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# Income Inequality in Israel: A Distinctive Evolution

## Abstract

The level of disposable income inequality in Israel has increased noticeably since the mid-1980s and today it is above most developed countries. In contrast, market income inequality, which hit a record level in 2002, has reversed its course since then and has shown a sharp decline in subsequent years, and it is now below the OECD average. This paper offers tentative explanations for the inverted U-shape evolution of market income inequality in Israel in the last 25 years, which is distinctive in view of most developed countries' experience. In addition, this article addresses the unique combination of income inequality in Israel which has one of the highest levels of disposable income inequality but is ranked below the OECD average measure of market income inequality.

JEL-Codes: C000.

Keywords: income inequality, redistribution policy, labor market institutions, SBTC.

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## 1. Introduction

Following a widening in economic gaps in the last 30 years, Israel today has one of the highest levels of disposable income inequality among the developed countries (Figure 1). In contrast, market income inequality has shown an inverted U-shape evolution, which peaked in 2002. As a result of this distinctive path, the Gini coefficient of market income in Israel is now below the OECD average (Figures 2, 7 and 8). These developments raise a few related questions: What factors account for the rise in disposable income inequality over time? Why is disposable income inequality higher in Israel as compared with most developed countries? What explains the rise and fall in market income inequality? What are the explanations for the relatively low market income inequality in Israel? This research focuses on describing the evolution of various measures of income inequality since 1990 because Dahan (2002) covered previous years in length. In addition, the mass immigration from the former Soviet Union to Israel—which potentially had a significant effect on income inequality—started in 1990. Naturally, this is a relatively short period of time in which to identify causal relations. Instead, this article offers indicative evidence that accounts for the evolution of income inequality in Israel.

The vast interest in income inequality reflects its important consequences on our society and economy worldwide. Excessive inequality might indicate economic inefficiency and slow down long-term economic growth. The possible negative effect of income inequality on economic growth is the result of barriers such as credit constraints in financing adequate human capital that prevent certain social groups from exercising their full economic potential (Galor and Zeira 1993, Dahan and Tsiddon 1998). It could be also due to the restricted economic opportunities that minorities may face in the labor market. In such a case, the damage is even greater due to the social costs associated with the grievances that those groups feel. Perroti (1996) presents evidence that inequality results in political and social instability, which hurt economic growth. In fact, the social burden of income inequality is massive, even if it does not have any effect on economic growth. Extreme inequality might imply that a group of individuals may lack the essential means to preserve their human dignity. Moderate economic gaps may also crucial for a thriving democracy, without which may lead disadvantaged groups to mistrust the political

system. Excessive inequality might be translated into unequal political participation that may even further exacerbate income inequality if public policy is affected more by the preferences of those who participate in political activities such as voting.<sup>3</sup> The risk of income inequality being too wide for democracy is much greater if public policy is dictated by those at the top. In recent years, international institutions such the OECD and IMF have emphasized the danger of social groups that suffer from widening income inequality supporting candidates and political parties that favor barriers to international flows of goods, capital and labor that would hurt economic growth (OECD 2015a, Dabla-Norris et al. 2015).<sup>4</sup>

Because of its potential implications on quality of life, the rising inequality in many developed countries has created extensive research efforts to document and explain the evolution of income inequality since the end of the 19<sup>th</sup> century. The selective survey of scholarly works presented here is intended to uncover the main factors behind the rise of income inequality, which may help to explain its evolution in Israel, although it is by no means exhaustive.

There is abundant research on the economic factors that explain the rise in income inequality in the US and other developed countries. Skill-biased technological change (SBTC) was one of the first hypotheses offered to explain the widening of income inequality. According to this hypothesis, the computer revolution has been associated with an expansion of demand for goods that are produced by a large share of high-skilled labor, together with stable or even declining demand for products that are made by low-skilled labor intensive technology (Bound and Johnson 1992, Juhn et al. 1993, Berman et

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<sup>3</sup> Hill and Leighley (1992) show that welfare policy is less generous in states with low levels of voter turnout among disadvantaged groups.

<sup>4</sup> Alesina and Rodrik (1994) have suggested a somewhat similar mechanism whereby higher income inequality leads to greater political support by the decisive voter for higher redistribution, which harms economic growth. However, Perroti (1996) did not find empirical backing for that hypothesis.

al. 1994).<sup>5</sup> Dahan (2002) presents evidence for Israel that is consistent with the SBTC hypothesis.

A change in labor-market institutions such as the strength of labor unions, minimum wage and performance pay for top managers is another prominent suggestion offered by scholars for the widening economic gaps. Card and his associates have shown that wage differentials between high- and low-skill workers (mainly men) have increased as a result of a declining share of workers being covered by union contracts (Card and DiNardo 2002, Card et al. 2004), with the erosion of minimum wages especially hurting the wages earned by women (DiNardo et al. 1996). Kristal and Cohen (2007) lend empirical support for the connection between labor market institutions and income inequality in Israel.

Surprisingly, globalization has not been a popular factor among economists who are interested in exploring the rise in inequality. Ostensibly, larger trade between countries should generate more wage inequality between workers in developed countries and smaller wage differentials in developing countries. However, inequality has increase in both developed and developing countries. Nevertheless, some scholars attribute part of the widening income inequality to globalization (Feenstra and Henson 2003, Miller 2001).

The exploration of rising inequality has gained momentum following an impressive research project that documented the evolution of the share of the top 10 percent—which covers a two-digit number of both developed and developing countries—since the 19<sup>th</sup> century (Piketty and Saez 2003).<sup>6</sup> This research endeavor offers historical perspective on the super-rich that was missing in previous works, which allows for existing hypotheses to be examined and for new ones to be raised (Atkinson, Piketty and Saez 2011).

Piketty and Saez have uncovered a significant rise in the share of the top decile in the US since the late 1970s, which has reached a level that was observed at the end of the 19<sup>th</sup>

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<sup>5</sup> In series of more recent works, Autor and his colleagues present a modified SBTC that shows a polarization of earning distribution (see for example, Autor, Katz and Kearney 2008).

<sup>6</sup> Unfortunately, this research project does not include Israel.

century. That rise, which occurred also in the UK and Canada, mainly represents an increasing share of the super-rich. In contrast, the share of the top 1 percent has been stable or increased moderately in other developed countries such as Germany, France and Japan. The differing evolution of the share of the very rich has generated doubts regarding the previous causes of widening inequality. Seemingly, the structure of economic growth should have worked in similar fashions in both the US and Germany but the benefits of growth were shared differently in different developed countries. Following these findings, the explanations that emphasize country-specific changes in labor market institutions became more convincing. In addition, the rise of the share of the super-rich has partially shifted the focus to the role of tax policy and performance pay contracts (Atkinson, Piketty and Saez 2011).

The role of government has been almost entirely missing from the discussion of widening income inequality. The absence of government may reflect the focus on earnings rather than income inequality that is created in the labor market. Piketty and Saez (2003) were the first to introduce the degree of tax progressivity by presenting evidence on the similar timing of a noticeable reduction in top marginal income tax rates and increasing income inequality.

A battery of hypotheses has emerged from the short survey above regarding the evolution of income inequality in Israel within the last few decades. In addition, several Israeli-specific factors, like its unique employment expansion, absorption of mass immigration and redistribution policy, will be examined. In the next section, the evolution of income inequality in Israel over time will be presented with emphasis on the last 25 years. Market income inequality follows an inverted-U shape during this period, and today, Israel is ranked below the OECD average. In contrast, disposable income inequality went down only moderately in the last few years after a sharp rise since 1990, and now Israel's Gini index of net income is at the top of the developed countries. Section 3 offers a comparative analysis that addresses why disposable income inequality in Israel is one of the highest in OECD by exploring preferences, restricted opportunities, labor market conditions and the extent of redistribution. The last section discusses the main findings.

## **2. Evolution of Income Inequality in Israel**

Figure 1 presents the historical evolution of income inequality within Israel in the last 90 years. The rising inequality over this long period reflects dramatic changes in both methods of data collection and population composition. In this paper, we focus on the last 25 years for three reasons. First, the data on income inequality for this time period is relatively more comparable.<sup>7</sup> Second, a previous article covered the inequality dynamics in the preceding period extensively (Dahan 2002). Last, mass immigration from the former Soviet Union that started in 1990—which increased the Israeli population by 15 percent in a short time period—had a potential impact on inequality developing. The next section will examine the explanatory power of a list of factors that have been suggested throughout the years to explain the dynamics of inequality in Israel. The predicted impact of these proposed factors on market income inequality is different from their expected effect on net income inequality in terms of magnitude and direction. I will examine the theoretical co-evolutionary relationship between each factor and the two measures of market and disposable income inequality (rather than one at a time) provides a stricter empirical test. In addition, simple OLS regressions will be employed to test the significance of the correlations between a battery of potential candidates and market income inequality. Obviously, the OLS coefficients are seen as complementary evidence for understanding the dynamics of the inequality but do not represent causal effects.

## **2.1 Market income inequality<sup>8</sup>**

Household market income inequality was on the rise since the late 1970s and has accelerated following the influx of mass immigration at the start of 1990s (Figure 2). Inequality reached a record in 2002 with a Gini coefficient of 0.54, which is close to

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<sup>7</sup> The data on the income distribution was based on a labor income survey conducted until 1996. Since then, both a labor survey and an expenditure survey were used together to provide data on household incomes. As can be seen from Table 1, that change in data collection had a minor impact on market income inequality but a significant one on disposable income inequality. In 2012, an additional modification took place. From this year onward, income data were constructed by employing only an expenditures survey. The new household expenditures survey has been expanded to cover a larger share of Arabs in the north and of Israel as well as renewable kibutzim, and soldiers were classified for the first time as workers. These changes in the survey do not allow for comparable measures of income inequality to be calculated for previous years.

<sup>8</sup> Market income includes labor and capital income. Note that reported capital income in household surveys is biased significantly downwards, which may affect the dynamics of income inequality due to changes in labor share of GDP, as presented in Figure 4.



levels observed in Latin American countries (Table 1). The rise in income inequality was accompanied by an increase in the unemployment rate, and following previous findings, one may suggest that the co-evolution of the two represents a relationship between unemployment and income inequality. Dahan (1995) found that unemployment is a key factor in understanding the dynamics of income inequality in Israel.

As a result of the global slowdown and the second Intifada (Palestinian uprising) in 2001, unemployment—which had already been relatively high in 1997—soared, reaching a rate of 11 percent of the labor force in 2003. The rise in unemployment had a direct effect on market income inequality through a growing number of households being left without labor income (Table 2). The upsurge in market income inequality has been greater than that of net income inequality thanks to the social safety net, which provides income support and unemployment benefits to households without market income. The differential evolution of these two measures of income inequality is consistent with the assertion that employment indeed plays a central role in explaining the market income inequality between 1997 and 2003.

In 2004, unemployment changed course and started an almost steady downward trend to a low level (5 percent) that has not been seen since the mid-1980s. Unemployment went down as a result of the improved security following the succession of terrorist attacks in Israeli streets. The Great Recession, which started in 2007 in many developed countries, had only minor and short-lived impacts on economic activity in Israel. The labor market became more attractive in the last decade for non-participants following the fall in unemployment; as a result, labor force participation increased noticeably.<sup>9</sup> As expected, the drop in unemployment after 2003 had the same effect but this time to lower market income inequality. The Gini coefficient for market income inequality went down from its peak level of 0.54 in 2002 to 0.47 in 2015, which is similar to the level documented in 1989, before the wave of mass immigration to Israel. Figure 3 illustrates the close association between unemployment and market income inequality during the entire period under investigation. The decrease in unemployment was accompanied by a lower

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<sup>9</sup> Dahan (2006) found a close relationship between unemployment and labor force participation in Israel.

number of households without market income and lower market income inequality (Table 2). Corenfeld and Danieli (2015) also noted the positive correlation between the share of households with zero market income and market income inequality.

