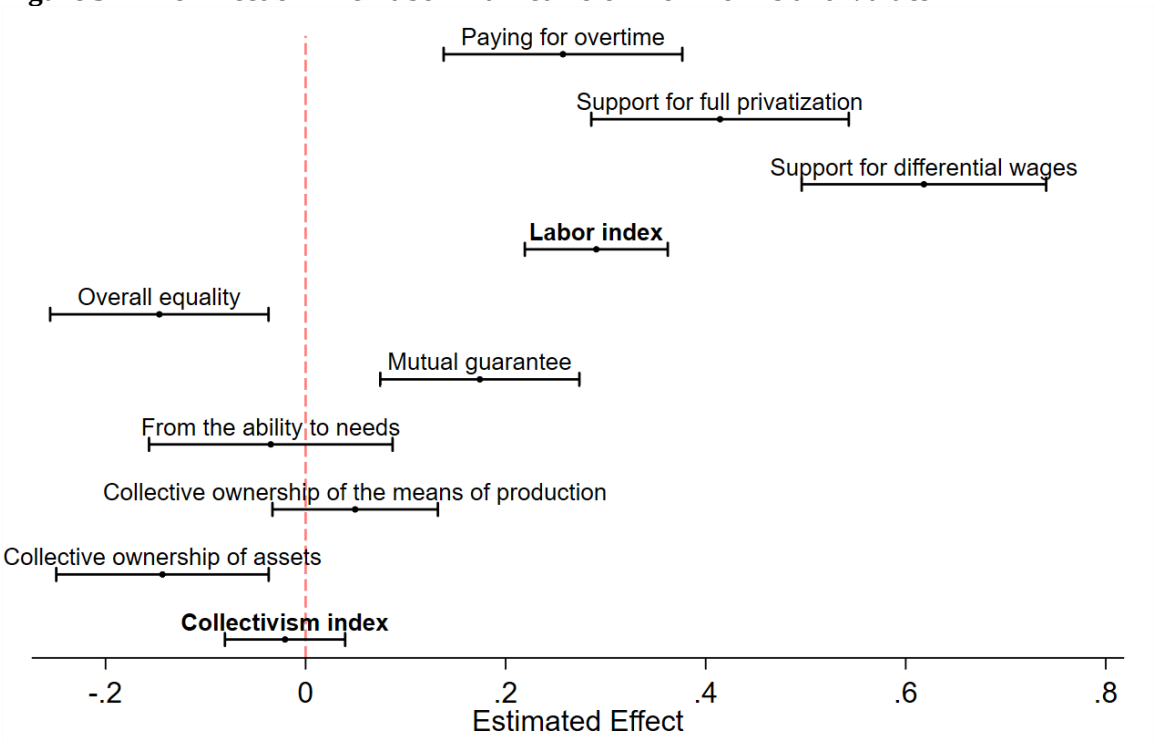



Panel B




Notes: In this figure, we present an Event study based on a sample of kibbutzim that reformed between 1997-2000 (panel A) or between 1997-2001 (panel B). For each kibbutz, we normalize the time of reform to be 0. Then, for each period from -5 to +5 we regress support for differential wages on the full set of period dummies. Period 0 (the year of the reform) is the omitted period. We report the coefficients from the regression with a 90% confidence interval. The red vertical line emphasized when the reform started, while the black horizontal line signifies that the estimated effect is null.

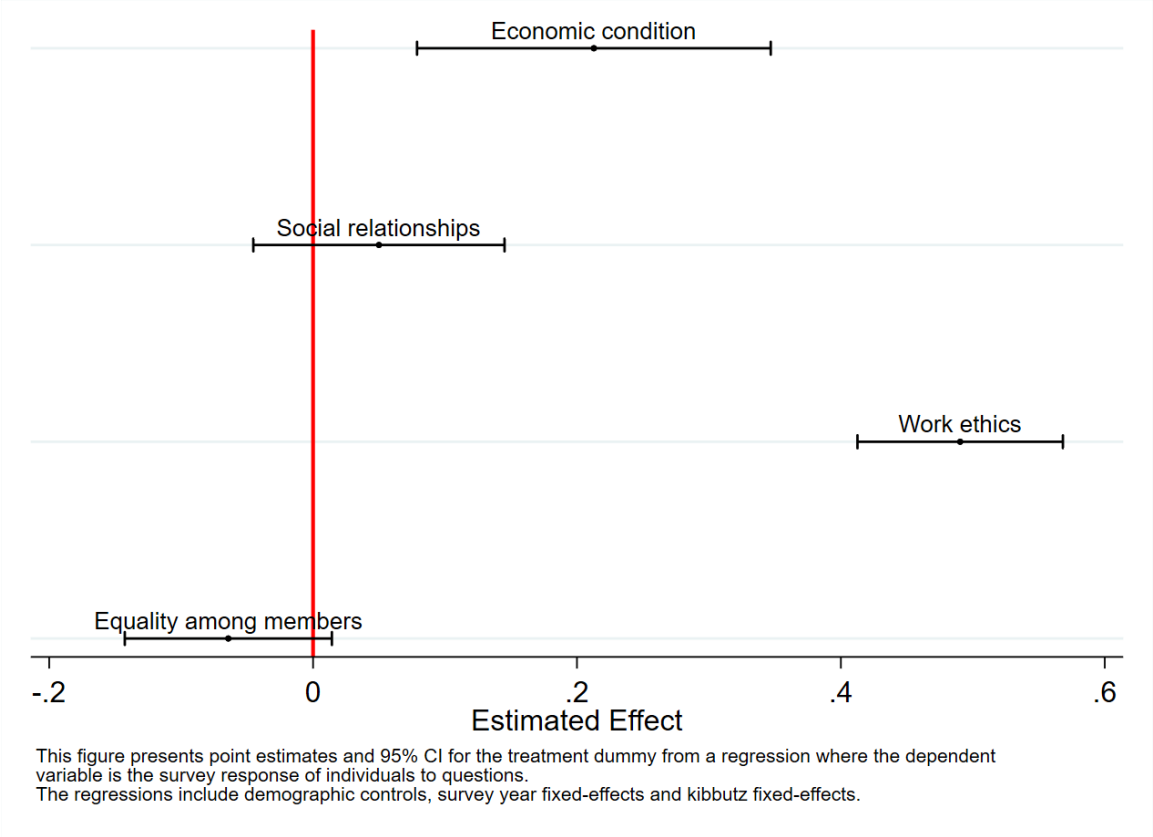
**Figure 5 – The Effect of The Labor Market Reform on Norms and Values**




Notes: This figure presents point estimates and 95% CI for the treatment dummy from a regression where the dependent variable is the survey response of individuals to questions.
The regressions include demographic controls, survey year fixed-effects and kibbutz fixed-effects.

Notes: This figure presents point estimates and 95% Confidence intervals for the treatment dummy from a regression where the dependent variable is the individual's survey response to the question or one of the three indices. Treatment is 1 if a kibbutz has reformed and 0 otherwise. The X-axis is the scale of the estimated effect and the CI, while the Y-axis has no formal interpretation. . The red line is for estimated effect = 0. The regressions include demographic controls and survey year and kibbutz fixed effects.

**Figure 6 – The Effect of The Labor Market Reform on The Kibbutz's Economic and Social Conditions**




Notes: This figure presents point estimates and 95% Confidence intervals for the treatment dummy from a regression where the dependent variable is the individual's survey response to the question or one of the three indices. Treatment is 1 if a kibbutz has reformed and 0 otherwise. The X-axis is the scale of the estimated effect and the CI, while the Y-axis has no formal interpretation. . The red line is for estimated effect = 0. The regressions include demographic controls and survey year and kibbutz fixed effects.

## 11. Tables

**Table 1: Descriptive Electoral Statistics for Reformed and Unreformed Groups, By Voting Year**

| Election Year | Number of Kibbutzim | Number of Eligible Voters per Kibbutz | Proportion Voting Turnout | Propotion Voting for Parties | | |
|---|---|---|---|---|---|---|
| | | | | Left | Center | Right |
| **Panel A: Reformed** | | | | | | |
| 1996 | 3 | 232 | 79.058 | 79.912 | 9.970 | 9.152 |
| 1999 | 40 | 307 | 74.959 | 76.410 | 8.943 | 5.259 |
| 2003 | 124 | 373 | 70.939 | 71.919 | 11.371 | 10.518 |
| 2006 | 163 | 401 | 66.035 | 61.514 | 20.992 | 5.271 |
| 2009 | 179 | 431 | 67.426 | 50.126 | 34.002 | 11.025 |
| 2013 | 188 | 474 | 70.905 | 57.781 | 26.853 | 9.542 |
| **Panel B: Unreformed** | | | | | | |
| 1996 | 229 | 399 | 80.541 | 89.265 | 4.313 | 4.899 |
| 1999 | 192 | 422 | 75.681 | 86.267 | 5.348 | 3.048 |
| 2003 | 108 | 457 | 71.730 | 77.494 | 8.633 | 7.850 |
| 2006 | 69 | 490 | 67.276 | 67.773 | 18.344 | 4.117 |
| 2009 | 53 | 500 | 67.362 | 52.933 | 33.147 | 8.974 |
| 2013 | 44 | 538 | 68.597 | 64.295 | 22.424 | 7.917 |

*Notes*: This table presents statistics of the sample by voting year. The sample includes all Takam and Artzi Kibbutzim that had voting polls in each on the 6 elections between 1996-2013. Kibbutzim are considered Reformed starting from the year after the reform (year since reform, =1). Other then the "Kibbutzim" column, which depicts for every year how many Kibbutzim were in each sample, all other statistics describe average figure per Kibbutz in each sample.

**Table 2: Number of Kibbutzim that Reformed and Sample Sizes of Respondents, By Survey Year**

| Year | Number of kibbutzim reformed this year | Number of disticnt kibbutzim | Number of individual survey respondents | Number of survey respondents from kibbutzim that reformed |
|---|---|---|---|---|
| 1991 | 0 | 187 | 633 | 0 |
| 1992 | 2 | 196 | 744 | 0 |
| 1993 | 0 | 207 | 758 | 1 |
| 1994 | 0 | 204 | 800 | 0 |
| 1995 | 1 | 216 | 937 | 2 |
| 1996 | 9 | 202 | 902 | 4 |
| 1997 | 14 | 203 | 873 | 13 |
| 1998 | 16 | 202 | 806 | 49 |
| 1999 | 13 | 208 | 967 | 92 |
| 2000 | 23 | 209 | 1046 | 144 |
| 2001 | 24 | 200 | 918 | 213 |
| 2002 | 27 | 197 | 915 | 257 |
| 2003 | 11 | 195 | 802 | 336 |
| 2004 | 20 | 204 | 895 | 440 |
| 2005 | 9 | 197 | 800 | 490 |
| 2007 | 7 | 210 | 1130 | 774 |
| 2009 | 3 | 214 | 1255 | 906 |
| 2011 | 2 | 205 | 837 | 608 |

Notes: This table presents statistics of the sample by survey year. Column 1 presents the number of kibbutzim that reformed each year. Column 2 presents the number of kibbutzim with at least one respondent on that year's survey.