Table 3 displays OLS regression results that cover the years 1979–2015 and corroborate the conclusion that unemployment plays a key role in understanding the evolution of market income inequality. The dependent variable is the Gini coefficient for market income inequality, and the list of explanatory variables represents various hypotheses that scholars suggested as driving income inequality dynamics in Israel. Due to the limited number of observations (34 years), only one control variable is included in addition to unemployment rate. As seen in Table 3, the coefficient of unemployment is consistently positive and significant in all regressions, regardless of the other explanatory variable that is included. This finding also remains the same when the covered period is shortened to 1990–2015 or 1997–2015 (the author can provide the results). In contrast, the coefficient of labor force participation—which is surprisingly positive and significant—is sensitive to the chosen time period. This coefficient becomes negative and significant for the years 1997–2015. These results suggest that the evolution of inequality is more sensitive to changes in unemployment than to employment.

The mass immigration from the former Soviet Union is an additional key factor that may account for the inverted U-shape of market income inequality. The wave of immigration that started at the end of the 1980s immediately increased the supply of unskilled labor, despite their high level of education. In the first five years of the 1990s came 600,000 Jewish immigrants (equal to 13 percent of the Israeli population in 1989), which dropped to 350,000 and 180,000 in the next two five-year windows, respectively. The number of Jewish immigrants at the start of the millennium came back to the levels seen prior to 1989. The combination of the dramatic expansion of labor supply in a short of time together with a lack of Hebrew skills had compelled many of these new immigrants to look for jobs that were not necessarily compatible with their skills and occupations, which exerted downward pressure on wages for unskilled positions. Even without sophisticated simulation, one may speculate that in the first few years, the wave of mass immigration contributed to widening wage and income inequality. In subsequent years, as

more and more immigrants searched for and found jobs that matched their high human capital, it worked to reduce income inequality. This in line with Kuznet's hypothesis of inverted U-shape inequality.

The evolution of immigrant workers in the Israeli economy is also consistent with the dynamics of income inequality. In the mid-1990s, the increasing number of mainly unskilled immigrant workers exerted downward pressure on wages for low-skilled Israeli workers. Such a development would be expected to increase the wage differential between skilled and unskilled Israeli workers and contribute to market income inequality among households. The rising unemployment as well as the fear of a large influx of seemingly temporary non-Jewish immigrant workers that would eventually stay in Israel led decision makers to restrain their numbers. Since 2003, the share of immigrant workers in the labor force went down by 5 percentage points relative to its peak level (Bank of Israel 2015). Table 3 shows that the coefficient of immigrant workers is positive (raising inequality) and significant after controlling for unemployment rate. This result is in line with Gottlieb (2002), who found that immigrant workers act to increase income inequality.

Over the years, several other explanations were offered for the rising inequality in Israel, such as skill-biased technological change (Dahan 2002), globalization (Ben-David, 2002), institutional changes in the labor market that hurt low-skilled workers (Kristal, Cohen and Mundlak 2007, Endeweld and Heller 2014, Corenfeld and Danieli 2015) and an aging population (Blaich 2016). However, while these hypotheses are all consistent with rising inequality, they cannot not explain the inverted U-shape that market income inequality has followed in the last 25 years.

No evidence indicates a reversal in the economic growth structure that harmed high skilled workers or a U-turn in globalization that would justify the fall in inequality within the last decade. While Autor, Katz and Kearny (2008) suggest that polarization is a better description of the labor market, they proposed this hypothesis to account for rising rather than declining income inequality. Nonetheless, the SBTC might explain the rise and fall of inequality. SBTC first drives up the wage differential and income inequality but also generates the conditions for closing the wage gap by incentivizing investment in human

capital. However, it takes time to see such an effect. Dahan (2016) suggested this mechanism to explain the considerable narrowing in the ethnic gap between Askenazim and Mizrahim in the last twenty years after a long period of the gap being relatively stable.

Kristal, Cohen and Mundlak (2007) attributed Israel's rising income inequality to the weakening labor unions, as materialized by the dramatic reduction in coverage from 79 percent in 1981 to 43 percent in 2003 and the decentralization of wage bargaining. However, the recent trend of declining market income inequality is not associated with a rise in labor union coverage or the centralization of wage bargaining. In fact, Kristal et al. (2015) show that the share of workers who are covered by centralized wage bargaining continues to fall: the coverage rate decreased from 56 percent in 2000 to 50 percent in 2012.

The minimum wage regulation is an additional institutional device that may affect the status of low-skilled workers. There are conflicting findings regarding the impact of minimum wage on employment and wages and, as a result, on income inequality. While Drucker and Epshtain (2016) show a negative effect of minimum wage on employment, Endeweld and Heller (2014) found that the level of minimum wage reduced the likelihood of being poor. Between 2003 and 2015, the minimum wage fluctuated around the same ratio relative to the average wage, which is in contrast with the downward trend in market income inequality. The OLS regressions in Table 3 collaborate the lack of relations between minimum wage and inequality. The coefficient of minimum wage is positive, but its significance depends on the chosen period. Nevertheless, the minimum wage may still affect inequality depending on the enforcement efforts. However, no significant changes have been documented in compliance with minimum wage, according to Endeweld, Gottlieb and Heller (2013).

## **2.2 The effect of redistribution**

Governments employ a battery of policy devices to reduce economic gaps, with taxes and transfers playing pivotal roles in redistribution based on their large shares in the budget. While factors like SBTC and labor union coverage affect market and disposable income

inequality in the same direction, redistribution through transfers may impact these two measures of inequality in opposite ways. In addition, direct taxes such as income tax and social security contributions are expected to generate larger rather than lower effect on net income inequality as compared to market income inequality, unlike the factors discussed above.

Assessing the effects of redistribution by comparing income inequality before and after taxes and transfers is likely to cause a bias in judging the effectiveness of redistribution. To estimate the effectiveness of redistribution, a simulation of the income distribution without government intervention (a counterfactual distribution) should be developed because both taxes and transfers change the incentive to work. However, such a simulation is very complicated; therefore, both international and national institutions tend to regularly offer measures of the observed distribution (rather than the counterfactual distribution) of income before taxes and transfers. While this paper does not provide such a simulation, I discuss below the predicted impact of taxes and transfers on income inequality while taking into account their potential changes to the incentive to work.

Lowering the marginal income tax rate for high-income individuals (or reducing the progressivity of the tax system) is expected to increase market income inequality, to the extent that it creates an incentive to work more. The impact of reduced income tax rate on net income inequality is even larger because of its mechanical effect on net income. Thus, individuals at the top benefit from higher wage rates (incentive effect) and higher after-tax earnings (mechanical effect).<sup>10</sup>

While the direct tax rate has been stable between the start of the 1990s and 2003 (Strawczynski 2014), income inequality rose in that same time period, which suggests that taxes did not play a leading role. The multi-year program to reduce income tax rates on both individuals and corporations that the government incepted in 2003 was expected to expand market income inequality by affecting the incentive of highly skilled individuals to work more. In practice, market income inequality went down during most

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<sup>10</sup> This analysis assumes that the demand for labor is elastic enough to accommodate a rise in wage rates.

of the period since then. Moreover, the combination of declining market income inequality and rising net income inequality observed in 2003–2007 is not in line with the theoretical prediction outlined above. Following the social protest in the summer of 2011 and the Trajtenberg Committee, the reduction of income tax stopped and the tax rate even rose slightly in the last five years, which is consistent with the declining market inequality. Thus, it seems that the evolution of market income inequality had not been affected substantially by the income tax rate. In addition, OLS regressions show that income tax has a negative and significant coefficient, as expected, but its significance does not survive if the examined period is limited to 1997–2015.

Unlike income tax, transfer payments seem to help explain the evolution of income inequality, especially after 2003. A cut in income assistance to disadvantaged groups is expected to attract non-participants to join the labor market and increase the supply of labor from the current low earners. As a result, such a cut should reduce market income inequality according to their labor supply elasticity, but the effect on net income inequality is unclear. The expected additional labor income might be higher or lower than the reduced government transfers. The combined effect is more likely to widen net income inequality in the short run due to relatively low labor supply elasticity (joining the labor force implies a considerable change, especially for parents). Net income inequality may also rise in the long run if a large share of welfare recipients is characterized by very low earning capacity.

The strong rise in income inequality between 1990 and 2003 has not been accompanied by a clear trend in the generosity of welfare payments. Thus, redistribution policy did not play a role in that time period. The considerable cuts in welfare programs—such as for income support and child allowances—that were part of a large economic program in 2003 are consistent with the differential evolution of market and net income inequality after 2003. The rise in labor force participation among individuals with low levels of education following cuts in welfare benefits and declining market income inequality is in line with the theoretical prediction. Yet, net income inequality continues to increase despite the higher labor participation, as would be expected if cuts in welfare benefits have a greater effect than the additional income from work. In the last few years, welfare

benefits have remained around the same new low level while net income has become less concentrated. Table 3 shows that the partial correlation between market income inequality and welfare generosity index is insignificant, which could be driven by the relatively small variation of that index.<sup>11</sup>

#### 2.1.1 The change in redistribution policy

The economic program of 2003 not only included considerable cuts in welfare benefits but also changed the nature of social assistance. The allowances provided by Israeli Social Security, which is a key pillar of the Israeli welfare state, became de facto more universal. The degree of universal social assistance is estimated here using the actual (Gini) correlation between a household's rank on a net income scale and the size of welfare benefits received by that particular household from social security. No correlation implies pure universality of social assistance, a positive correlation represents regressive redistribution and a negative association reflects a progressive welfare policy. Such a definition does not require detailed analysis of each of the many social assistance programs. Moreover, social assistance might be universal on paper but very progressive in practice, as in the case of child allowance (due to the negative correlation between income and family size).

Table 4 shows that the correlation coefficient of social security benefits went down substantially in the last 25 years and approached zero in 2015. The total benefits, which cover other public benefits, have changed their sign and became even slightly positive. Thus, welfare policy currently plays a lesser role in reducing income inequality, not only because of the lower generosity but also because less welfare benefits are channeled to low-income households.

### **3. Income Inequality in Israel from a Comparative Perspective**

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<sup>11</sup> The welfare generosity index is calculated as the weighted average of characteristics of the child allowance (2/3) and unemployment benefits (1/3), such as the replacement rate and duration of unemployment benefits (Lau 2016).

Israel, together with the US, is at the top of developed countries in terms of net income inequality (Figure 5). This high ranking came after a considerable rise in net income inequality in Israel, which has had one of the highest increases in economic gaps since the mid-1980s (Figure 6). Israel is also a leader in the extent of poverty, as measured by the share of poor individuals out of the total population (Table 5). In contrast, Israel is below the OECD average in terms of market income inequality, following a substantial reduction in the last decade (Figures 7–8).

How can we explain the wide net income inequality in Israel together with its relatively low level of market income inequality as compared to other developed countries? To address that question, four differences between Israel and other developed countries that may contribute to disparities in inequality will be examined. First, Orthodox Jews and Arabs are characterized by a combination of very low participation in the labor force (among Orthodox men and Arab women) and a high number of children (Orthodox households have much higher family sizes), which reflect their cultural preferences. Second, the high inequality may be caused by restricted opportunities due to formal and informal discrimination against particular social groups. Third, the difference in income inequality might be the result of disparities between Israel and other OECD countries in the phases of the business cycle, differences in the structure of economic growth and variations in the degree of globalization. Last, the inequality differential between Israel and other developed nations might reflect differences in the extent of government intervention in education, health and particularly the generosity of income assistance to disadvantaged individuals. Public policy may also affect inequality through government regulation, especially labor market regulations like the minimum wage and the protection of workers' rights. While the first three factors all affect both market and net income inequality in the same direction, only the last factor may drive these two measures of inequality in opposite ways.

### **3.1 Preference Disparities**

Monetary income serves as a proxy for happiness/satisfaction/welfare level based on their close correlation, as observed in Israel (Zussman and Romanov 2004) and in other developed countries. The modern welfare state rests on that positive connection between



life satisfaction and monetary income, which implies that households with low income should be considered for assistance. However, the aid from most welfare programs is limited to individuals who make their best effort yet end up with low or zero income. The welfare state has been designed to guarantee as much as possible that welfare recipients indeed meet this condition. Orthodox Jews and Arabs are two social groups in Israel that are characterized by unique preferences that may challenge both the linkage between income and satisfaction levels and the implicit welfare state contract.