**Table 3: Sample Descriptive Statistics**

| | Control mean | Treated mean | Estimated treated-control difference |
|---|---|---|---|
| **A. Personal Characteristics:** | | | |
| Female percentage | 52.491 | 54.490 | 4.050** |
| | (49.940) | (49.807) | (1.959) |
| Age | 46.530 | 51.950 | 2.340*** |
| | (14.840) | (14.251) | (0.664) |
| **B. Education: Highest Completed (%):** | | | |
| Primary | 3.086 | 1.754 | -0.172 |
| | (17.293) | (13.131) | (0.428) |
| High school | 28.665 | 24.598 | 0.173 |
| | (45.222) | (43.075) | (1.716) |
| Non-academic | 34.741 | 35.161 | 1.936 |
| | (47.617) | (47.756) | (1.769) |
| Bachelor's degree | 27.338 | 28.216 | -1.813 |
| | (44.572) | (45.013) | (1.804) |
| Advanced degrees | 6.171 | 10.270 | -0.125 |
| | (24.064) | (30.363) | (1.239) |
| **C. Age of Arrival to the Kibbutz (%):** | | | |
| Born/raised | 84.392 | 82.302 | -5.136*** |
| | (36.295) | (38.173) | (1.392) |
| As an adult | 15.608 | 17.698 | |
| | (36.295) | (38.173) | |
| **D. Personal Status (%):** | | | |
| Single | 14.615 | 8.211 | -4.827*** |
| | (35.327) | (27.459) | (1.226) |
| Single parent | 0.630 | 1.464 | 0.757* |
| | (7.913) | (12.012) | (0.439) |
| Married | 75.026 | 77.187 | 1.795 |
| | (43.289) | (41.970) | (1.726) |
| Divorced | 6.042 | 8.140 | 1.026 |
| | (23.828) | (27.350) | (1.187) |
| Widowed | 3.687 | 4.998 | 1.248 |
| | (18.846) | (21.795) | (0.854) |

**Table 3: Sample Descriptive Statistics, Continuted**

| | Control mean | Treated mean | Estimated treated-control difference |
|---|---|---|---|
| **E. Kibbutz Association Affiliation (%):** | | | |
| More ideological movement (Artzi) | 44.124 | 31.545 | -17.952*** |
| | (49.656) | (46.478) | (6.360) |
| Less ideological movement (Takam) | 55.876 | 68.455 | |
| | (49.656) | (46.478) | |

Notes: This table presents descriptive statistics of the observable explanatory variables by treatment status. Columns 1-2 present the means and standard deviation of individuals either control (not yet reformed) or treated kibbutzim. Column 3 presents the coefficient and standard error based on a regression of the variable as a dependent variable and the treatment indicator and full set of survey year dummies. Standard deviations and standard errors are presented in parentheses. Standard errors are adjusted for clustering at the kibbutz level. Born/raised group consists of those who were born, raised, founded or those who joined with a motivated and socialist group of young adults such as a youth movement or a 'Gar'in'. Coefficient estimate significant at: * 10%; ** 5%; *** 1%

**Table 4: Balance on Treatment Variable**

| Sample: | Kibbutzim Reformed 1995-2014 | | | Kibbutzim Reformed 1998-2014 | | |
|---|---|---|---|---|---|---|
| Artzi | 0.0503 | (0.108) | 1,833 | -0.0186 | (0.117) | 2,825 |
| Age | -0.859 | (0.784) | 1,833 | -1.168 | (0.945) | 2,825 |
| Gender | -0.00141 | (0.0333) | 1,828 | -0.00767 | (0.0322) | 2,821 |
| Schooling | 0.0393** | (0.0193) | 1,833 | 0.0360 | (0.0261) | 2,825 |
| Perception of Kibbutz's Economic Status | 0.124 | (0.160) | 1,824 | 0.0761 | (0.165) | 2,808 |
| Paying for overtime | 0.0427 | (0.143) | 1,485 | 0.133 | (0.130) | 2,499 |
| Support for differential wages | 0.0767 | (0.168) | 755 | 0.0633 | (0.135) | 1,854 |
| Reduce Pay for Underworking | -0.180 | (0.186) | 391 | -0.0250 | (0.135) | 1,507 |
| Trust Social Leadership | 0.0146 | (0.108) | 762 | -0.0310 | (0.0951) | 1,853 |
| Trust Economic Leadership | 0.148 | (0.129) | 760 | 0.0978 | (0.115) | 1,856 |
| Support for full privatization | | | | 0.0976 | (0.136) | 771 |

Notes: We regress each one of the variables mentioned in the rows on the Treatment variable for the survey years until 1994. Treated kibbutzim are those reformed just before elections, while control kibbutzim reformed just after elections. In columns 1-3 we bring the coefficient, standard errors of numbers of observations when we include all the Kibbutzim in our main sample, that is Kibbutzim that reformed a year before or a year after a general election in the years 1995-2014. In columns 4-6 we preform the same analysis, only for Kibbutzim that reformed since 1998 and we included all observations in the survey until 1997.

**Table 5: Effect of Treatment on Voting**

| Variable: | Turnout | Left | Center | Right |
|---|---|---|---|---|
| **Panel A: 1 Year Window** | | | | |
| Treatment | 1.629 | -5.785*** | 2.084** | 2.023** |
| | (1.583) | (1.632) | (0.834) | (0.829) |
| | 121 | 121 | 121 | 121 |
| **Panel B: 1 Year Window Without 96 Elections** | | | | |
| Treatment | 1.790 | -5.940*** | 2.381*** | 1.845** |
| | (1.638) | (1.688) | (0.813) | (0.845) |
| | 107 | 107 | 107 | 107 |
| **Panel C: 1 Year Window Without 96-99 Elections** | | | | |
| Treatment | 2.647 | -4.428** | 1.749 | 1.853* |
| | (1.886) | (1.905) | (1.081) | (1.058) |
| | 69 | 69 | 69 | 69 |
| **Panel D: 1 Year Window Without 2013 Elections** | | | | |
| Treatment | 1.629 | -5.785*** | 2.084** | 2.023** |
| | (1.577) | (1.626) | (0.831) | (0.826) |
| | 118 | 118 | 118 | 118 |
| **Panel E: 2 Year Window** | | | | |
| Treatment | -0.832 | -3.383*** | 1.185* | 1.030* |
| | (0.895) | (1.152) | (0.602) | (0.599) |
| | 242 | 242 | 242 | 242 |

Notes: We define treatment to be kibbutzim that reformed just before elections, and control to be kibbutzim that reformed just after elections. We regress on treatment, voting turnout, percent of cast to the left, center and the right. In panel A we included all kibbutzim to reform a year before or after an election. In panel B we drop kibbutzim that reformed in 1995 and 1997. In panel C we also drop kibbutzim that reformed in 1998 and 2000. In panel D we include all kibbutzim, but those reformed at 2012 and 2014. In Panel E we broaden the window around elections, and take all kibbutzim that reformed up to two years before or after an election. We always control for affiliation with Artzi, and a full set of year dummies.

**Table 6: 1996-1999 Difference-in-Difference Estimates**

| Variable: | Turnout | Left | Center | Right |
|---|---|---|---|---|
| **Panel A: Actual Treatment** | | | | |
| Interaction | 1.187 | -4.439*** | 1.750* | 0.732 |
| | (0.832) | (1.538) | (1.025) | (0.466) |
| Time | -5.722*** | -3.435*** | 1.177* | -1.659*** |
| | (0.468) | (0.750) | (0.662) | (0.291) |
| | 150 | 150 | 150 | 150 |
| **Panel B: Placebo** | | | | |
| Interaction | -3.974*** | -11.89*** | 9.716*** | -4.286*** |
| | (0.535) | (0.991) | (0.856) | (0.773) |
| Time | -2.332** | 2.307 | 0.329 | -1.884 |
| | (0.953) | (1.658) | (1.470) | (1.389) |
| | 150 | 150 | 150 | 150 |

Notes: We take kibbutzim that reformed in 1997-1998 and consider them treated, and kibbutzim that reformed in 2000-2001 and consider them control. We use as dependent variables voters turnout and percent of votes cast to the left, center and the right. In panel A post period is 1999 elections and pre is 1996 elections. In the right side we put kibbutz fixed effect, indicator of post, and an interaction term between post and treatment. In panel B everything is identical, only the sample includes elections 2003-2006, and where the post is the 2006 elections. We consider panel B as a placebo excercise.

**Table 7: Effect of 'Market Wage' Reform on Labor Market and Social Norms**

| | Likert Scale 1-5 | | | Dummy Indicator for 4-5 | | |
|---|---|---|---|---|---|---|
| | Control Mean | Estimated Coefficient | Estimated Coefficient (2 Years Pre) | Control Mean | Estimated Coefficient | Estimated Coefficient (2 Years Pre) |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| **A. Labor Market Norms** | | | | | | |
| Paying for overtime | 3.316 | 0.257*** | 0.195*** | 0.557 | 0.085*** | 0.0645*** |
| | (1.603) | (0.061) | (0.0545) | (0.497) | (0.020) | (0.0184) |
| | 10931 | 11636 | 4,180 | 10931 | 11636 | 4,180 |
| Support for full privatization | 1.893 | 0.414*** | 0.237*** | 0.168 | 0.105*** | 0.0462** |
| | (1.341) | (0.066) | (0.0728) | (0.374) | (0.020) | (0.0232) |
| | 7698 | 11468 | 5,817 | 7698 | 11468 | 5,817 |
| Support for differential wages | 2.706 | 0.618*** | 0.376*** | 0.381 | 0.199*** | 0.127*** |
| | (1.633) | (0.062) | (0.0627) | (0.486) | (0.019) | (0.0218) |
| | 9291 | 12767 | 5,607 | 9291 | 12767 | 5,607 |
| Labor index | 0.000 | 0.291*** | 0.152*** | 0.204 | 0.120*** | 0.0716*** |
| | (0.814) | (0.036) | (0.0357) | (0.403) | (0.020) | (0.0233) |
| | 7767 | 11570 | 5,870 | 7767 | 11570 | 5,870 |
| **B. Social Norms** | | | | | | |
| Overall equality | 3.445 | -0.146*** | -0.117** | 0.540 | -0.067*** | -0.0612** |
| | (1.094) | (0.056) | (0.0570) | (0.498) | (0.026) | (0.0259) |
| | 3316 | 6798 | 4,515 | 3316 | 6798 | 4,515 |
| Mutual guarantee | 3.860 | 0.174*** | 0.0422 | 0.750 | 0.060*** | 0.00682 |
| | (1.037) | (0.051) | (0.0505) | (0.433) | (0.021) | (0.0230) |
| | 3348 | 6906 | 4,621 | 3348 | 6906 | 4,621 |

**Table 7: Effect of 'Market Wage' Reform on Labor Market and Social Norms, Continued**

| | Likert Scale 1-5 | | | Dummy Indicator for 4-5 | | |
|---|---|---|---|---|---|---|
| | Control Mean | Estimated Coefficient | Estimated Coefficient (2 Years Pre) | Control Mean | Estimated Coefficient | Estimated Coefficient (2 Years Pre) |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| **C. Collectivism** | | | | | | |
| From each according to his ability, to each according to his needs | 2.767 | -0.035 | -0.0293 | 0.332 | 0.003 | 0.0108 |
| | (1.323) | (0.062) | (0.0642) | (0.471) | (0.020) | (0.0210) |
| | 3258 | 6689 | 4,464 | 3258 | 6689 | 4,464 |
| Collective ownership of the means of production | 4.033 | 0.050 | 0.0549 | 0.798 | 0.016 | 0.00998 |
| | (0.875) | (0.042) | (0.0509) | (0.402) | (0.020) | (0.0240) |
| | 3291 | 6769 | 4,511 | 3291 | 6769 | 4,511 |
| Collective ownership of assets | 2.629 | -0.143*** | -0.116** | 0.292 | -0.035* | -0.0200 |
| | (1.365) | (0.054) | (0.0536) | (0.455) | (0.019) | (0.0174) |
| | 3307 | 6852 | 4,598 | 3307 | 6852 | 4,598 |
| Collectivism index | -0.001 | -0.021 | -0.00919 | 0.225 | -0.011 | -0.00539 |
| | (0.722) | (0.031) | (0.0305) | (0.418) | (0.016) | (0.0129) |
| | 3415 | 7034 | 4,698 | 3415 | 7034 | 4,698 |

Notes: This table presents means and point estimates of the answers to the survey questions of individuals in control (not yet reformed) kibbutzim. All estimated coefficients are based on a regression of the survey response of individuals to questions as a dependent variable and the treatment indicator, full set of survey year dummies, and demographic controls as the explanatory variables with kibbutz fixed effects. Standard deviations and standard errors are presented in parentheses. Standard errors are adjusted for clustering at the kibbutz level. Number of observations appears below the SE. The dummy indicators are equal 1 if the person supports the specific idea/aspect presented in the question (4 or 5 on the scale), and 0 if they are undecided or oppose it (1-3 on the scale). Coefficient estimate significant at: * 10%; ** 5%; *** 1%.

**Table 8: Effect of 'Market Wage' Reform on Labor Market Norms, Diff-in-diffs Models**

| | Control Mean | Post cohort | Treatment group | Interaction |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| **Model A** | | | | |
| 1998-1999 vs. 2004-2005; | | | | |
| 1993-1996 or 2001-2004 | | | | |
| Paying for overtime | 3.619 | 1.140*** | 0.341* | 0.247 |
| | (1.519) | (0.229) | (0.187) | (0.226) |
| | 1638 | | | 1681 |
| Support for full privatization | 2.146 | 0.361 | 0.133 | 0.847*** |
| | (1.439) | (0.264) | (0.244) | (0.294) |
| | 1626 | | | 1376 |
| Support for differential wages | 3.192 | 0.665*** | -0.090 | 1.068*** |
| | (1.662) | (0.243) | (0.190) | (0.211) |
| | 1777 | | | 1706 |
| Labor index | 0.273 | 0.795*** | 0.228** | 0.346*** |
| | (0.879) | (0.126) | (0.112) | (0.128) |
| | 1635 | | | 1394 |
| **Model B** | | | | |
| 1998-2000 vs. 2004-2006; | | | | |
| 1993-1998 or 2001-2004 | | | | |
| Paying for overtime | 3.611 | 1.111*** | 0.481*** | 0.147 |
| | (1.522) | (0.135) | (0.121) | (0.135) |
| | 1969 | | | 2307 |
| Support for full privatization | 2.122 | 0.506*** | 0.406*** | 0.557*** |
| | (1.437) | (0.190) | (0.136) | (0.192) |
| | 1954 | | | 2696 |
| Support for differential wages | 3.184 | 1.227*** | 0.543*** | 0.363** |
| | (1.657) | (0.177) | (0.124) | (0.165) |
| | 2139 | | | 2590 |
| Labor index | 0.265 | 0.868*** | 0.313*** | 0.252*** |
| | (0.877) | (0.095) | (0.072) | (0.089) |
| | 1969 | | | 2727 |

**Table 8: Effect of 'Market Wage' Reform on Labor Market Norms, Diff-in-diffs Models, Continued**

| | Control Mean | Post cohort | Treatment group | Interaction |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| **Model C**<br>1998-1999 vs. 2004-2005;<br>1993-1999 or 2000-2004 | | | | |
| Paying for overtime | 3.619 | -0.369 | 0.377** | 0.331* |
| | (1.519) | (0.251) | (0.147) | (0.180) |
| | 1638 | | | 2360 |
| Support for full privatization | 2.146 | -0.488 | 0.562*** | 0.413* |
| | (1.439) | (0.319) | (0.165) | (0.232) |
| | 1626 | | | 2059 |
| Support for differential wages | 3.192 | -0.410 | 0.202 | 0.855*** |
| | (1.662) | (0.284) | (0.144) | (0.175) |
| | 1777 | | | 2369 |
| Labor index | 0.273 | -0.254* | 0.344*** | 0.269** |
| | (0.879) | (0.148) | (0.088) | (0.102) |
| | 1635 | | | 2077 |
| **Model D**<br>1998-2000 vs. 2003-2004;<br>1993-1996 or 2001-2004 | | | | |
| Paying for overtime | 3.691 | 1.108*** | 0.175 | 0.353* |
| | (1.515) | (0.231) | (0.193) | (0.212) |
| | 2040 | | | 2238 |
| Support for full privatization | 2.156 | 0.587*** | 0.131 | 0.731*** |
| | (1.433) | (0.186) | (0.194) | (0.229) |
| | 2039 | | | 1423 |
| Support for differential wages | 3.238 | 1.378*** | 0.080 | 0.658*** |
| | (1.665) | (0.192) | (0.175) | (0.201) |
| | 2210 | | | 1969 |
| Labor index | 0.307 | 0.484*** | 0.156 | 0.318** |
| | (0.872) | (0.112) | (0.116) | (0.128) |
| | 2050 | | | 1435 |

**Table 8: Effect of 'Market Wage' Reform on Labor Market Norms, Diff-in-diffs Models, Notes**

Notes: This table presents control group means as well as point estimates of the coefficients of treatment indicator, post cohort indicator, and their interaction from regressions of standard difference-in-differences models. Each panel presents results from a different specification of treatment/control and pre/post groups, as noted in the subtitles. All estimated coefficients are based on a regression of the survey responses of individuals to questions as a dependent variable and the treatment indicator, post cohort indicator, interaction between them, full set of survey year dummies, and demographic controls as the explanatory variables. Standard errors are adjusted for clustering at the kibbutz level and are presented in parentheses. The number of observations appears below the SE. The sample in each model is a balanced panel of kibbutzim that were surveyed both in the pre and post cohorts. Coefficient estimate significant at: * 10%; ** 5%; *** 1%.

**Table 9: Effect of the 'Market Wage' Reform on Labor Market and Social Norms, By Categories**

| Estimated coefficients by: | Age Categories | | | Gender | | Education | | Age of Arrival | | Movement | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 18-35 | 36-60 | 61+ | Male | Female | No academic education | Academic educuation | Born/raised | As an adult | More ideological movement (Artzi) | Less ideological movement (Takam) |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| Labor index | 0.219*** | 0.242*** | 0.344*** | 0.291*** | 0.270*** | 0.312*** | 0.258*** | 0.271*** | 0.346*** | 0.299*** | 0.286*** |
| | (0.065) | (0.042) | (0.057) | (0.050) | (0.043) | (0.042) | (0.049) | (0.040) | (0.074) | (0.061) | (0.046) |
| | 2507 | 5941 | 3122 | 5509 | 6061 | 7250 | 4320 | 8748 | 1595 | 4761 | 6809 |
| Overall equality | -0.163 | -0.196*** | -0.177* | -0.061 | -0.194*** | -0.135* | -0.176** | -0.184*** | 0.245* | -0.127 | -0.155** |
| | (0.134) | (0.069) | (0.091) | (0.087) | (0.070) | (0.069) | (0.088) | (0.065) | (0.142) | (0.079) | (0.077) |
| | 1249 | 3433 | 2116 | 3310 | 3488 | 4057 | 2741 | 5055 | 1007 | 2762 | 4036 |
| Mutual guarantee | 0.288** | 0.083 | 0.202** | 0.298*** | 0.048 | 0.180*** | 0.172** | 0.161*** | 0.419*** | 0.125 | 0.210*** |
| | (0.111) | (0.076) | (0.100) | (0.068) | (0.073) | (0.065) | (0.087) | (0.060) | (0.136) | (0.076) | (0.066) |
| | 1260 | 3472 | 2174 | 3325 | 3581 | 4133 | 2773 | 5145 | 1011 | 2805 | 4101 |
| Collectivism index | 0.059 | -0.062 | -0.067 | 0.040 | -0.065 | 0.016 | -0.089* | -0.044 | 0.116 | -0.072 | 0.020 |
| | (0.077) | (0.043) | (0.057) | (0.048) | (0.044) | (0.038) | (0.048) | (0.035) | (0.087) | (0.048) | (0.039) |
| | 1275 | 3522 | 2237 | 3375 | 3659 | 4218 | 2816 | 5247 | 1022 | 2860 | 4174 |

Notes: This table presents coefficients and standard errors (in parentheses) of the treatment indicator, by categories. All estimated coefficients are based on a regression of the survey response of individuals to questions as a dependent variable and the treatment indicator, full set of survey year dummies, and demographic controls as the explanatory variables with kibbutz fixed effects. Each column presents the results of the regression for the subsample of the mentioned category, e.g. for those aged 18-35 only. Standard errors are adjusted for clustering at the kibbutz level. The number of observations appears below the SE. Coefficient estimate significant at: * 10%; ** 5%; *** 1%.