### 3.1.1 Orthodox Jews

The unique preferences of Orthodox Jews (around 7 percent of the total population) consists of three characteristics: (i) men devote a noticeable portion of their time to religion, which implies significantly lower labor force participation; (ii) religious studies do not prepare them for a modern labor market; and (iii) Orthodox Jewish families have a higher number of children (double than average). As expected, their income per capita is very low, which is directly related to their distinctive preferences. Yet, this low level of income does not imply low levels of happiness/satisfaction. According to the classical economic model, a household with a lower level of income may still enjoy the same level of utility as a household with higher income because of their higher number of leisure hours (which are dedicated to religion studies). Zussman and Romanov (2004) show that the reported satisfaction of Orthodox Jews is higher than that of other Jews even with the same incomes.

These findings suggest that the low incomes among Orthodox Jews reflect their preferences rather than factors that are outside of their control. No other developed society consists of such a distinctive social group as the Orthodox Jews, which might justify a modification in measuring income inequality for Israel to better represent the inequality in satisfaction. A social survey from 2003 provides supporting evidence for that conclusion based on the following question: “Have you considered yourself poor ever since you were 15 years of age?” The perceived poverty rate among Orthodox Jews was slightly lower than that of the rest of the population, based on the answers to that question. This is in contrast to the standard measure of monetary poverty among Orthodox Jews, which is three times as prevalent as among other Jewish households.

How should such unique preferences be corrected? There is more than one answer to this question, and all of them are of a speculative nature. One may correct the Israeli measure of inequality by calculating a modified income for Orthodox Jews by including the monetary value of their excessive leisure time and multiplying it by their reservation wage. Such a simulation assumes that Orthodox Jews join the labor force according to the average labor force participation rate in Israel. However, this simulation does not take into account general equilibrium effects that may alter the whole income distribution following such a dramatic change. Computing an income inequality measure that excludes Orthodox Jews could be an alternative way to account for their distinctive preferences, but such a simulation also ignores general equilibrium effects. Employing the second simulation shows that the Gini coefficient for net income is lower by one percentage point. The reduction in this inequality measure should be seen as an upper bound because other developed countries might also have social groups with distinctive cultural preferences that affect income distribution.

The main lesson from the above discussion is that Israel has one of the highest levels of net income inequality even after excluding the Orthodox Jews. This calculation suggests that factors other than Orthodox Jews' preferences are responsible for the high ranking of Israel. Note that Orthodox Jews' unique preferences should affect the market income inequality measure even more than net income inequality (due to the welfare state), yet Israel's position is below the OECD average by this measure.

### 3.1.2 The Arabs

Should income inequality also be corrected for the unique preferences of the Arab citizens in Israel, whose share of the population is around 20 percent, to be more comparable to other developed countries? The answer to this question depends on the main cause for their low monetary incomes. Two factors repeatedly emerge in the public discourse as candidates to explain the low income per capita among Arab citizens in Israel. According to the first suggestion, the high poverty rate of Arab households—around three times that of Jewish households—is the result of their cultural preferences, which translate into very low labor force participation among Arab women and large family sizes, although the latter became much less important in recent years after a

significant decrease in fertility rate. The restricted economic opportunities for Arabs, such as unequal allocation of public education and infrastructure as well as discrimination in the labor market, are frequently raised as the second reason for their low incomes. While the first factor might justify contemplating a modification to measures of inequality, it would be a grave mistake to employ such a modification if their low income is mainly driven by restricted opportunities.

To estimate the relative importance of the two factors, one may compute the poverty rate for Arabs and (non-Orthodox) Jews with the same characteristics, like in the numbers of earners and children, to isolate the effect of restricted opportunities. Flug and Kasir (2003) and Dahan et al. (2007) have done such estimations and have shown that the poverty of Arabs is three times higher than that of Jewish households, after controlling for a list of characteristics. These results remain the same using more recent data (the author can provide the OLS regressions upon request). These findings seem to suggest that restricted opportunities play a central role in explaining the low incomes of Arabs.

Moreover, employing once again the question “Have you considered yourself poor ever since you were 15 years of age?” from the social survey conducted in 2003, the computed perceived poverty rate of Arab households is considerably higher (double) than that of Jewish households, which is qualitatively in line with the monetary poverty differential between Jews and Arabs. Note that this poverty differential has not been found between non-Orthodox and Orthodox Jews, which implies that preferences only have a secondary impact in the case of Arabs.

In light of this conclusion, the justification for correcting the Israeli income inequality measures is less grounded. In fact, excluding Arabs when calculating income inequality in Israel would make the measure less rather than more representative of welfare inequality. Calculating a Gini coefficient that excludes Arab citizens, however, may serve to estimate the potential contribution (upper bound) of easing restricted economic opportunities for reducing income inequality. Note that such a calculation would ignore general equilibrium effects.

Coming back to the general question of why Israel has one of the widest economic gaps, we should be aware that restricted opportunities are expected to have a greater impact on market income inequality than on net income inequality, as has just been discussed. Thus, we cannot “blame” the Arabs for the high ranking of Israel in net income inequality; given that market inequality in Israel is below the OECD average, we should search for other reasons.

### **3.2 Disparities in labor market conditions**

Inequality across countries may differ due to differences in the phase of the business cycle at which the economy is positioned. Unemployment tends to widen market income inequality because it affects individuals according to their level of education and skills. In the last recent years, the employment rate in Israel has been higher than in most OECD countries thanks to low unemployment and high labor force participation (Figures 9–10). It seems that the slow recovery of many developed countries from the last global recession as compared to Israel supports the contraction of market income inequality, putting Israel below the OECD average. However, this relative ranking is short-lived if unemployment plays an important role in determining market income inequality.

The formal levels of the minimum to average wage in Israel are relatively high (Figure 11). To the extent that the minimum wage is an effective tool in reducing inequality, it cannot explain the wide economic gaps in terms of net income. Regardless of the true effect of minimum wage on income inequality, it is consistent with both high net income inequality and low market inequality.

Labor market attractiveness is also affected by the structure of economic growth, the degree of trade openness and workers’ bargaining power; however, I am not aware of any research that assesses the importance of such factors in explaining the difference in net income inequality between Israel and other developed countries. In any case, such factors should impact both net and market income inequality in the same direction.

### **3.3 Differences in redistribution policy**

Redistribution policy has been missing from the list of factors as a potential source of rising of income inequality in most leading economic journals up until the late 1990s. One plausible reason for this is the focus on market income inequality and, in particular, on (gross) wage differentials. Piketty and Saez were the first to introduce the government as a factor, but that was limited to income taxes. In recent years, international institutions, particularly the OECD, have devoted more attention to the declining role of government intervention, in the form of redistributing resources from rich to poor households, as a potential cause of rising inequality. In a recent publication, the OECD concluded that part of the rising inequality in the developed world should be attributed to the decreasing extent of redistribution (OECD 2015b).

The differences in redistribution policy may explain the cross-country variation in income inequality. The government could affect economic gaps using a variety of policy tools, with some impacting earning capacity and others directly influencing real income, such as taxes, in-kind and in-cash benefits and subsidies. Total public education and health expenditures in Israel, which represent the size of resources aimed at improving earning capacity, are below the OECD average when taking into account the number of beneficiaries (Dahan and Hazan 2014). Thus, Israel spends less on resources that are supposed to reduce pre-redistribution income inequality.

Table 6 shows that one noticeable difference between Israel and other OECD countries is the generosity of the welfare state, as measured by the share of the social safety net relative to GDP. In 2014, the OECD countries spent 22 percent of their GDP on social programs, on average, as compared to only 14 percent of GDP in Israel. Note that this gap is substantially higher than the excess defense expenditures of Israel, especially after deducting the military aid that Israel receives from foreign countries. In other words, the gap in social protection expenditures is not entirely “explained” by the gap in military expenditures.

Tax rates and the composition of the tax collection are potential candidates to explain why net income inequality in Israel is one of the highest in the OECD. Table 7 shows that the overall tax rate in 2014 in Israel was lower than in many developed countries. In addition, direct taxes, which tend to be progressive, are lower in Israel than the OECD

average, while indirect taxes, which tend to be regressive, are higher in Israel as compared to in other developed countries. Moreover, the degree of progressivity follows a continuous fall, as measured by the share of direct to indirect taxes (Table 7). Reduced direct taxes are expected to contribute to larger gaps in net income and to wider market income inequality, to the extent that lower income taxes induce a higher labor supply. In contrast, market income inequality is not affected by the level of direct taxes if the incentive to work is not sensitive to the (net) wage rate for high-skilled individuals.

The low resources that are channeled to disadvantaged individuals, together with low direct taxes, seem to be the central reason why Israel has one of the highest levels of net income inequality. The difference between market and net income inequality, which is affected by redistribution policy, is one of the lowest in the developed countries (Table 8). Looking at Table 9—which displays inequality measures by age group—provides extra evidence for this conclusion. Market income inequality among people between the ages of 18 and 65 in Israel is close to the OECD average, but net income inequality is considerably higher. Market income inequality among elderly people (above 65) in Israel is lower than OECD average, but income inequality becomes much wider after taking direct taxes and transfer payments into account (Table 9).

Developed countries like Israel and the US, which are characterized by less generous welfare states and low direct taxes, tend to exhibit high (net) income inequality. Battisti and Zeira (2015) show that the size of public expenditures plays a key role in explaining the cross-country variation in the differences between market and net income inequality. They found that countries with high shares (percent of GDP) of public spending are more likely to have low income inequality. The negative elasticity of public expenditures is 0.4 with regard to the Gini coefficient of disposable income inequality.

The distribution of the pie offers additional assisting evidence regarding the importance of redistribution policy in explaining the high net income inequality measure in Israel. Israel has both a lower income share for its bottom quintile and a larger share for the top decile compared to other developed countries, but the differences are more substantial in terms of the bottom quintile (Table 5). Thus, both income assistance and direct taxes

contribute to the high income inequality in Israel, but Israel's slim welfare benefits play a more significant role.

#### **4. Conclusion**

Net income inequality has risen considerably since the mid-1980s, and as a result, Israel has one of the widest economic gaps in the developed world. In contrast, market income inequality—which reached a record level in 2002—went down significantly; thanks to that development, Israel's is below the OECD average.

In the last 20 years, several explanations have been raised to account for the rise in income inequality, such as SBTC, globalization and institutional changes in the labor market. While these explanations are consistent with the rise in market income inequality up to the year 2002, they are not in line with the fall documented in the subsequent years. Thus, other important factors are responsible for the drop in market income inequality.

This paper identifies three central factors that are consistent with the inverted U-shape of market income inequality: unemployment, mass immigration and immigrant workers. The evolution of economic gaps very closely followed the rise and fall in unemployment during the examined period. The inverted U-shape in inequality is in line with the dynamics of the effective human capital following the massive wave of immigration from the former Soviet Union that started in the late 1980s. The lack of native language skills (Hebrew) exacerbated the expected immediate fall in human capital of most of the immigrants upon arrival. In the subsequent years, the effective human capital of these immigrants gradually converged to a higher level, pulling down income inequality between native Israelis and immigrants. The dynamics of immigrant workers, who are mainly unskilled, also followed a rise and fall during the investigated period and contributed to the pattern that has been observed in market income inequality. These three forces seem to have overcome the possible widening effect on income inequality that other factors had, like the multi-year reduction of direct taxes in 2003.

The fall in market income inequality should have also appeared in net income inequality but the reduction in direct taxes and the dramatic cuts in welfare benefits prevented that from happening. It seems that the reduction in income assistance to disadvantaged

households, such as in income support and child allowances, was substantial in increasing inequality, which more than offset the contracting effect of the three factors discussed above. The economic program of 2003 and the subsequent policy steps not only reduced the generosity of welfare benefits but also were less targeted toward more vulnerable households. The negative correlation between welfare benefits and the position of welfare recipients in the income ladder diminished and approached zero in 2015.