**Table 10: Effect of the 'Market Wage' Reform On the Economic and Social Conditions of the Kibbutz**

| | Likert Scale 1-5 | | Dummy Indicator for 4-5 | |
|---|---|---|---|---|
| | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient |
| | (1) | (2) | (3) | (4) |
| Economic condition | 2.936 | 0.213*** | 0.346 | 0.045 |
| | (1.170) | (0.068) | (0.476) | (0.029) |
| | 11640 | 14024 | 11640 | 14024 |
| Social relationships | 2.994 | 0.050 | 0.306 | 0.024 |
| | (0.934) | (0.049) | (0.461) | (0.021) |
| | 11632 | 14027 | 11632 | 14027 |
| Work ethics | 3.108 | 0.490*** | 0.344 | 0.257*** |
| | (0.882) | (0.040) | (0.475) | (0.021) |
| | 11584 | 13892 | 11584 | 13892 |
| Equality among members | 2.602 | -0.064 | 0.166 | -0.010 |
| | (0.968) | (0.040) | (0.372) | (0.014) |
| | 11500 | 13803 | 11500 | 13803 |

Notes: This table presents means and standard deviations of the answers to the survey questions of individuals in control (not yet reformed) kibbutzim. All estimated coefficients are based on a regression of the question answers as a dependent variable and the treatment indicator, kibbutz specific linear trend, full set of survey year dummies, and demographic controls as the explanatory variables with kibbutz fixed effects. Standard deviations and standard errors are presented in parentheses. Standard errors are adjusted for clustering at the kibbutz level. The number of observations appears below the SE. Coefficient estimate significant at: * 10%; ** 5%; *** 1%.

**Table 11: Effect and Interaction Between Treatment and Past Years Means**

| | Original Effect | Past 2 Years | | Past 3 Years | | Past 4 Years | |
|---|---|---|---|---|---|---|---|
| | Estimated Coefficient | Effect | Interaction | Effect | Interaction | Effect | Interaction |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| **A. Labor Market Norms** | | | | | | | |
| Paying for overtime | 0.257*** | 0.739*** | -0.114** | 1.216*** | -0.230*** | 1.472*** | -0.297*** |
| | (0.061) | (0.237) | (0.054) | (0.246) | (0.057) | (0.262) | (0.063) |
| | 11636 | 11581 | | 11636 | | 11636 | |
| Support for full privatization | 0.414*** | 0.059 | 0.127*** | 0.162 | 0.089* | 0.333** | 0.019 |
| | (0.066) | (0.109) | (0.037) | (0.124) | (0.046) | (0.132) | (0.051) |
| | 11468 | 10569 | | 10583 | | 10624 | |
| Support for differential wages | 0.618*** | 0.587*** | -0.002 | 0.712*** | -0.036 | 0.754*** | -0.038 |
| | (0.062) | (0.152) | (0.038) | (0.165) | (0.044) | (0.167) | (0.045) |
| | 12767 | 12001 | | 12055 | | 12753 | |
| Labor index | 0.291*** | 0.213*** | 0.106** | 0.242*** | 0.055 | 0.262*** | 0.009 |
| | (0.036) | (0.038) | (0.042) | (0.039) | (0.050) | (0.039) | (0.055) |
| | 11570 | 10665 | | 10679 | | 10720 | |
| **B. Social Norms** | | | | | | | |
| Overall equality | -0.146*** | 0.471*** | -0.181*** | 0.917*** | -0.324*** | 1.311*** | -0.446*** |
| | (0.056) | (0.156) | (0.043) | (0.184) | (0.055) | (0.200) | (0.062) |
| | 6798 | 5921 | | 5934 | | 5943 | |
| Mutual guarantee | 0.174*** | 0.863*** | -0.176*** | 1.119*** | -0.242*** | 1.501*** | -0.342*** |
| | (0.051) | (0.227) | (0.057) | (0.277) | (0.070) | (0.324) | (0.082) |
| | 6906 | 6021 | | 6034 | | 6043 | |

**Table 11: Effect and Interaction Between Treatment and Past Years Means, Continued**

| | Original Effect | Past 2 Years | | Past 3 Years | | Past 4 Years | |
|---|---|---|---|---|---|---|---|
| | Estimated Coefficient | Effect | Interaction | Effect | Interaction | Effect | Interaction |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| **C. Collectivism** | | | | | | | |
| From each according to his ability, to each according to his needs | -0.035 | 0.435*** | -0.171*** | 0.538*** | -0.218*** | 0.895*** | -0.367*** |
| | (0.062) | (0.141) | (0.053) | (0.168) | (0.067) | (0.196) | (0.080) |
| | 6689 | 5825 | | 5844 | | 5853 | |
| Collective ownership of the means of production | 0.050 | 0.793*** | -0.186*** | 1.188*** | -0.287*** | 1.319*** | -0.319*** |
| | (0.042) | (0.178) | (0.044) | (0.242) | (0.061) | (0.307) | (0.077) |
| | 6769 | 5900 | | 5913 | | 5922 | |
| Collective ownership of assets | -0.143*** | 0.161 | -0.127*** | 0.356*** | -0.214*** | 0.494*** | -0.273*** |
| | (0.054) | (0.116) | (0.047) | (0.121) | (0.049) | (0.131) | (0.053) |
| | 6852 | 5985 | | 5997 | | 6006 | |
| Collectivism index | -0.021 | -0.028 | -0.128*** | -0.054 | -0.242*** | -0.060* | -0.281*** |
| | (0.031) | (0.033) | (0.044) | (0.034) | (0.059) | (0.034) | (0.067) |
| | 7034 | 6139 | | 6152 | | 6161 | |

Notes: This table presents means and point estimates of of the treatment dummy and the interaction between treatment and past years mean. All estimated coefficients are based on a regression of the survey response of individuals to questions as a dependent variable and the treatment indicator, the interaction with past years mean, full set of survey year dummies, and demographic controls as the explanatory variables with kibbutz fixed effects. Standard errors are presented in parentheses. Standard errors are adjusted for clustering at the kibbutz level. The number of observations appears below the SE. The past years mean term was calculated at the kibbutz-year level for every question. Coefficient estimate significant at: * 10%; ** 5%; *** 1%.

## 12. Appendix Tables

**Appendix Table A1: Descriptive Statistics of All Kibbutzim Population**

| | 2009 CBS | 2009 Survey | 2011 CBS | 2011 Survey |
|---|---|---|---|---|
| **A. Personal Characteristics:** | | | | |
| Female Ratio | 48.09 | 52.27 | 48.24 | 51.04 |
| **B. Education: Highest Completed (%):** | | | | |
| Lower than University Degree | 57.6 | 60.8 | 57.6 | 60.2 |
| Bachelor's degree | 27.97 | 27.02 | 27.67 | 25.3 |
| Advanced degrees | 14.48 | 12.1 | 14.61 | 14.39 |
| **C. Kibbutz Association Affiliation (%):** | | | | |
| More ideological movement (Artzi) | 35.06 | 36.57 | 35.2 | 37.51 |
| Less ideological movement (Takam) | 64.94 | 63.43 | 64.8 | 62.49 |

Notes: This table presents descriptive statistics of kibbutz members for 2009 and 2011 from the Israeli Central Bureau of Statistics (CBS) and from IRK surveys, which we use in the paper. The CBS is based on the all kibbutz population. The table presents statistics for two years where both the CBS and the IRK survey data are available and are within the period of the study.

**Appendix Table A2: Sample Observable Characteristics, by Years (Grouped)**

| | Part 1: 1993-1998 | Part 2: 1999-2001 | | | Part 3: 2002-2004 | | | Part 4: 2005-2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | Treated Mean | Control Mean | Difference | Treated Mean | Control Mean | Difference | Treated Mean | Control Mean | Difference |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| **A. Personal Characteristics:** | | | | | | | | | | |
| Female Ratio | 52.758 | 55.011 | 52.619 | 2.283 | 56.922 | 50.032 | 7.389*** | 50.475 | 49.850 | 0.761 |
| | (49.929) | (49.804) | (49.941) | (2.680) | (49.543) | (50.016) | (2.702) | (50.018) | (50.037) | (2.856) |
| Age | 45.027 | 50.437 | 48.287 | 1.513 | 49.288 | 46.525 | 2.35** | 54.955 | 51.458 | 3.164*** |
| | (14.566) | (13.134) | (14.368) | (0.942) | (14.859) | (15.530) | (0.864) | (13.652) | (14.916) | (0.959) |
| **B. Education: Highest Completed (%):** | | | | | | | | | | |
| Primary | 3.860 | 2.552 | 2.615 | -0.048 | 1.494 | 2.073 | -0.625 | 1.786 | 0.923 | 0.786 |
| | (19.266) | (15.789) | (15.961) | (0.866) | (12.137) | (14.251) | (0.660) | (13.249) | (9.571) | (0.571) |
| High school | 28.880 | 34.803 | 30.409 | 5.590** | 24.602 | 27.202 | -2.250 | 21.591 | 22.615 | -1.272 |
| | (45.325) | (47.690) | (46.012) | (2.833) | (43.090) | (44.514) | (2.280) | (41.162) | (41.866) | (2.241) |
| Non-academic | 36.660 | 33.411 | 33.488 | -0.325 | 32.669 | 32.578 | 0.097 | 37.500 | 30.308 | 7.334*** |
| | (48.192) | (47.223) | (47.205) | (3.101) | (46.924) | (46.882) | (2.403) | (48.432) | (45.994) | (2.461) |
| Bachelor's degree | 27.480 | 21.114 | 24.547 | -3.968 | 31.076 | 29.016 | 1.802 | 27.516 | 34.154 | -6.268*** |
| | (44.646) | (40.859) | (43.045) | (2.770) | (46.303) | (45.398) | (2.517) | (44.678) | (47.459) | (2.433) |
| Advanced degrees | 3.120 | 8.121 | 8.941 | -1.249 | 10.159 | 9.132 | 0.976 | 11.607 | 12.000 | -0.579 |
| | (17.388) | (27.347) | (28.540) | (1.658) | (30.226) | (28.816) | (1.705) | (32.044) | (32.521) | (2.034) |
| **C. Age of Arrival to the Kibbutz (%):** | | | | | | | | | | |
| Born/raised | 80.891 | 86.059 | 88.930 | -3.545 | 82.321 | 88.505 | -7.118*** | 81.181 | 85.413 | -3.343 |
| | (39.320) | (34.684) | (31.383) | (2.401) | (38.170) | (31.907) | (2.093) | (39.105) | (35.329) | (2.054) |
| As an adult | 19.109 | 13.941 | 11.070 | 3.545 | 17.679 | 11.495 | 7.118*** | 18.819 | 14.587 | 3.343 |
| | (39.320) | (34.684) | (31.383) | (2.401) | (38.170) | (31.907) | (2.093) | (39.105) | (35.329) | (2.054) |