The dramatic welfare cuts and the reduction in taxes generated a policy reaction that became clearer after the large social protest that erupted in the summer of 2011. The expression of that reaction has been a series of inequality-reducing policy tools, part of which were initiated before the large social protest and the others afterward. These policy tools include lowering the starting age of mandatory education from 5 to 3, halting the reduction of income taxes, devoting more funds to enforcing workers' rights, raising the minimum wage, introducing and expanding the earned income tax credit, mandatory pension saving, eliminating the "welfare to work" program (known as the "Wisconsin Program") and more recently introducing child savings accounts. Some of these policy devices seem to have contributed to the declining net income inequality in the last few years. However, it is apparent that the new policy changes channel more resources to the working poor without altering the existing less generous assistance to non-working poor.

The low resources to welfare recipients and income taxes seem to be the central reasons for why net income inequality in Israel is so high. The difference between market and net income in Israel—which appears to be affected by redistribution policy—is one of the lowest in the developed world. Low expenditures on social protection could be consistent with low market income inequality and high net income inequality if the labor supply is sensitive to welfare benefits.

The distribution of net income in Israel relative to those in other developed countries shows a lower share for the bottom income quintile as well as a higher share for the top income decile; however, the differences in the shares of the bottom quintile are more pronounced. These characteristics indicate that both low direct taxes and low welfare benefits are behind the high net income inequality in Israel, although the role of low income assistance is more important.



Other things being equal, the market income inequality in Israel should be higher than that of other developed countries due to the unique social structure of Israel, which includes two culturally distinct groups (Arabs and Orthodox Jews) with low labor force participation and large families. However, market income inequality in Israel is lower rather than higher than the OECD average. Therefore, these two social groups are not responsible for the high inequality in net income, and other explanations are needed, such as redistribution policy.

Countries may use various strategies to address economic inequality. A country may prefer to rely more on raising earning capacities by investing more in education and training, friendly policies toward low-wage workers (such as minimum wage, generous earned income tax credit) or by providing more generous income assistance to low-income households. This article shows that Israel has chosen neither of the two options.

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**Table 1: Income inequality, 1979–2015**

(Equivalence-adjusted Gini coefficient for market, gross and net consumption)

	Gini for:				Share of total net income in:		
	Market income	Gross income	Net income	Consumption	Bottom quintile	3-9 deciles	Top Decile
1979	0.432	0.366	0.318	0.320	..	..	..
1980	0.434	0.369	0.324	..	25.2%	6.8%	68.0%
1981	0.439	0.372	0.319	..	24.6%	6.8%	68.6%
1982	0.444	0.367	0.312	..	24.3%	7.1%	68.6%
1983	0.439	0.360	0.301	..	..	..	..
1984	0.472	0.398	0.327	..	..	..	..
1985	0.468	0.372	0.312	..	24.9%	7.0%	68.1%
1986	..	..	..	0.328	..	..	..
1987	..	..	..	..	24.6%	7.0%	68.4%
1988	0.457	0.370	0.322	..	24.6%	6.7%	68.7%
1989	0.474	0.378	0.325	..	25.4%	6.8%	67.8%
1990	0.480	0.376	0.326	..	25.1%	6.5%	68.4%
1991	0.490	0.377	0.327	..	25.4%	6.6%	68.0%
1992	0.498	0.393	0.339	0.321	26.1%	6.3%	67.6%
1993	0.494	0.383	0.329	..	25.4%	6.5%	68.1%
1994	0.502	0.399	0.344	..	26.8%	6.2%	67.0%
1995	0.497	0.397	0.337	..	26.1%	6.6%	67.3%
1996	0.496	0.387	0.329	..	25.7%	6.8%	67.5%
1997	0.505	0.395	0.333	..	26.0%	6.7%	67.3%
<b>1997</b>	<b>0.509</b>	<b>0.414</b>	<b>0.353</b>	<b>0.3345</b>	<b>26.0%</b>	<b>6.7%</b>	<b>67.3%</b>
1998	0.512	0.413	0.352	0.3442	26.0%	6.8%	67.2%
1999 <sup>1</sup>	0.517	0.421	0.359	0.3429	26.5%	6.7%	66.8%
2000 <sup>1</sup>	0.509	0.411	0.350	0.3443	25.6%	6.8%	67.6%
2001 <sup>1</sup>	0.528	0.420	0.357	0.3310	26.2%	6.6%	67.2%
2002 <sup>1</sup>	0.537	0.431	0.368	0.3340	26.6%	6.1%	67.3%
2003	0.527	0.424	0.369	0.3356	26.3%	6.0%	67.7%
2004	0.523	0.430	0.380	0.3454	26.6%	5.5%	67.9%
2005	0.526	0.434	0.388	0.3431	27.4%	5.4%	67.2%
2006	0.524	0.438	0.392	0.3464	28.0%	5.3%	66.7%
2007	0.513	0.432	0.383	0.3443	27.2%	5.4%	67.4%
2008	0.519	0.433	0.385	0.3380	27.3%	5.4%	67.3%
2009	0.510	0.429	0.389	0.3507	27.4%	5.2%	67.4%
2010	0.505	0.426	0.384	0.3429	27.1%	5.2%	67.7%
2011	0.497	0.418	0.379	0.3404	26.5%	5.4%	68.1%
2012 <sup>2</sup>	0.489	0.417	0.377	0.3320	27.0%	5.4%	67.6%
2013 <sup>2</sup>	0.478	0.410	0.363	0.3436	26.3%	5.5%	68.2%
2014 <sup>2</sup>	0.477	0.413	0.371	0.3318	27.4%	5.3%	67.3%
2015 <sup>2</sup>	0.472	0.407	0.366	0.3361	26.6%	5.2%	68.2%

Source: Central Bureau of Statistics and author's calculations

(1) Does not include East Jerusalem's population.

(2) Does not include Bedouin population.

Since 1997, income data have come from two surveys: a labor force survey and a household expenditures survey.

**Table 2: Descriptive statistics (according to income survey)**

	Share of population (%) households)			Share of households with 0 market income (%)			No. of children per household		
	Excl. Arabs and Orthodox	Arabs	Orthodox	Excl. Arabs and Orthodox	Arabs	Orthodox	Excl. Arabs and Orthodox	Arabs	Orthodox
1990	85.0	8.6	6.4	25.5	33.1	38.4	1.3	3.0	2.9
1991	85.0	8.3	6.7	24.2	32.7	39.6	1.3	2.8	2.8
1992	84.9	8.8	6.3	24.1	30.9	38.0	1.2	2.8	2.9
1993	84.2	8.9	6.9	24.3	33.4	36.8	1.2	2.6	2.9
1994	84.5	9.0	6.5	22.2	30.4	36.6	1.2	2.6	3.0
1995	77.9	16.4	5.7	22.0	25.6	42.6	1.1	2.5	3.0
1996	77.6	16.8	5.7	23.5	28.0	33.1	1.1	2.4	2.8
1997	77.5	17.1	5.4	23.0	27.8	42.5	1.1	2.2	2.8
1997	76.9	18.0	5.2	11.2	15.0	27.9	1.1	2.2	2.8
1998	76.2	18.4	5.4	11.6	16.6	25.7	1.0	2.4	2.7
1999	76.2	18.9	4.9	9.8	15.4	26.7	1.0	2.4	2.7
2000	78.5	16.6	4.9	9.7	17.2	26.6	1.0	2.3	2.8
2001	77.0	17.3	5.7	10.5	20.8	33.1	1.0	2.5	2.7
2002	75.7	19.0	5.4	10.9	22.9	30.0	1.0	2.5	2.7
2003	74.7	19.2	6.1	10.5	20.3	30.8	1.0	2.5	2.8
2004	75.4	18.9	5.8	10.4	18.1	31.9	1.0	2.4	2.7
2005	74.4	19.6	6.0	10.1	21.9	28.5	0.9	2.4	2.7
2006	73.1	19.8	7.1	9.4	21.6	22.9	0.9	2.4	2.6
2007	73.1	19.7	7.2	8.4	18.7	20.0	0.9	2.3	2.6
2008	73.4	19.8	6.7	8.5	16.7	22.8	0.9	2.3	2.8
2009	72.8	19.9	7.3	8.5	18.3	19.7	0.9	2.2	2.8
2010	73.3	20.2	6.6	8.2	18.1	18.2	0.9	2.1	2.7
2011	72.5	20.5	7.0	8.1	17.3	15.3	0.9	2.2	2.7
2012	74.5	18.7	6.8	5.5	16.1	12.9	0.9	2.1	2.9
2013	74.4	18.5	7.1	5.4	12.7	11.7	0.9	2.2	2.9
2014	75.2	18.3	6.5	5.4	12.0	11.6	0.9	2.0	2.9
2015	73.9	18.5	7.6	5.1	10.4	14.1	0.9	2.0	2.9

Source: Central Bureau of Statistics and author's calculations.

**Table 3: The correlates of inequality in market income, 1979–2015**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Unemployment	<b>1.02***</b> (0.184)	<b>1.06***</b> (0.232)	<b>0.80***</b> (0.153)	<b>0.60***</b> (0.197)	<b>1.03***</b> (0.145)	<b>0.83***</b> (0.094)	<b>0.68***</b> (0.113)	<b>0.86***</b> (0.090)
Welfare state generosity index	-0.465 (0.473)							
Direct statutory tax rate index		<b>-0.074***</b> (0.012)						
Minimum wage/average wage			<b>25.021**</b> (10.660)					
Participation rate				<b>0.245***</b> (0.081)				
Arab coverage rate in income survey					<b>0.324***</b> (0.031)			
Share of immigrant workers						<b>0.825***</b> (0.150)		
Technical change in income/labor force survey							<b>3.219***</b> (0.488)	
Constant	<b>41.470***</b> (1.403)	<b>43.539***</b> (2.298)	<b>50.173***</b> (2.057)	<b>34.190***</b> (5.167)	<b>28.018***</b> (4.048)	<b>38.197***</b> (0.694)	<b>37.298***</b> (1.130)	<b>40.909***</b> (0.771)
Adjusted R <sup>2</sup>	0.495	0.426	0.724	0.265	0.606	0.855	0.744	0.791
No. of observations	35	34	35	28	35	32	35	35

\* Variable equaled 1 in 1997–2015.

**Table 4: Redistribution policy and inequality, 1979–2015**

	Gini index <sup>a</sup>	Direct tax rate <sup>b</sup>	Gini correlation coefficient for direct taxes <sup>c</sup>	Share of transfer payments <sup>b</sup>	Gini correlation coefficient for transfer payments <sup>c</sup>	Share of social security benefits <sup>b</sup>	Gini correlation coefficient for social security benefits <sup>c</sup>	Share of non-social security aid (public and private) <sup>b</sup>	Gini correlation coefficient for non-social security aid <sup>c</sup>
1980	0.324	31.1	0.874	15.9	0.065	11.2	..	4.7	0.469
1981	0.318	31.6	0.883	16.2	0.070	11.4	..	4.9	0.492
1982	0.314	30.4	0.891	16.4	-0.073	12.7	..	3.6	0.337
1983	..	..	..	..	..	..	..	..	..
1984	..	..	..	..	..	..	..	..	..
1985	0.320	30.3	0.878	16.7	-0.113	12.7	-0.315	4.0	0.314
1986	..	..	..	..	..	..	..	..	..
1987	0.319	23.6	0.895	16.5	-0.067	12.5	-0.232	4.0	0.286
1988	0.322	22.9	0.902	16.6	-0.069	12.4	-0.229	4.2	0.266
1989	0.327	24.5	0.903	17.3	-0.080	13.2	-0.214	4.1	0.218
1990	0.329	21.1	0.900	17.7	-0.096	13.2	-0.189	4.5	0.110
1991	0.330	19.4	0.904	18.2	-0.115	12.5	-0.218	5.7	0.082
1992	0.343	20.6	0.910	20.1	0.033	12.6	-0.204	4.7	0.162
1993	0.330	20.5	0.903	21.6	0.008	14.5	-0.234	4.4	0.154
1994	0.346	21.8	0.909	17.5	-0.142	13.5	-0.262	4.1	0.136
1995	0.337	25.0	0.915	18.2	-0.121	14.3	-0.269	3.9	0.238
1996	0.330	25.0	0.909	19.2	-0.112	14.9	-0.265	4.3	0.230
1997	0.336	26.6	0.915	19.1	-0.146	15.2	-0.270	3.9	0.189
<b>1997</b>	<b>0.356</b>	<b>29.2</b>	<b>0.910</b>	<b>19.0</b>	<b>-0.056</b>	<b>14.7</b>	<b>-0.233</b>	<b>4.3</b>	<b>0.320</b>
1998	0.354	28.7	0.911	19.3	-0.080	14.9	-0.224	4.4	0.210
1999	0.358	29.6	0.917	17.9	-0.058	13.6	-0.234	4.3	0.301
2000	0.349	30.3	0.914	17.7	-0.114	13.6	-0.239	4.1	0.235
2001	0.357	30.3	0.907	19.1	-0.105	14.9	-0.232	4.2	0.221
2002	0.368	30.6	0.909	19.7	-0.035	15.2	-0.176	4.5	0.289
2003	0.368	26.9	0.903	18.3	-0.073	14.1	-0.163	3.7	0.148
2004	0.380	25.5	0.914	16.9	-0.037	12.8	-0.134	3.6	0.175
2005	0.388	23.9	0.919	16.3	-0.004	11.9	-0.130	3.7	0.221
2006	0.392	22.7	0.918	16.1	0.034	11.5	-0.109	4.6	0.273
2007	0.383	23.8	0.921	15.2	0.016	11.0	-0.107	4.3	0.236
2008	0.385	21.8	0.926	14.8	0.008	10.8	-0.090	4.0	0.195
2009	0.389	19.7	0.926	15.6	0.057	11.3	-0.043	4.3	0.232
2010	0.384	19.9	0.925	15.0	0.029	11.3	-0.055	3.7	0.203
2011	0.379	18.6	0.921	15.2	0.031	11.3	-0.059	3.8	0.211
<sup>3</sup> 2012	0.377	19.9	0.921	14.6	0.074	10.6	-0.028	4.0	0.230
<sup>3</sup> 2013	0.363	21.3	0.918	13.5	0.066	9.6	-0.032	3.8	0.227
<sup>3</sup> 2014	0.371	21.2	0.914	13.4	0.088	9.3	-0.015	4.0	0.238
<sup>3</sup> 2015	0.366	21.2	0.912	13.1	0.053	9.5	0.001	3.6	0.140

Source: Central Bureau of Statistics and author's calculations.

<sup>a</sup> Gini index for net income (standard person) in the total population.

<sup>b</sup> In net income for a standard person.

<sup>c</sup> The income data from 1997 onward are based on two surveys: a labor force survey and a household expenditures survey. The income data from 2012 onward are based on a household expenditure survey alone.



**Table 5: Key inequality measures in OECD, 2013 (or the last available year)**

	Net income inequality				Poverty rate						Share of upper decile in total wealth
	Gini index	P90/P10	Share of lower quintile	Share of upper decile	Total	Children (under 18)	Young persons (18–25)	Adults (26–65)	Old age (over 65)	Employed	
Chile	0.503	26.5	4.3	40.9	17.8	23.5	15.1	15.1	20.5	14.3	55.8
Mexico	0.482	30.5	3.9	36.7	21.4	25.8	15	18.6	31.2	19	..
Turkey	0.412	15.2	5.6	31.7	19.2	28.4	16.2	14.4	18.4	17.8	..
USA	0.401	18.8	5.2	30	17.6	19.6	20.1	15.2	21.5	11.9	76.4
Israel	0.36	14.9	5.5	25.6	18.6	24.3	16.6	14	24.1	13.9	52.7 <sup>1</sup>
UK	0.351	10.5	7.2	28	10.5	10.4	10.9	9.6	13.4	5.3	46.6
Greece	0.34	12.3	6.4	25.1	15.1	21.4	21.2	14.8	6.9	15.8	38.8
Estonia	0.339	9.7	7	25	12.3	11.8	13.5	12.2	12.6	9	..
Portugal	0.338	10.1	7	25.9	12.9	17.8	15.8	12.5	8.1	12.2	52.7
Japan	0.336	10.7	6.5	24.4	16	15.7	18.7	13.9	19.4	12.9	..
Spain	0.335	11.7	6.5	24.4	14.1	21	16.8	13.5	6.8	13.6	43.5
NZ	0.333	8.2	7.6	25.7	9.9	12.8	10.4	8.9	8.2	5.8	..
Italy	0.327	11.4	6.9	24.7	12.7	17.4	14.7	12.1	9.3	12	44.8
Australia	0.326	8.8	7.2	24.4	14	12.9	7.9	11.3	33.5	4.6	44.9
Canada	0.315	8.6	7.6	24.2	11.8	14.4	13.1	11.8	6.7	8.7	50.3
France	0.306	7.4	8.5	25.3	8.1	11.4	13.7	7.1	3.8	7.3	50.0
Ireland	0.304	7.4	8.3	23.8	8.4	8.7	10.5	8.1	6.9	5	..
Korea	0.302	10.1	6.8	21.9	14.6	8	9.1	9.7	49.6	..	..
Luxembourg	0.302	7.1	8.5	24.2	8.4	12.5	8.2	8	3	7.9	51.4
Poland	0.298	7.4	8.1	23.2	10.4	12.7	10.3	10.1	8.4	9.2	..
Germany	0.289	6.6	8.8	23.5	8.4	7.4	12.5	7.7	9.4	3	59.2
Hungary	0.288	7.2	8.3	22.5	10.1	11.8	11.9	9.6	8.6	7.2	..
Switzerland	0.285	6.7	8.7	23.2	9.1	8	6.6	6.1	23.4	5.7	..
Netherlands	0.278	6.6	8.8	22.4	7.9	10.7	21.9	6.1	2	6.6	59.6
Austria	0.276	7	8.5	21.6	9.6	10.4	10.1	8.7	11.4	7.8	61.7
Sweden	0.274	6.3	8.7	21.9	9	8.3	17.8	7.4	9.4	5.8	..
Belgium	0.268	5.9	8.8	20.8	10.2	11.4	11.2	9.4	10.7	6.1	44.1
Finland	0.262	5.5	9.4	21.5	7.1	4.6	15.9	6.3	7.8	4.1	45
Czech R.	0.256	5.4	9.9	21.7	5.3	8.2	5.7	4.9	2.8	4.7	..
Iceland	0.256	5.6	9.6	21.3	6.3	8.1	11.4	5	3	6	..
Norway	0.253	6.2	9.1	20.6	8.1	5.9	30	5.7	4.1	6.7	50.1
Slovakia	0.251	5.7	9.1	19.7	8.5	14.9	7.3	7.6	4.1	8	32.9
Slovenia	0.25	5.4	9.2	20	9.4	8.6	7.1	8.5	15.9	6.6	..
Denmark	0.249	5.2	9.8	20.8	5.4	2.7	21.7	3.5	4.6	3.9	..
<b>OECD</b>	<b>0.315</b>	<b>9.6</b>	<b>7.7</b>	<b>24.6</b>	<b>11.2</b>	<b>13.3</b>	<b>13.8</b>	<b>9.9</b>	<b>12.6</b>	<b>8.7</b>	<b>50.4</b>

Source: OECD (2015), *In It Together: Why Less Inequality Benefits All*, OECD Publishing, Paris.

1. The share of wealth held by the upper decile in Israel was estimated by multiplying the share of the upper decile's total income (25.6%) by the average rate of the OECD between the upper decile's share of wealth and the upper decile's share of net income (2.06). This estimate is similar to that of Milgrom and Bar-Levav (2015), which was 51%.

**Table 6: Government expenditures composition in Israel and OECD, 1995–2015 (in share of GDP)**

	Defense		Public services <sup>1</sup>		Education		Health		Social security benefits <sup>2</sup>		Total expenditures	
	Israel	OECD	Israel	OECD	Israel	OECD	Israel	OECD	Israel	OECD	Israel	OECD
1995	8.4	2.0	13.4	11.8	6.8	5.5	5.2	5.4	16.7	23.8	50.5	48.5
1996	8.5	2.0	13.0	11.7	7.0	5.5	5.4	5.4	16.6	22.4	50.5	46.9
1997	8.3	1.9	13.0	11.1	7.0	5.4	5.4	5.3	15.9	21.3	49.5	45.1
1998	8.1	1.8	16.2	10.9	6.7	5.4	5.2	5.4	15.6	21.0	51.8	44.5
1999	8.0	1.8	15.4	10.5	6.5	5.4	5.1	5.5	15.4	21.0	50.5	44.1
2000	7.6	1.7	14.3	10.3	6.3	5.2	5.0	5.4	15.0	20.0	48.2	42.7
2001	7.9	1.7	14.3	10.2	6.6	5.4	5.3	5.6	16.1	20.2	50.2	43.0
2002	8.8	1.8	14.6	10.1	6.6	5.5	5.4	5.7	16.2	20.8	51.5	43.8
2003	8.3	1.7	14.7	9.9	6.2	5.6	5.3	5.8	15.8	21.2	50.3	44.3
2004	7.5	1.7	13.7	9.8	6.0	5.5	5.2	5.9	14.7	20.7	47.0	43.4
2005	7.5	1.6	13.6	9.6	5.7	5.4	5.2	5.8	14.0	20.4	46.1	42.7
2006	7.6	1.6	12.3	9.6	5.6	5.1	5.0	5.7	14.3	19.8	44.8	41.9
2007	7.0	1.6	11.6	9.5	5.6	5.0	4.9	5.7	13.7	19.5	42.8	41.3
2008	6.8	1.6	11.4	9.7	5.8	5.2	4.9	5.9	13.6	20.4	42.5	42.9
2009	6.4	1.7	10.9	10.3	5.8	5.6	5.0	6.5	14.4	22.9	42.5	47.0
2010	6.3	1.7	10.8	10.0	5.9	5.6	5.1	6.4	13.8	23.2	41.7	46.7
2011	6.1	1.6	10.5	10.0	5.9	5.4	5.0	6.3	13.6	22.0	41.1	45.3
2012	6.1	1.5	10.5	10.1	6.2	5.4	5.1	6.4	13.9	22.2	41.8	45.7
2013	5.9	1.4	10.0	10.2	6.3	5.4	5.1	6.4	14.0	22.5	41.3	45.9
2014	6.0	1.4	9.7	10.0	6.2	5.4	5.2	6.4	13.8	22.0	40.8	45.2
2015	5.9	1.4	8.8	9.9	6.8	5.4	5.0	6.6	13.1	22.2	39.7	45.4

Source: OECD Stat.

(1) Public services include general public services expenditures (interest payments), public order, environment protection, culture and religion.

(2) Social insurance includes social insurance expenditures, economic services, housing and community services.

**Table 7: Tax composition in Israel and OECD, 1995–2015 (in share of GDP)**

	Direct taxes		Indirect taxes		Total taxes	
	Israel	OECD	Israel	OECD	Israel	OECD
1995	19.06	20.47	16.56	12.83	35.6	33.3
1996	18.55	20.51	16.43	13.07	35.0	33.6
1997	19.48	20.68	16.00	12.88	35.5	33.6
1998	19.04	20.81	15.30	12.90	34.3	33.7
1999	18.76	20.85	15.36	13.09	34.1	33.9
2000	20.19	21.05	14.63	12.91	34.8	34.0
2001	20.36	20.82	14.33	12.66	34.7	33.5
2002	18.96	20.49	14.96	12.74	33.9	33.2
2003	18.39	20.36	14.89	12.80	33.3	33.2
2004	18.01	20.33	15.28	12.75	33.3	33.1
2005	18.35	20.71	15.21	12.85	33.6	33.6
2006	19.28	20.94	14.80	12.77	34.1	33.7
2007	18.89	21.11	15.11	12.66	34.0	33.8
2008	16.89	20.93	14.85	12.24	31.7	33.2
2009	15.11	20.20	14.54	12.23	29.7	32.4
2010	15.28	20.09	15.26	12.49	30.5	32.6
2011	15.57	20.36	15.21	12.59	30.8	33.0
2012	15.24	20.70	14.43	12.74	29.7	33.4
2013	15.87	20.94	14.81	12.87	30.7	33.8
2014	15.98	21.12	15.27	13.06	31.2	34.2
2015	16.26	21.69	15.11	13.46	31.4	35.2

Source: OECD Stat.