**Appendix Table A2: Sample Observable Characteristics, by Years (Grouped), Continued**

| Variable | Part 1: 1993-1998 | Part 2: 1999-2001 | | | Part 3: 2002-2004 | | | Part 4: 2005-2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | Treated Mean | Control Mean | Difference | Treated Mean | Control Mean | Difference | Treated Mean | Control Mean | Difference |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| **D. Personal Status (%):** | | | | | | | | | | |
| Single | 14.697 | 7.865 | 13.638 | -4.694** | 11.359 | 17.684 | -5.457*** | 5.803 | 9.624 | -3.537*** |
| | (35.411) | (26.950) | (34.326) | (2.008) | (31.747) | (38.166) | (1.880) | (23.389) | (29.514) | (1.705) |
| Single parent | 0.516 | 2.022 | 0.809 | 1.179 | 1.359 | 0.573 | 0.822 | 1.431 | 0.902 | 0.515 |
| | (7.163) | (14.093) | (8.962) | (0.759) | (11.585) | (7.547) | (0.602) | (11.881) | (9.463) | (0.521) |
| Married | 76.101 | 73.708 | 75.030 | -2.061 | 74.660 | 70.865 | 3.014 | 79.968 | 77.895 | 1.775 |
| | (42.651) | (44.072) | (43.292) | (3.102) | (43.517) | (45.453) | (2.331) | (40.040) | (41.527) | (2.463) |
| Divorced | 5.177 | 10.112 | 6.354 | 3.600* | 8.058 | 7.634 | 0.210 | 7.711 | 7.519 | 0.362 |
| | (22.157) | (30.183) | (24.398) | (2.157) | (27.233) | (26.562) | (1.420) | (26.687) | (26.389) | (1.830) |
| Widowed | 3.511 | 6.292 | 4.168 | 1.976 | 4.563 | 3.244 | 1.411 | 5.087 | 4.060 | 0.885 |
| | (18.406) | (24.309) | (19.991) | (1.435) | (20.879) | (17.723) | (1.026) | (21.983) | (19.751) | (1.165) |
| **E. Kibbutz Association Affiliation (%):** | | | | | | | | | | |
| More ideological movement (Artzi) | 39.480 | 18.263 | 49.073 | -31.707*** | 37.464 | 48.638 | -10.796 | 32.516 | 46.997 | -14.164* |
| | (48.886) | (38.679) | (50.001) | (6.260) | (48.426) | (49.997) | (7.634) | (46.862) | (49.947) | (8.426) |
| Less ideological movement (Takam) | 60.520 | 81.737 | 50.927 | 31.707*** | 62.536 | 51.362 | 10.796 | 67.484 | 53.003 | 14.164* |
| | (48.886) | (38.679) | (50.001) | (6.260) | (48.426) | (49.997) | (7.634) | (46.862) | (49.947) | (8.426) |
| Observations | 5076 | 449 | 2482 | | 1033 | 1579 | | 1264 | 666 | |

Notes: This table presents means and standard errors of the observable explanatory variables for each year. Column 1 presents the mean for all kibbutzim (both reformed and unreformed). Columns 2-4, 5-6, 8-9 present the mean for the reformed (treated) or control kibbutzim and the standard deviations in parentheses. Columns 4,7,9 presents the treatment coefficient (and SE in parentheses) based on a regression of the demographic variable as a dependent variable and the treatment indicator, full set of survey year dummies, and clustering by kibbutz.

**Appendix Table A3: Early Vs. Late Reformed Observable Characteristics, by Years (Grouped)**

| | Part 1: 1993-1998 | | | Part 2: 1999-2001 | | | Part 3: 2002-2004 | | | Part 4: 2005-2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Early Mean | Late Mean | Difference | Early Mean | Late Mean | Difference | Early Mean | Late Mean | Difference | Early Mean | Late Mean | Difference |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| **A. Personal Characteristics:** | | | | | | | | | | | | |
| Female Ratio | 53.75 | 50.90 | 2.57 | 54.85 | 53.26 | 1.36 | 59.78 | 48.98 | 10.85** | 48.33 | 48.53 | -0.21 |
| | (49.91) | (50.02) | (3.76) | (49.87) | (49.94) | (5.45) | (49.17) | (50.04) | (5.01) | (50.11) | (50.05) | (5.58) |
| Age | 45.50 | 44.75 | 0.77 | 50.21 | 47.48 | 2.51 | 48.69 | 46.45 | 2.21 | 55.46 | 54.14 | 0.90 |
| | (14.44) | (15.14) | (1.61) | (13.53) | (14.34) | (1.84) | (14.17) | (15.09) | (2.10) | (13.26) | (13.85) | (1.79) |
| **B. Education: Highest Completed (%):** | | | | | | | | | | | | |
| Primary | 1.52 | 7.59 | -6.19*** | 4.41 | 3.44 | 0.90 | 2.20 | 1.46 | 0.75 | 1.14 | 0.79 | 0.36 |
| | (12.24) | (26.50) | (1.65) | (20.57) | (18.25) | (1.64) | (14.70) | (11.99) | (1.93) | (10.63) | (8.85) | (1.14) |
| High school | 30.15 | 28.45 | 0.74 | 33.92 | 32.19 | 2.03 | 29.12 | 27.44 | 1.84 | 25.57 | 25.72 | -0.53 |
| | (45.94) | (45.14) | (3.65) | (47.45) | (46.76) | (4.38) | (45.56) | (44.67) | (5.13) | (43.75) | (43.77) | (4.23) |
| Non-academic | 35.57 | 32.94 | 3.04 | 34.36 | 34.60 | -0.18 | 34.07 | 33.68 | 0.02 | 43.18 | 35.70 | 7.78 |
| | (47.93) | (47.03) | (2.85) | (47.60) | (47.61) | (4.43) | (47.52) | (47.31) | (4.68) | (49.67) | (47.97) | (5.14) |
| Bachelor's degree | 29.50 | 27.38 | 2.71 | 21.15 | 20.65 | 0.20 | 28.57 | 25.36 | 3.33 | 21.59 | 25.46 | -3.85 |
| | (45.65) | (44.61) | (2.93) | (40.92) | (40.52) | (3.99) | (45.30) | (43.55) | (5.48) | (41.26) | (43.62) | (4.75) |
| Advanced degrees | 3.25 | 3.64 | -0.31 | 6.17 | 9.12 | -2.95 | 6.04 | 12.06 | -5.95 | 8.52 | 12.34 | -3.74 |
| | (17.76) | (18.73) | (0.98) | (24.11) | (28.82) | (2.40) | (23.90) | (32.60) | (3.76) | (28.00) | (32.93) | (2.80) |
| **C. Age of Arrival to the Kibbutz (%):** | | | | | | | | | | | | |
| Born/raised | 81.02 | 79.86 | 1.74 | 86.98 | 89.96 | -3.10 | 77.02 | 88.22 | -10.56* | 79.49 | 83.03 | -2.43 |
| | (39.26) | (40.13) | (3.49) | (33.74) | (30.08) | (3.65) | (42.20) | (32.27) | (5.63) | (40.51) | (37.59) | (3.72) |
| As an adult | 18.98 | 20.14 | -1.74 | 13.02 | 10.04 | 3.10 | 22.98 | 11.78 | 10.56* | 20.51 | 16.97 | 2.43 |
| | (39.26) | (40.13) | (3.49) | (33.74) | (30.08) | (3.65) | (42.20) | (32.27) | (5.63) | (40.51) | (37.59) | c |

**Appendix Table A3: Early Vs. Late Reformed Observable Characteristics, by Years (Grouped), Continued**

| | Part 1: 1993-1998 | | | Part 2: 1999-2001 | | | Part 3: 2002-2004 | | | Part 4: 2005-2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Early Mean | Late Mean | Difference | Early Mean | Late Mean | Difference | Early Mean | Late Mean | Difference | Early Mean | Late Mean | Difference |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| **D. Personal Status (%):** | | | | | | | | | | | | |
| Single | 15.30 | 16.17 | -0.83 | 8.02 | 15.21 | -6.93* | 11.35 | 17.11 | -5.43 | 4.40 | 6.77 | -2.05 |
| | (36.04) | (36.84) | (2.76) | (27.21) | (35.94) | (3.56) | (31.81) | (37.70) | (3.97) | (20.56) | (25.16) | (2.62) |
| Single parent | 0.00 | 0.43 | -0.42** | 0.42 | 0.83 | -0.41 | 0.54 | 0.41 | 0.10 | 0.00 | 1.04 | -1.02** |
| | (0.00) | (6.51) | (0.19) | (6.50) | (9.06) | (0.58) | (7.35) | (6.38) | (0.61) | (0.00) | (10.17) | (0.44) |
| Married | 75.22 | 72.98 | 2.19 | 78.06 | 72.89 | 5.00 | 76.22 | 72.10 | 3.72 | 85.71 | 79.95 | 5.50 |
| | (43.22) | (44.43) | (3.60) | (41.47) | (44.49) | (4.64) | (42.69) | (44.90) | (5.98) | (35.09) | (40.09) | (4.24) |
| Divorced | 4.53 | 6.49 | -1.97 | 9.28 | 5.62 | 3.64 | 8.65 | 7.13 | 1.61 | 7.14 | 8.07 | -0.82 |
| | (20.81) | (24.65) | (1.98) | (29.08) | (23.05) | (3.12) | (28.18) | (25.76) | (4.01) | (25.82) | (27.28) | (2.62) |
| Widowed | 4.96 | 3.94 | 1.04 | 4.22 | 5.45 | -1.31 | 3.24 | 3.26 | 0.00 | 2.75 | 4.17 | -1.61 |
| | (21.73) | (19.46) | (1.95) | (20.15) | (22.73) | (1.90) | (17.76) | (17.77) | (1.97) | (16.39) | (20.01) | (1.56) |
| **E. Kibbutz Affiliation (%):** | | | | | | | | | | | | |
| More ideological (Artzi) | 15.42 | 44.03 | -28.68** | 10.88 | 37.46 | -26.46** | 13.98 | 37.32 | -23.49* | 13.19 | 36.27 | -23.49** |
| | (36.15) | (49.67) | (11.92) | (31.20) | (48.44) | (11.17) | (34.77) | (48.42) | (12.05) | (33.93) | (48.14) | (11.12) |
| Less ideological (Takam) | 84.58 | 55.97 | 28.68** | 89.12 | 62.54 | 26.46** | 86.02 | 62.68 | 23.49* | 86.81 | 63.73 | 23.49** |
| | (36.15) | (49.67) | (11.92) | (31.20) | (48.44) | (11.17) | (34.77) | (48.42) | (12.05) | (33.93) | (48.14) | (11.12) |
| **F-test for all the variables:** | | | 3.884 | | | 1.781 | | | 1.198 | | | 2.738 |
| **Observations** | 467 | 947 | 1414 | 239 | 606 | 845 | 186 | 493 | 679 | 182 | 386 | 568 |