**Table 8: Market and net income inequality in the OECD**

	Year	Gini index		Gini index difference
		Market income	Net income	
Ireland	2013	0.58	0.31	0.27
Finland	2014	0.50	0.26	0.24
Greece	2013	0.57	0.34	0.23
Belgium	2013	0.49	0.27	0.23
Austria	2013	0.50	0.28	0.22
Germany	2013	0.51	0.29	0.22
Portugal	2013	0.56	0.34	0.21
Slovenia	2013	0.47	0.26	0.21
France	2013	0.50	0.29	0.21
Luxembourg	2013	0.48	0.28	0.20
Czech Republic	2013	0.46	0.26	0.20
Italy	2013	0.52	0.33	0.19
Denmark	2013	0.44	0.25	0.19
Spain	2013	0.53	0.35	0.18
UK	2013	0.53	0.36	0.17
Hungary	2014	0.46	0.29	0.17
Poland	2013	0.47	0.30	0.17
Sweden	2013	0.44	0.28	0.16
Slovakia	2013	0.43	0.27	0.16
Norway	2013	0.41	0.25	0.16
Japan	2012	0.49	0.33	0.16
Netherlands	2014	0.44	0.28	0.16
Estonia	2013	0.51	0.36	0.15
Latvia	2013	0.50	0.35	0.15
Australia	2014	0.48	0.34	0.15
Iceland	2013	0.39	0.24	0.14
New Zealand	2012	0.46	0.33	0.13
Canada	2013	0.44	0.32	0.12
USA	2014	0.51	0.39	0.11
Switzerland	2013	0.39	0.30	0.09
Israel	2014	0.46	0.37	0.09
Korea	2014	0.34	0.30	0.04
Chile	2013	0.50	0.47	0.03
Turkey	2013	0.42	0.39	0.03
Mexico	2014	0.48	0.46	0.02

Source: OECD Stat

**Table 9: Inequality by age group in the OECD countries**

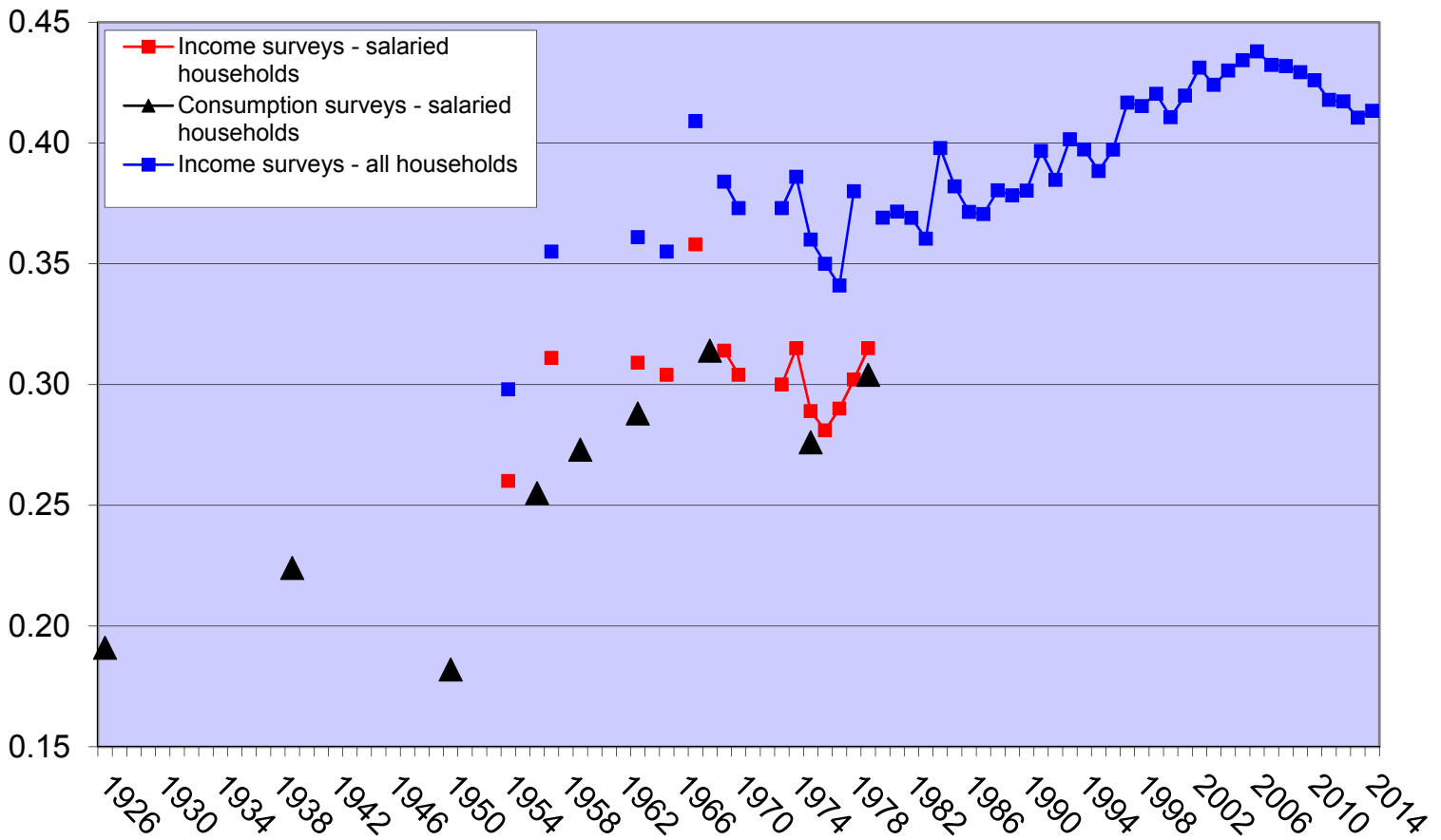
	Market income inequality (Gini coefficient)		Net income inequality (Gini coefficient)		Difference	
	18–65	66 and above	18–65	66 and above	18–65	66 and above
Austria	0.426	0.874	0.281	0.275	0.145	0.599
Belgium	0.427	0.913	0.266	0.228	0.161	0.685
Canada	0.411	0.537	0.325	0.276	0.086	0.261
Chile	0.492	0.512	0.467	0.428	0.025	0.084
Czech Republic	0.387	0.863	0.259	0.19	0.128	0.673
Denmark	0.401	0.64	0.255	0.225	0.146	0.415
Estonia	0.45	0.829	0.357	0.269	0.093	0.560
Finland	0.422	0.873	0.262	0.251	0.160	0.622
France	0.445	0.801	0.294	0.297	0.151	0.504
Germany	0.419	0.752	0.299	0.26	0.120	0.492
Greece	0.512	0.89	0.353	0.271	0.159	0.619
Iceland	0.337	0.712	0.246	0.227	0.091	0.485
Ireland	0.533	0.852	0.316	0.282	0.217	0.570
Israel	0.424	0.617	0.341	0.397	0.083	0.220
Italy	0.445	0.813	0.329	0.297	0.116	0.516
South Korea	0.305	0.523	0.28	0.422	0.025	0.101
Latvia	0.433	0.773	0.345	0.308	0.088	0.465
Luxembourg	0.428	0.876	0.28	0.253	0.148	0.623
Netherlands	0.396	0.537	0.284	0.229	0.112	0.308
Norway	0.377	0.591	0.262	0.218	0.115	0.373
Poland	0.423	0.789	0.304	0.253	0.119	0.536
Portugal	0.496	0.866	0.345	0.323	0.151	0.543
Slovakia	0.372	0.771	0.27	0.197	0.102	0.574
Slovenia	0.417	0.809	0.255	0.258	0.162	0.551
Spain	0.479	0.756	0.352	0.29	0.127	0.466
Sweden	0.383	0.62	0.281	0.271	0.102	0.349
Switzerland	0.34	0.553	0.287	0.309	0.053	0.244
Turkey	0.403	0.486	0.382	0.384	0.021	0.102
UK	0.471	0.63	0.353	0.322	0.118	0.308
USA	0.478	0.682	0.392	0.406	0.086	0.276
<b>OECD Average</b>	<b>0.424</b>	<b>0.725</b>	<b>0.311</b>	<b>0.287</b>	<b>0.114</b>	<b>0.437</b>

Source: OECD Stat.

The data refer to the last year available in the OECD Database.

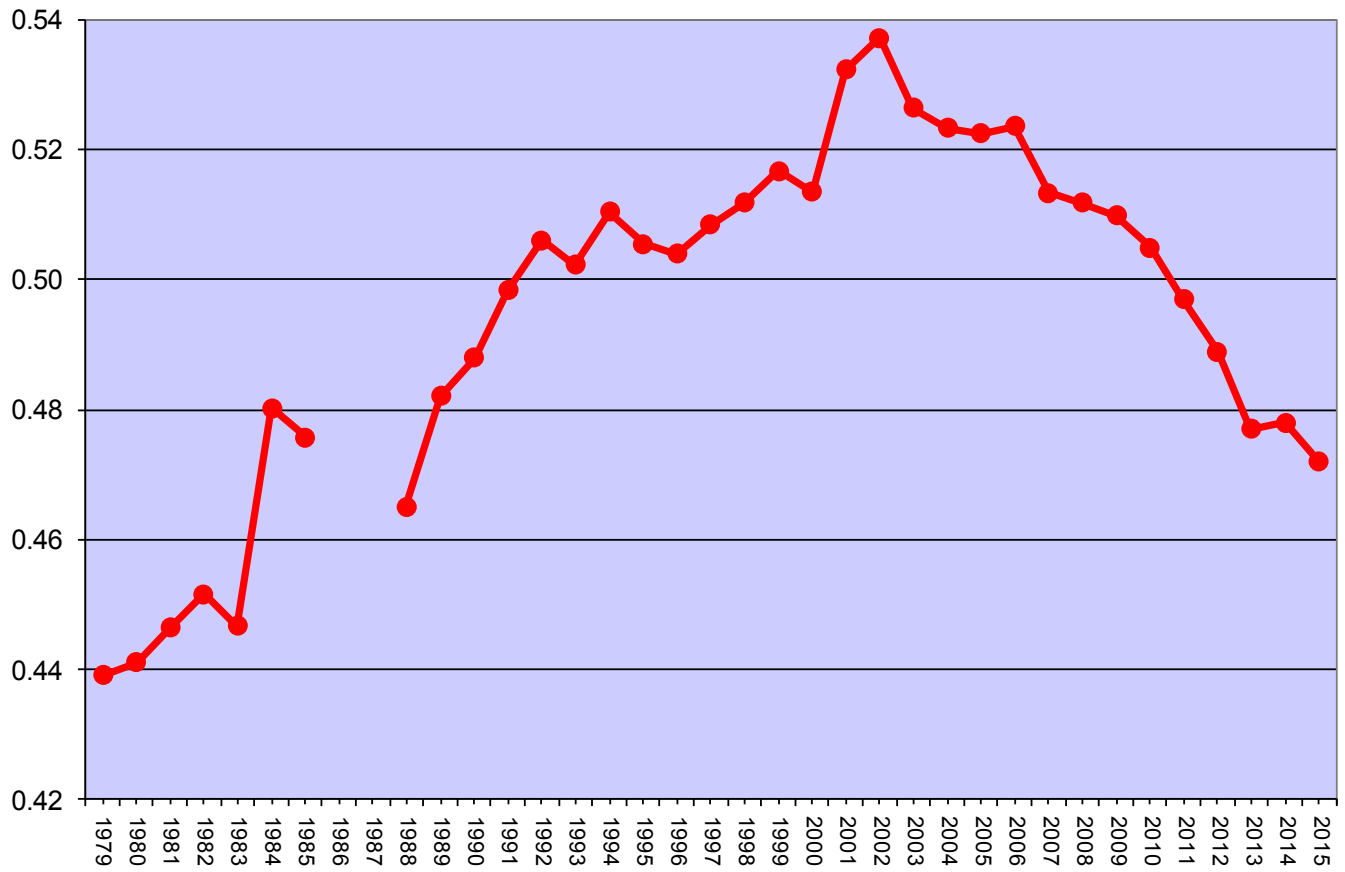
\*Data are missing for Australia, Hungary, Japan, Mexico and New Zealand.

**Figure 1: Income inequality in Israel, 1926–2014 (Gini coefficients)**



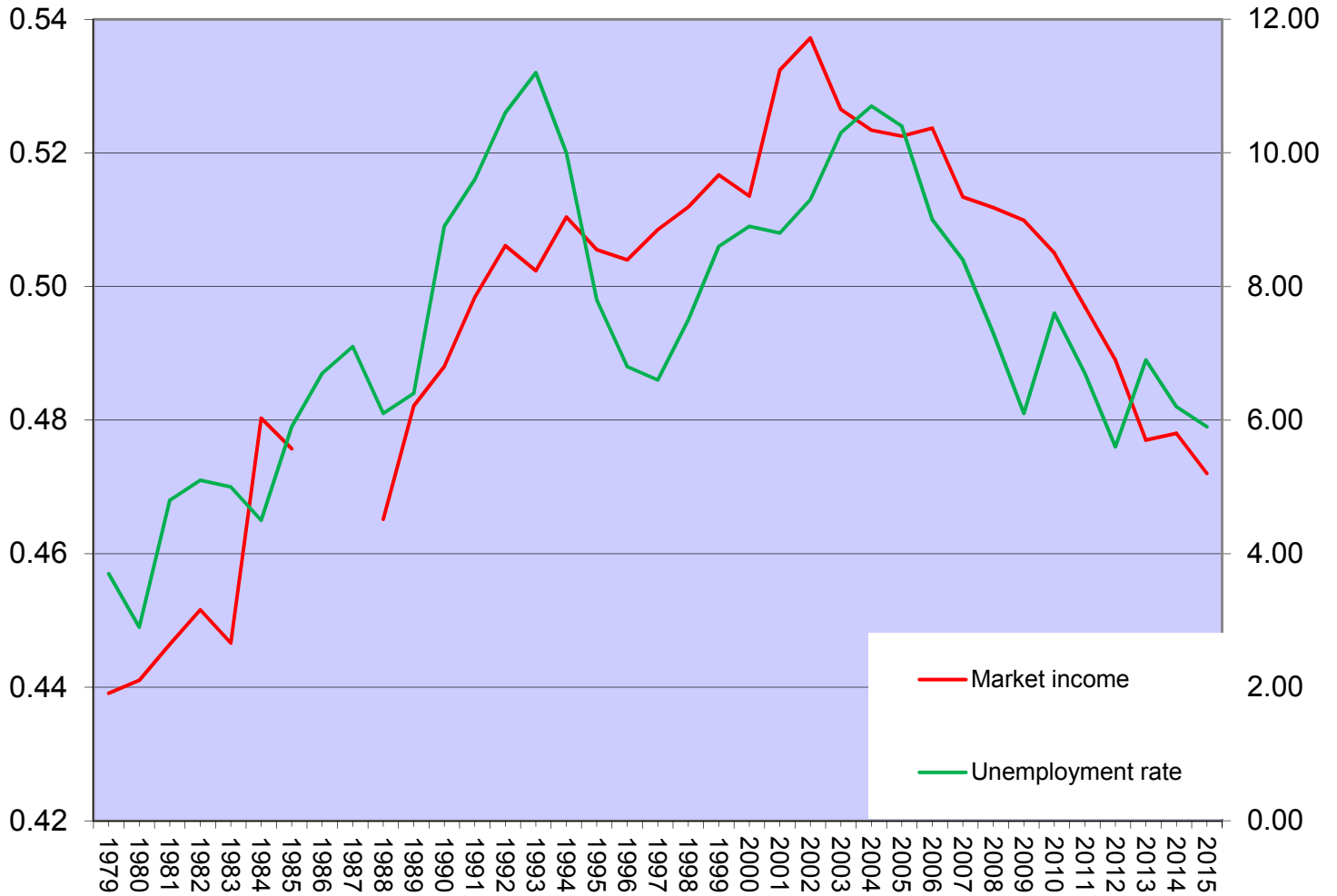
Source: Central Bureau of Statistics (income surveys) and Fanny Ginor, *Socio-Economic Disparities in Israel*, 1983, Am Oved publishers.

**Figure 2: Market income inequality, 1979–2015 (equivalence-adjusted Gini coefficients)**



Source: Central Bureau of Statistics, household income surveys.

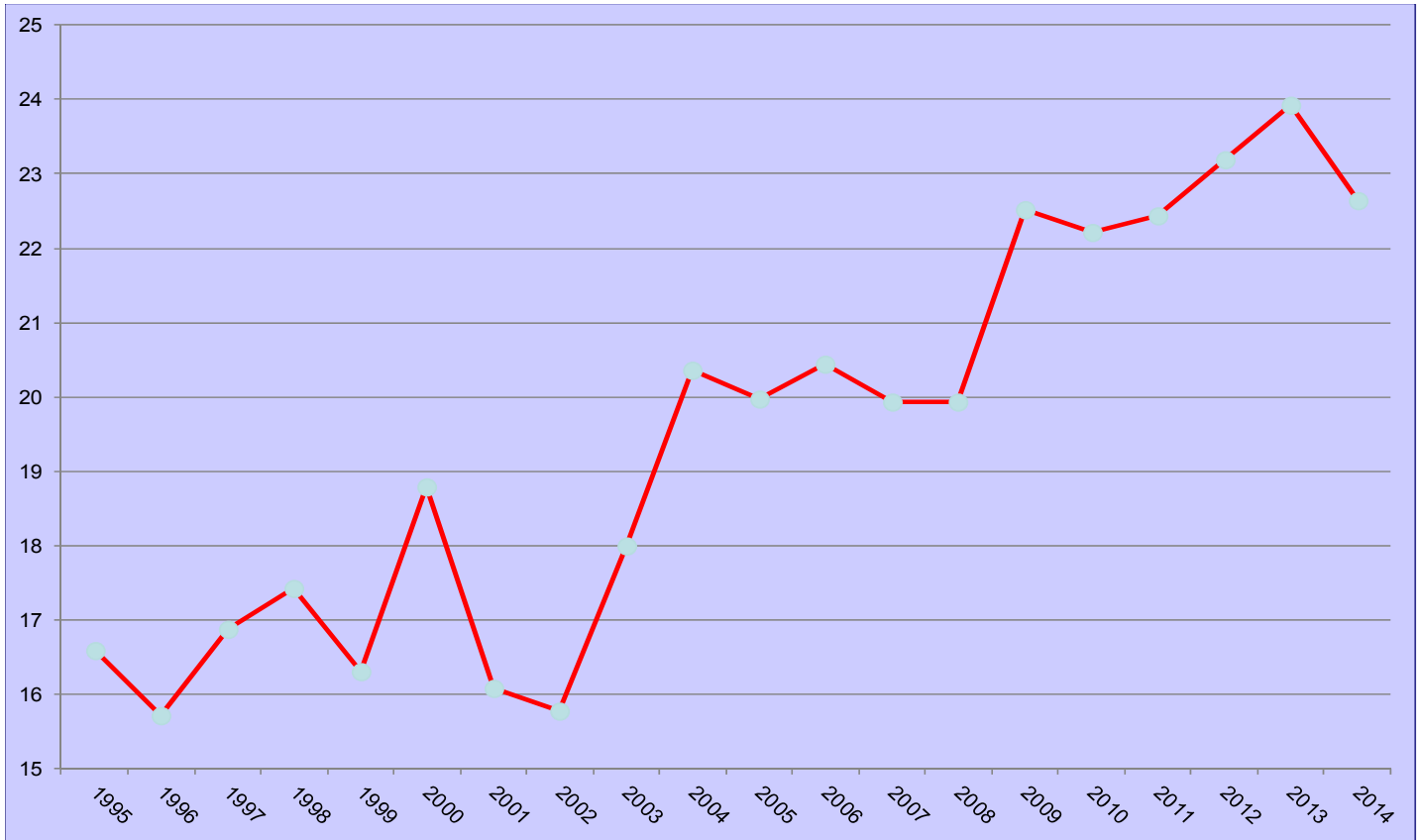
**Figure 3: Market income inequality and unemployment rate, 1979–2015**



Source: National Insurance Institute, based on household income survey and Bank of Israel report.