Notes: This table presents means and standard deviations of the observable explanatory variables by grouped years for kibbutzim which reformed early (1998-1999) versus late (2003-2005). Columns 1-2, 4-5, 7-8, 10-11 present the mean (and SD in parentheses). Columns 3,6,9,12 presents the coefficient of the indicator for early reform (and SE in parentheses) based on a regression of the variable as a dependent variable and the early reform indicator, full set of survey year dummies, and clustering by kibbutz.

**Appendix Table A4: Placebo Examinations**

| Variable: | Turnout | Left | Center | Right |
|---|---|---|---|---|
| **Panel A: Backwards Placebo** | | | | |
| Treatment | -0.0318 | -1.340 | 0.428 | 0.938 |
| | (1.586) | (1.259) | (0.601) | (0.682) |
| | 107 | 107 | 107 | 107 |
| **Panel B: Forward Placebo** | | | | |
| Treatment | 1.431 | -2.250 | 0.310 | 1.563 |
| | (1.545) | (1.995) | (1.030) | (1.139) |
| | 118 | 118 | 118 | 118 |
| **Panel C: Placebo at 1996** | | | | |
| Treatment | 1.037 | -0.243 | 0.143 | 0.376 |
| | (1.465) | (0.958) | (0.552) | (0.680) |
| | 107 | 107 | 107 | 107 |
| **Panel D: Placebo at 1996-1999** | | | | |
| Treatment | 2.540 | 0.264 | -0.201 | 0.453 |
| | (1.821) | (1.327) | (0.697) | (0.537) |
| | 136 | 136 | 136 | 136 |
| **Panel E: Placebo at 2013** | | | | |
| Treatment | 1.296 | 0.264 | -0.276 | -0.0668 |
| | (1.285) | (1.691) | (1.160) | (1.026) |
| | 118 | 118 | 118 | 118 |

Notes: In this table we perform several placebo excercises for the first estimation strategy. In panel A define treatment as kibbutzim that reform just before an election, and control as kibbutzim that reformed a year after elections, but then we sample them one elections before the actual election they reformed in proximation to. In panel B we do a similiar excercise, only sampling kibbuzim one election after the true election. In panel C we take kibbutzim that reformed starting from 1998, and regress them only on 1996 elections. In panel D take kibbutzim that reformed starting from 2002 and regress them only on 1996-1999 elections. Finally, in panel E we take kibbutzim that reformed until 2010, and regress them on 2013 elections. We always control for affiliation with Artzi, and a full set of year dummies.

**Appendix Table A5: Heterogeneity By kibbutz Movement**

| | Takam | | | | Artzi | | | |
|---|---|---|---|---|---|---|---|---|
| **Variable:** | **Turnout** | **Left** | **Center** | **Right** | **Turnout** | **Left** | **Center** | **Right** |
| Treatment | 2.053 | -7.765*** | 2.468** | 3.401*** | -0.949 | -0.933 | 0.293 | 1.008 |
| | (1.814) | (1.802) | (0.944) | (0.966) | (3.499) | (3.596) | (1.595) | (1.805) |
| | 80 | 80 | 80 | 80 | 41 | 41 | 41 | 41 |

Notes: We define treatment to be kibbutzim that reformed just before elections, and control to be kibbutzim that reformed just after elections. We regress on treatment on voting turnout, percent of cast to the left, center and the right. We control for affiliation with Artzi, and a full set of year dummies. We seperate that sample to only Takam kibbutzim (less ideological) and Artzi kibbutzim (more ideological).

**Appendix Table A6: 1984-1996 Voting Trends of Kibbutzim that Refromed in 1997-1998 (Treatment) and Kibbutzim that reformed in 2000-2001 (Control)**

| Variable | Year | Coefficient | Standard Error | Observations |
|---|---|---|---|---|
| Turnout | 1984 | 0.458 | (1.661) | 70 |
| | 1988 | -0.396 | (1.620) | 70 |
| | 1992 | -0.188 | (1.497) | 71 |
| | 1996 | -2.993 | (2.050) | 75 |
| Left | 1984 | 0.265 | (1.253) | 70 |
| | 1988 | 2.320 | (1.479) | 70 |
| | 1992 | -0.106 | (1.590) | 71 |
| | 1996 | -0.908 | (2.220) | 75 |
| Center | 1984 | 0.0494 | (0.487) | 70 |
| | 1988 | -1.458 | (1.112) | 70 |
| | 1992 | . | | |
| | 1996 | -0.218 | (1.558) | 75 |
| Right | 1984 | 0.253 | (0.822) | 70 |
| | 1988 | -0.926 | (0.825) | 70 |
| | 1992 | -0.143 | (1.550) | 71 |
| | 1996 | 0.729 | (0.888) | 75 |

Notes: We take our 4 outcomes variables: voting turnout, and percent of votes cast to the left, center and right. We regress for each year between 1984-1996 seperately the outcome variable on treatment, where treatment is reforming in 1997-1998 and control is reforming in 2000-2001. We control for affiliation with Artzi movement.

**Appendix Table A7: Early Vs. Late Descriptive Statistics**

| | Control Group | | Estimation | |
|---|---|---|---|---|
| Variable | Late reformed mean | Standard deviation | Estimated coefficient | Standard error |
| **A. Personal Characteristics:** | | | | |
| Female percentage | 50.726 | 50.005 | 3.331 | 2.907 |
| Age | 47.266 | 15.064 | 1.457 | 1.236 |
| **B. Education: Highest Completed (%):** | | | | |
| Primary | 4.247 | 20.171 | -2.242** | 1.028 |
| High school | 28.722 | 45.256 | 1.022 | 2.782 |
| Non-academic | 33.936 | 47.359 | 2.549 | 2.459 |
| Bachelor's degree | 25.021 | 43.323 | 1.172 | 2.427 |
| Advanced degrees | 8.074 | 27.249 | -2.501* | 1.299 |
| **C. Age of Arrival to the Kibbutz (%):** | | | | |
| Born/raised | 84.480 | 36.218 | -2.189 | 2.139 |
| As an adult | 15.520 | 36.218 | 2.189 | 2.139 |
| **D. Personal Status (%):** | | | | |
| Single | 14.628 | 35.346 | -3.279* | 1.748 |
| Single parent | 0.620 | 7.850 | -0.424* | 0.247 |
| Married | 73.884 | 43.936 | 3.671 | 2.674 |
| Divorced | 6.653 | 24.926 | 0.165 | 1.786 |
| Widowed | 4.215 | 20.097 | -0.133 | 1.188 |

Notes: This table presents descriptive statistics of the observable explanatory variables by early or late treatment. The control group consists of kibbutzim reformed late, between 2003-2005. The treatment group consists of kibbutzim reformed early, between 1998-1999. Column 1-2 presents the mean and standard deviation for kibbutzim which reformed late (2003-2005). Columns 3-4 presents the coefficient and standard error based on a regression of the variable as a dependent variable and the early reform indicator (reformed in 1998-1999) and a full set of survey year dummies. Standard deviations and standard errors are presented in parentheses. Standard errors are adjusted for clustering at the kibbutz level. Born/raised group consists of those who were born, raised, founded or those who joined with a motivated and socialist group of young adults such as a youth movement or a 'Gar'in'. Coefficient estimate significant at: * 10%; ** 5%; *** 1%

**Appendix Table A8: Effect of 'Market Wage' Reform on Labor Market and Social Norms - Robust Estimators**

| | Control Mean | OLS estimator | BJS estimator |
|---|---|---|---|
| | (1) | (2) | (3) |
| **A. Labor Market Norms** | | | |
| Paying for overtime | 3.316 | 0.257*** | 0.224*** |
| | (1.603) | (0.061) | (0.066) |
| | 10931 | 11636 | 11595 |
| Support for full privatization | 1.893 | 0.414*** | 0.422*** |
| | (1.341) | (0.066) | (0.069) |
| | 7698 | 11468 | 11366 |
| Support for differential wages | 2.706 | 0.618*** | 0.612*** |
| | (1.633) | (0.062) | (0.069) |
| | 9291 | 12767 | 12714 |
| Labor index | 0.000 | 0.291*** | 0.304*** |
| | (0.814) | (0.036) | (0.040) |
| | 7767 | 11570 | 11468 |
| **B. Social Norms** | | | |
| Overall equality | 3.445 | -0.146*** | -0.127* |
| | (1.094) | (0.056) | (0.071) |
| | 3316 | 6798 | 5127 |
| Mutual guarantee | 3.860 | 0.174*** | 0.398*** |
| | (1.037) | (0.051) | (0.067) |
| | 3348 | 6906 | 5218 |

**Appendix Table A8: Effect of 'Market Wage' Reform on Labor Market and Social Norms - Robust Estimators, Continued**

| | Control Mean | OLS estimator | BJS estimator |
|---|---|---|---|
| | (1) | (2) | (3) |
| **C. Collectivism** | | | |
| From each according to his ability, to each according to his needs | 2.767 | -0.035 | -0.106 |
| | (1.323) | (0.062) | (0.087) |
| | 3258 | 6689 | 5069 |
| Collective ownership of the means of production | 4.033 | 0.050 | 0.090* |
| | (0.875) | (0.042) | (0.053) |
| | 3291 | 6769 | 5104 |
| Collective ownership of assets | 2.629 | -0.143*** | -0.110 |
| | (1.365) | (0.054) | (0.080) |
| | 3307 | 6852 | 5170 |
| Collectivism index | -0.001 | -0.021 | -0.008 |
| | (0.722) | (0.031) | (0.047) |
| | 3415 | 7034 | 5319 |

Notes: This table presents point estimates for OLS and other estimators which are robust to heterogeneous treatment effect and timing. Column 3 presents the estimator of Borusyak, Jaravel, and Spiess (2021). All estimated coefficients are based on a regression of the survey response of individuals to questions as a dependent variable and the treatment indicator, full set of survey year dummies, and demographic controls as the explanatory variables with kibbutz fixed effects. Standard errors are adjusted for clustering at the kibbutz level. Number of observations appears below the SE. Coefficient estimate significant at: * 10%; ** 5%; *** 1%.

**Appendix Table A9: Effect of 'Market Wage' Reform on Labor Market and Social Norms, Subsample from Kibbutzim Which Reformed After 2002 and Survey Years after 2000**

| | Likert Scale 1-5 | | Dummy Indicator for 4-5 | |
|---|---|---|---|---|
| | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient |
| | (1) | (2) | (3) | (4) |
| **A. Labor Market Norms** | | | | |
| Paying for overtime | 3.58 | 0.26*** | 0.63 | 0.08*** |
| | (1.53) | (0.09) | (0.48) | (0.03) |
| | 2554 | 2797 | 2554 | 2797 |
| Support for full privatization | 1.81 | 0.34*** | 0.15 | 0.07** |
| | (1.30) | (0.10) | (0.36) | (0.03) |
| | 3140 | 3967 | 3140 | 3967 |
| Support for differential wages | 2.87 | 0.57*** | 0.43 | 0.17*** |
| | (1.68) | (0.10) | (0.49) | (0.03) |
| | 3123 | 3888 | 3123 | 3888 |
| Labor index | -0.04 | 0.31*** | 0.21 | 0.07** |
| | (0.83) | (0.06) | (0.41) | (0.03) |
| | 3171 | 4001 | 3171 | 4001 |
| **B. Social Norms** | | | | |
| Overall equality | 3.47 | -0.14* | 0.55 | -0.05 |
| | (1.09) | (0.07) | (0.50) | (0.04) |
| | 3024 | 3815 | 3024 | 3815 |
| Mutual guarantee | 3.85 | 0.32*** | 0.74 | 0.12*** |
| | (1.04) | (0.06) | (0.44) | (0.03) |
| | 3041 | 3858 | 3041 | 3858 |

**Appendix Table A9: Effect of 'Market Wage' Reform on Labor Market and Social Norms, Subsample from Kibbutzim Which Reformed After 2002 and Survey Years after 2000, Continued**

| | Likert Scale 1-5 | | Dummy Indicator for 4-5 | |
|---|---|---|---|---|
| | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient |
| | (1) | (2) | (3) | (4) |
| **C. Collectivism** | | | | |
| From each according to his ability, to each according to his needs | 2.79 | 0.02 | 0.34 | 0.02 |
| | (1.32) | (0.08) | (0.47) | (0.03) |
| | 2967 | 3761 | 2967 | 3761 |
| Collective ownership of the means of production | 4.05 | 0.06 | 0.81 | 0.01 |
| | (0.87) | (0.05) | (0.39) | (0.02) |
| | 2997 | 3798 | 2997 | 3798 |
| Collective ownership of assets | 2.67 | -0.17** | 0.30 | -0.07** |
| | (1.38) | (0.08) | (0.46) | (0.03) |
| | 3010 | 3816 | 3010 | 3816 |
| Collectivism index | 0.02 | -0.01 | 0.23 | -0.01 |
| | (0.72) | (0.04) | (0.42) | (0.02) |
| | 3107 | 3934 | 3107 | 3934 |

Notes: This table presents means and point estimates of the answers to the survey questions of individuals in control (not yet reformed) kibbutzim. All estimated coefficients are based on a regression of the survey response of individuals to questions as a dependent variable and the treatment indicator, full set of survey year dummies, and demographic controls as the explanatory variables with kibbutz fixed effects. Standard deviations and standard errors are presented in parentheses. Standard errors are adjusted for clustering at the kibbutz level. Number of observations appears below the SE. The dummy indicators are equal 1 if the person supports the specific idea/aspect presented in the question (4 or 5 on the scale), and 0 if they are undecided or oppose it (1-3 on the scale). Coefficient estimate significant at: * 10%; ** 5%; *** 1%.

**Appendix Table A10: Effect of 'Market Wage' Reform on Labor Market and Social Norms, Controlling for Kibbutz-specific Time Trend**

| | Likert Scale 1-5 | | Dummy Indicator for 4-5 | |
|---|---|---|---|---|
| | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient |
| | (1) | (2) | (3) | (4) |
| **A. Labor Market Norms** | | | | |
| Paying for overtime | 3.316 | 0.140** | 0.557 | 0.042** |
| | (1.603) | (0.061) | (0.497) | (0.019) |
| | 10931 | 11636 | 10931 | 11636 |
| Support for full privatization | 1.893 | 0.193*** | 0.168 | 0.042* |
| | (1.341) | (0.072) | (0.374) | (0.023) |
| | 7698 | 11468 | 7698 | 11468 |
| Support for differential wages | 2.706 | 0.371*** | 0.381 | 0.122*** |
| | (1.633) | (0.070) | (0.486) | (0.022) |
| | 9291 | 12767 | 9291 | 12767 |
| Labor index | 0.000 | 0.106*** | 0.204 | 0.063*** |
| | (0.814) | (0.035) | (0.403) | (0.023) |
| | 7767 | 11570 | 7767 | 11570 |
| **B. Social Norms** | | | | |
| Overall equality | 3.445 | -0.078 | 0.540 | -0.053* |
| | (1.094) | (0.073) | (0.498) | (0.029) |
| | 3316 | 6798 | 3316 | 6798 |
| Mutual guarantee | 3.860 | 0.206*** | 0.750 | 0.078*** |
| | (1.037) | (0.063) | (0.433) | (0.027) |
| | 3348 | 6906 | 3348 | 6906 |

**Appendix Table A10: Effect of 'Market Wage' Reform on Labor Market and Social Norms, Controlling for Kibbutz-specific Time Trend**

| | Likert Scale 1-5 | | Dummy Indicator for 4-5 | |
|---|---|---|---|---|
| | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient |
| | (1) | (2) | (3) | (4) |
| **C. Collectivism** | | | | |
| From each according to his ability, to each according to his needs | 2.767 | 0.022 | 0.332 | 0.018 |
| | (1.323) | (0.073) | (0.471) | (0.026) |
| | 3258 | 6689 | 3258 | 6689 |
| Collective ownership of the means of production | 4.033 | 0.105* | 0.798 | 0.036 |
| | (0.875) | (0.055) | (0.402) | (0.025) |
| | 3291 | 6769 | 3291 | 6769 |
| Collective ownership of assets | 2.629 | 0.067 | 0.292 | 0.049*** |
| | (1.365) | (0.060) | (0.455) | (0.018) |
| | 3307 | 6852 | 3307 | 6852 |
| Collectivism index | -0.001 | 0.065* | 0.225 | 0.031* |
| | (0.722) | (0.034) | (0.418) | (0.017) |
| | 3415 | 7034 | 3415 | 7034 |

Notes: This table presents means and point estimates of the answers to the survey questions of individuals in control (not yet reformed) kibbutzim. All estimated coefficients are based on a regression of the survey response of individuals to questions as a dependent variable and the treatment indicator, kibbutz specific linear trend, full set of survey year dummies, and demographic controls as the explanatory variables with kibbutz fixed effects. Standard deviations and standard errors are presented in parentheses. Standard errors are adjusted for clustering at the kibbutz level. Number of observations appears below the SE. The dummy indicators are equal 1 if the person supports the specific idea/aspect presented in the question (4 or 5 on the scale), and 0 if they are undecided or oppose it (1-3 on the scale). Coefficient estimate significant at: * 10%; ** 5%; *** 1%.

**Appendix Table A11: Effect of the 'Market Wage' Reform on Labor Market and Social Norms, By Categories**

| | Age Categories | | | | | | Gender | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 18-35 | | 36-60 | | 61+ | | Male | | Female | |
| | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| **A. Labor Market Norms** | | | | | | | | | | |
| Paying for overtime | 3.630 | 0.179* | 3.402 | 0.126* | 2.637 | 0.318** | 3.217 | 0.251*** | 3.405 | 0.213*** |
| | (1.507) | (0.105) | (1.593) | (0.076) | (1.570) | (0.135) | (1.634) | (0.082) | (1.569) | (0.072) |
| | 3132 | 3067 | 5645 | 6133 | 2154 | 2436 | 5165 | 5498 | 5675 | 6138 |
| Support for full privatization | 2.077 | 0.420*** | 1.964 | 0.410*** | 1.511 | 0.361*** | 1.902 | 0.413*** | 1.884 | 0.407*** |
| | (1.381) | (0.130) | (1.398) | (0.081) | (1.060) | (0.091) | (1.357) | (0.096) | (1.326) | (0.078) |
| | 2052 | 2495 | 3923 | 5900 | 1723 | 3073 | 3666 | 5459 | 3954 | 6009 |
| Support for differential wages | 3.066 | 0.341*** | 2.796 | 0.427*** | 2.008 | 0.907*** | 2.645 | 0.621*** | 2.760 | 0.575*** |
| | (1.582) | (0.119) | (1.651) | (0.076) | (1.438) | (0.102) | (1.643) | (0.084) | (1.622) | (0.078) |
| | 2605 | 3001 | 4731 | 6572 | 1955 | 3194 | 4443 | 6118 | 4760 | 6649 |
| Labor index | 0.171 | 0.219*** | 0.066 | 0.242*** | -0.348 | 0.344*** | -0.041 | 0.291*** | 0.040 | 0.270*** |
| | (0.778) | (0.065) | (0.823) | (0.042) | (0.729) | (0.057) | (0.834) | (0.050) | (0.791) | (0.043) |
| | 2062 | 2507 | 3950 | 5941 | 1755 | 3122 | 3702 | 5509 | 3986 | 6061 |
| **B. Social Norms** | | | | | | | | | | |
| Overall equality | 3.336 | -0.163 | 3.369 | -0.196*** | 3.693 | -0.177* | 3.523 | -0.061 | 3.360 | -0.194*** |
| | (1.169) | (0.134) | (1.108) | (0.069) | (0.945) | (0.091) | (1.100) | (0.087) | (1.083) | (0.070) |
| | 822 | 1249 | 1635 | 3433 | 859 | 2116 | 1623 | 3310 | 1637 | 3488 |
| Mutual guarantee | 3.825 | 0.288** | 3.858 | 0.083 | 3.894 | 0.202** | 3.830 | 0.298*** | 3.892 | 0.048 |
| | (1.015) | (0.111) | (1.028) | (0.076) | (1.075) | (0.100) | (1.056) | (0.068) | (1.016) | (0.073) |
| | 825 | 1260 | 1643 | 3472 | 880 | 2174 | 1628 | 3325 | 1665 | 3581 |

**Appendix Table A11: Effect of the 'Market Wage' Reform on Labor Market and Social Norms, By Categories - Continued**

| Education Categories | | | | Age of Arrival | | | | Movement | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No academic education | | Academic educuation | | Born/raised | | As an adult | | More ideological movement (Artzi) | | Less ideological movement (Takam) | |
| Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient |
| (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) |
| 3.387 | 0.285*** | 3.375 | 0.217** | 3.270 | 0.250*** | 3.454 | 0.350*** | 3.224 | 0.159 | 3.387 | 0.334*** |
| (1.589) | (0.070) | (1.578) | (0.095) | (1.604) | (0.067) | (1.584) | (0.115) | (1.626) | (0.099) | (1.581) | (0.076) |
| 6211 | 7600 | 3136 | 4036 | 8355 | 8810 | 1624 | 1716 | 4734 | 4811 | 6197 | 6825 |
| 1.853 | 0.429*** | 1.955 | 0.409*** | 1.874 | 0.377*** | 1.960 | 0.516*** | 1.794 | 0.484*** | 1.977 | 0.377*** |
| (1.327) | (0.078) | (1.359) | (0.089) | (1.320) | (0.073) | (1.413) | (0.167) | (1.280) | (0.109) | (1.386) | (0.081) |
| 4751 | 7173 | 2752 | 4295 | 5962 | 8670 | 927 | 1586 | 3548 | 4714 | 4150 | 6754 |
| 2.623 | 0.640*** | 2.848 | 0.543*** | 2.677 | 0.612*** | 2.760 | 0.552*** | 2.604 | 0.609*** | 2.787 | 0.627*** |
| (1.621) | (0.075) | (1.641) | (0.079) | (1.626) | (0.073) | (1.639) | (0.130) | (1.629) | (0.098) | (1.632) | (0.081) |
| 5962 | 8198 | 3126 | 4569 | 7147 | 9641 | 1286 | 1918 | 4124 | 5200 | 5167 | 7567 |
| -0.028 | 0.312*** | 0.046 | 0.258*** | -0.017 | 0.271*** | 0.057 | 0.346*** | -0.058 | 0.299*** | 0.050 | 0.286*** |
| (0.800) | (0.042) | (0.835) | (0.049) | (0.807) | (0.040) | (0.831) | (0.074) | (0.799) | (0.061) | (0.823) | (0.046) |
| 4800 | 7250 | 2769 | 4320 | 6013 | 8748 | 932 | 1595 | 3580 | 4761 | 4187 | 6809 |
| 3.476 | -0.135* | 3.403 | -0.176** | 3.448 | -0.184*** | 3.455 | 0.245* | 3.467 | -0.127 | 3.424 | -0.155** |
| (1.058) | (0.069) | (1.139) | (0.088) | (1.088) | (0.065) | (1.116) | (0.142) | (1.094) | (0.079) | (1.094) | (0.077) |
| 1918 | 4057 | 1319 | 2741 | 2559 | 5055 | 396 | 1007 | 1577 | 2762 | 1739 | 4036 |
| 3.883 | 0.180*** | 3.821 | 0.172** | 3.902 | 0.161*** | 3.657 | 0.419*** | 3.932 | 0.125 | 3.794 | 0.210*** |
| (1.016) | (0.065) | (1.069) | (0.087) | (1.021) | (0.060) | (1.090) | (0.136) | (1.028) | (0.076) | (1.042) | (0.066) |
| 1942 | 4133 | 1327 | 2773 | 2583 | 5145 | 394 | 1011 | 1597 | 2805 | 1751 | 4101 |

**Appendix Table A11: Effect of the 'Market Wage' Reform on Labor Market and Social Norms, By Categories, Continued**

| | Age Categories | | | | | | Gender | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 18-35 | | 36-60 | | 61+ | | Male | | Female | |
| | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient |
| **C. Collectivism** | | | | | | | | | | |
| From each according to his ability, to each according to his needs | 2.684 | 0.277* | 2.668 | -0.201** | 3.045 | -0.059 | 2.858 | -0.016 | 2.665 | -0.019 |
| | (1.298) | (0.151) | (1.332) | (0.091) | (1.291) | (0.100) | (1.354) | (0.092) | (1.285) | (0.082) |
| | 817 | 1245 | 1619 | 3391 | 822 | 2053 | 1603 | 3266 | 1602 | 3423 |
| Collective ownership of the means of production | 3.846 | 0.081 | 4.060 | 0.043 | 4.161 | -0.001 | 4.035 | 0.132** | 4.035 | -0.037 |
| | (0.922) | (0.109) | (0.845) | (0.059) | (0.854) | (0.081) | (0.900) | (0.059) | (0.843) | (0.060) |
| | 812 | 1244 | 1620 | 3405 | 859 | 2120 | 1628 | 3318 | 1608 | 3451 |
| Collective ownership of assets | 2.639 | -0.181 | 2.509 | -0.157** | 2.847 | -0.229** | 2.764 | -0.094 | 2.499 | -0.162** |
| | (1.347) | (0.154) | (1.331) | (0.072) | (1.419) | (0.114) | (1.407) | (0.090) | (1.308) | (0.079) |
| | 817 | 1256 | 1635 | 3454 | 855 | 2142 | 1613 | 3314 | 1640 | 3538 |
| Collectivism index | -0.054 | 0.059 | -0.052 | -0.062 | 0.144 | -0.067 | 0.058 | 0.040 | -0.058 | -0.065 |
| | (0.717) | (0.077) | (0.720) | (0.043) | (0.712) | (0.057) | (0.757) | (0.048) | (0.681) | (0.044) |
| | 834 | 1275 | 1679 | 3522 | 902 | 2237 | 1653 | 3375 | 1706 | 3659 |

**Appendix Table A11: Effect of the 'Market Wage' Reform on Labor Market and Social Norms, By Categories - Continued**

| Education Categories | | | | Age of Arrival | | | | Movement | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No academic education | | Academic educuation | | Born/raised | | As an adult | | More ideological movement (Artzi) | | Less ideological movement (Takam) | |
| Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient | Control Mean | Estimated Coefficient |
| 2.790 | -0.007 | 2.749 | -0.109 | 2.756 | -0.064 | 2.858 | 0.032 | 2.837 | -0.109 | 2.704 | 0.021 |
| (1.304) | (0.078) | (1.350) | (0.084) | (1.319) | (0.068) | (1.330) | (0.184) | (1.350) | (0.098) | (1.295) | (0.081) |
| 1873 | 3983 | 1305 | 2706 | 2509 | 4965 | 386 | 987 | 1551 | 2723 | 1707 | 3966 |
| 4.031 | 0.059 | 4.038 | 0.008 | 4.049 | 0.047 | 3.971 | 0.211* | 4.088 | 0.031 | 3.984 | 0.065 |
| (0.873) | (0.051) | (0.877) | (0.076) | (0.872) | (0.049) | (0.851) | (0.125) | (0.874) | (0.070) | (0.872) | (0.052) |
| 1893 | 4022 | 1322 | 2747 | 2548 | 5066 | 380 | 976 | 1568 | 2754 | 1723 | 4015 |
| 2.584 | -0.063 | 2.692 | -0.247*** | 2.645 | -0.202*** | 2.588 | 0.089 | 2.619 | -0.213** | 2.637 | -0.083 |
| (1.360) | (0.071) | (1.373) | (0.088) | (1.357) | (0.063) | (1.387) | (0.157) | (1.382) | (0.085) | (1.350) | (0.070) |
| 1892 | 4082 | 1334 | 2770 | 2550 | 5101 | 388 | 999 | 1566 | 2775 | 1741 | 4077 |
| -0.005 | 0.016 | 0.008 | -0.089* | 0.009 | -0.044 | -0.037 | 0.116 | 0.038 | -0.072 | -0.036 | 0.020 |
| (0.696) | (0.038) | (0.760) | (0.048) | (0.721) | (0.035) | (0.739) | (0.087) | (0.730) | (0.048) | (0.713) | (0.039) |
| 1978 | 4218 | 1356 | 2816 | 2637 | 5247 | 400 | 1022 | 1628 | 2860 | 1787 | 4174 |

Notes: Columns with Odd numbering present control group (not yet reformed) means and standard deviations (in parentheses) and Columns with Even numbering present coefficients and standard errors (in parentheses) of the treatment indicator, by categories. All estimated coefficients are based on a regression of the survey response of individuals to questions as a dependent variable and the treatment indicator with its interactions, full set of survey year dummies, and demographic controls as the explanatory variables with kibbutz fixed effects. Each column presents the results of the regression for the subsample of the mentioned category, e.g. for those aged 18-35 only. Standard errors are adjusted for clustering at the kibbutz level. The number of observations appears below the SE. Coefficient estimate significant at: * 10%; ** 5%; *** 1%.

**Appendix Table A12: Questions' Survey Years of Availability**

| Question description | Years in survey |
|---|---|
| **A. Labor Market Norms** | |
| Paying for overtime | 1991-2007 |
| Support for full privatization | 1996-2011 |
| Support for differential wages | 1994-2011 |
| **B. Social Norms** | |
| Overall equality | 2001-2011 |
| Mutual responsibility | 2001-2011 |
| **C. Collectivism** | |
| From each according to his ability, to each according to his needs | 2001-2011 |
| Collective ownership of the means of production | 2001-2011 |
| Collective ownership of assets | 2001-2011 |
| **D. Conditions of the Kibbutz** | |
| Economics | 1991-2011 |
| Social | 1991-2011 |
| Work ethics | 1991-2011 |
| Equality among members | 1991-2011 |

Notes: This table presents the survey years in which the relevant questions were available. In the following years the survey was not implemented: 2006, 2008, 2010.