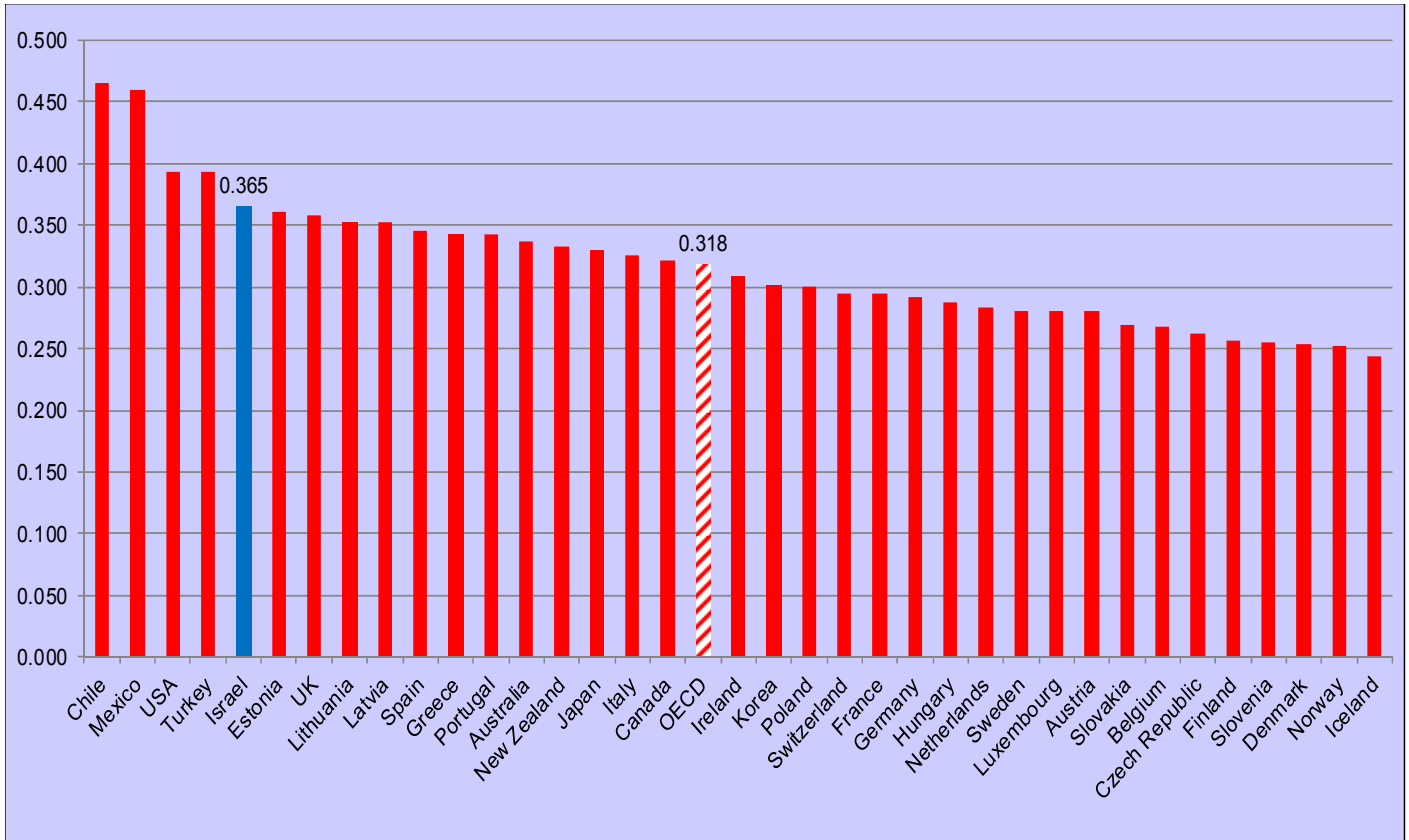


**Figure 4: Share of capital in net domestic product, 1995–2015 (percent)**



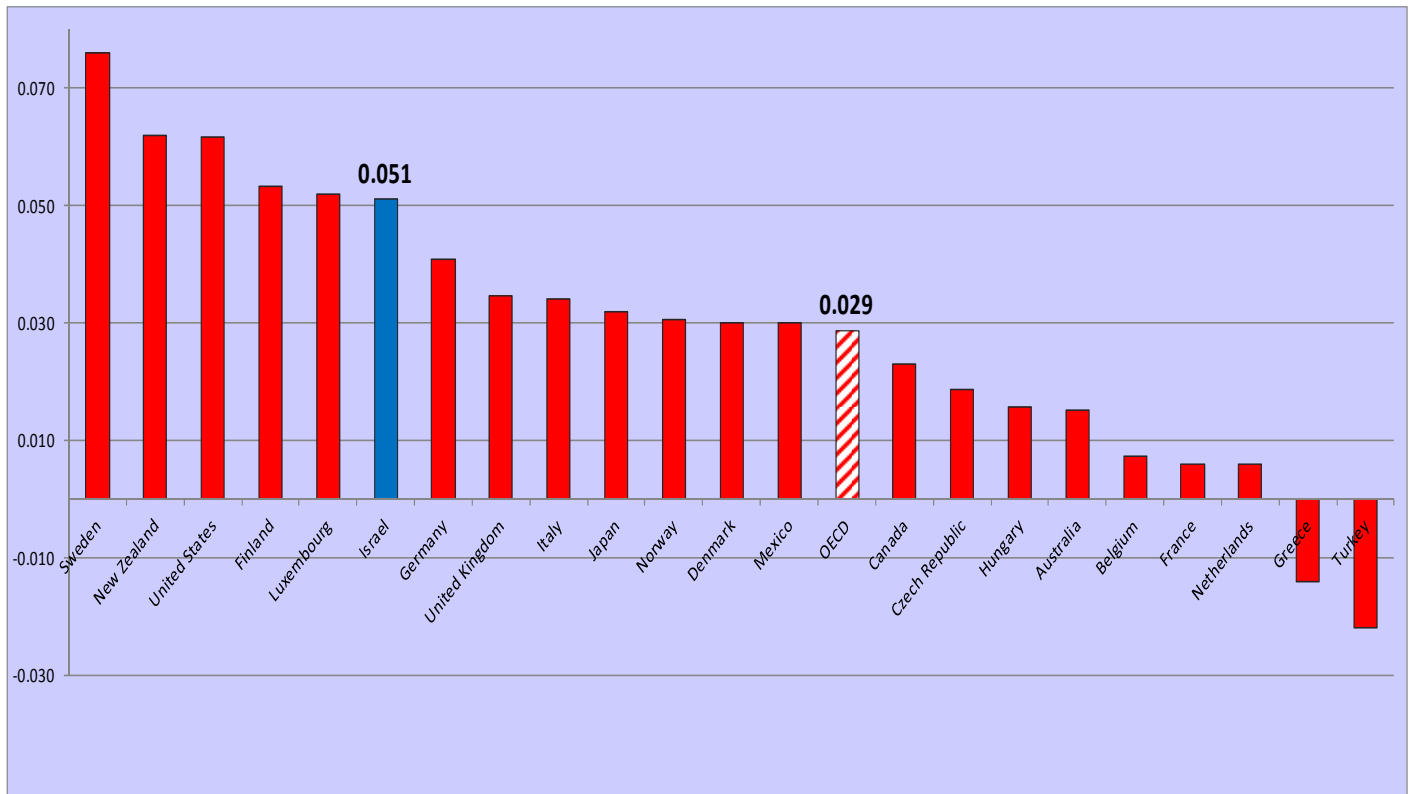
Source: Central Bureau of Statistics (national accounting), Table 19 – Share of Capital and Labor in Net Domestic Product, Market Prices – Business Sector.

**Figure 5: Net income inequality in OECD (Gini for 2013 or last available year)**



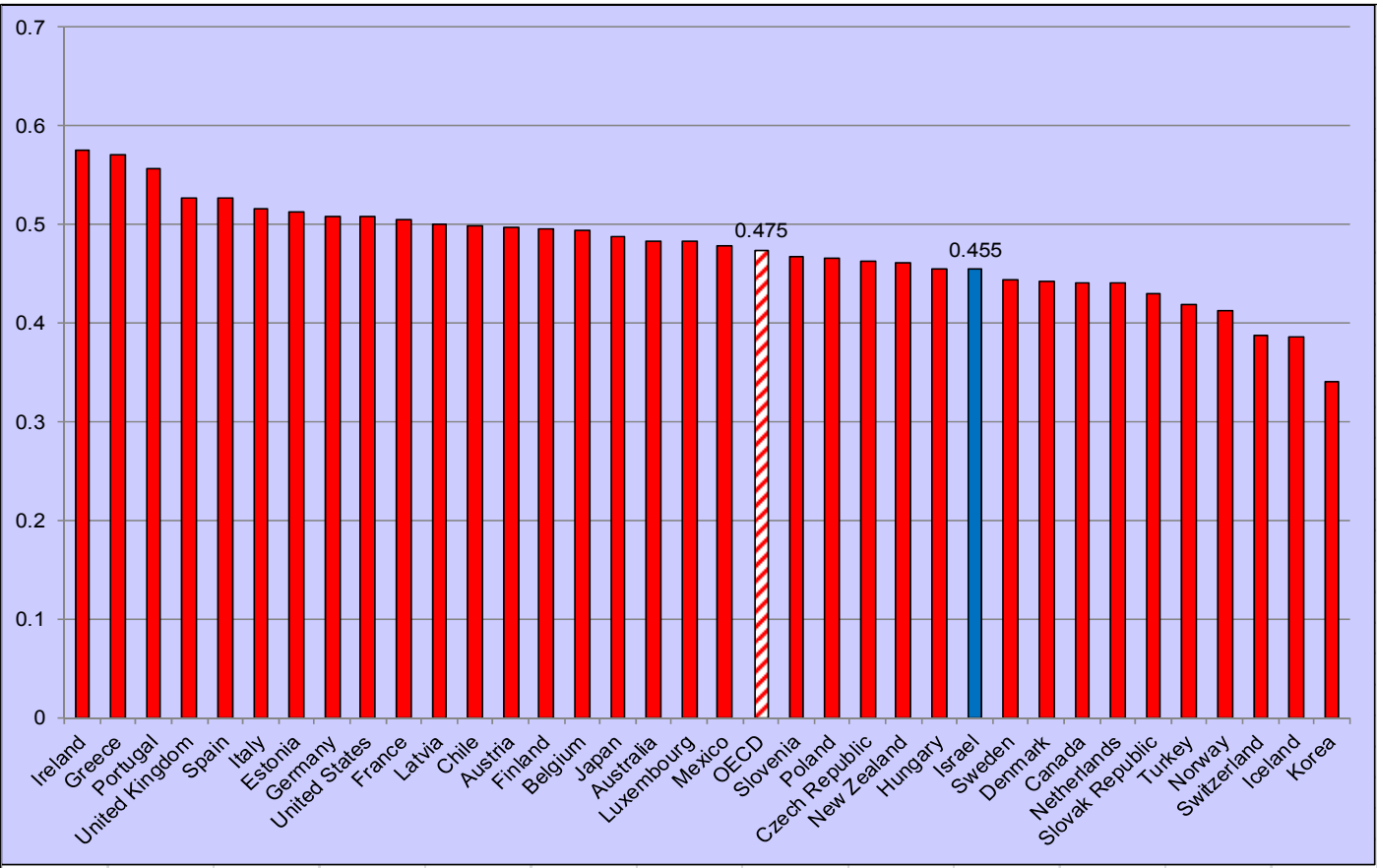
Source: OECD Stat.

**Figure 6: Net inequality increase in OECD (last year available compared to 1985)**



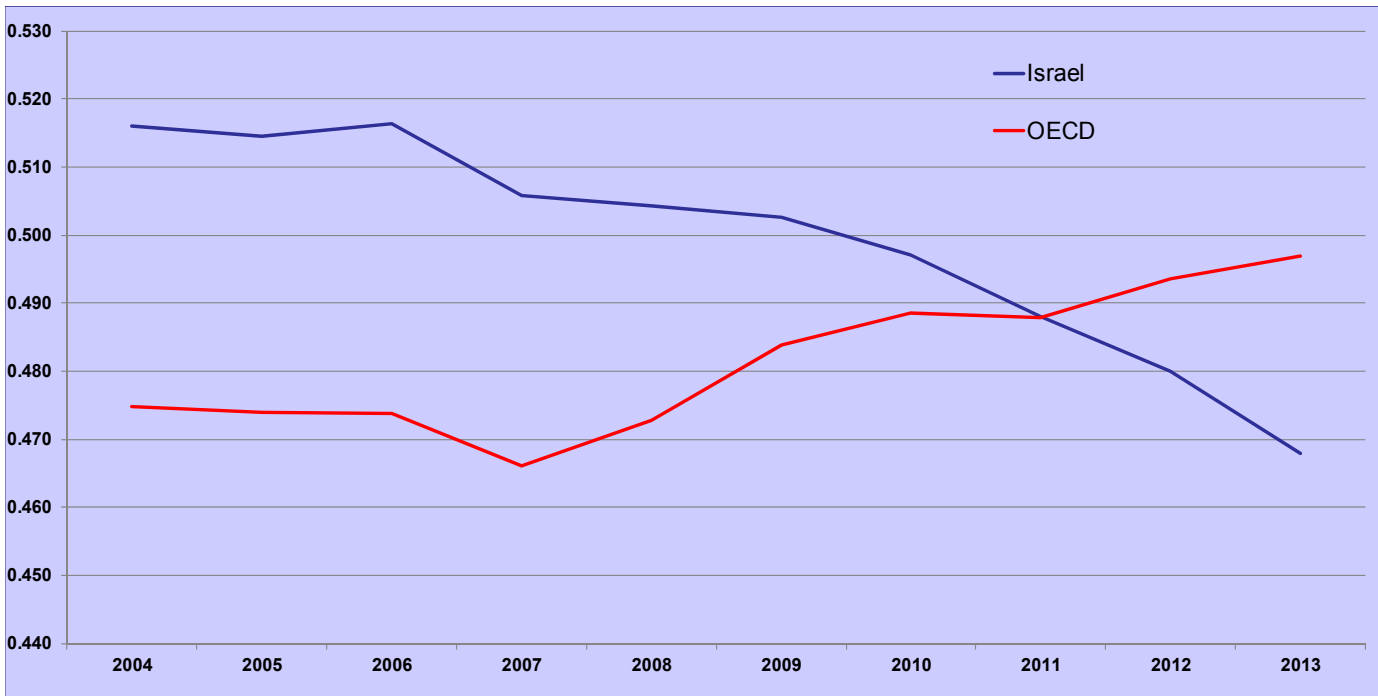
Source: OECD Income Distribution Database (IDD), [www.oecd.org/social/income-distribution-database.htm](http://www.oecd.org/social/income-distribution-database.htm).

Figure 7: Market income inequality in OECD (Gini for 2013 or last available year)



Source: OECD Stat.

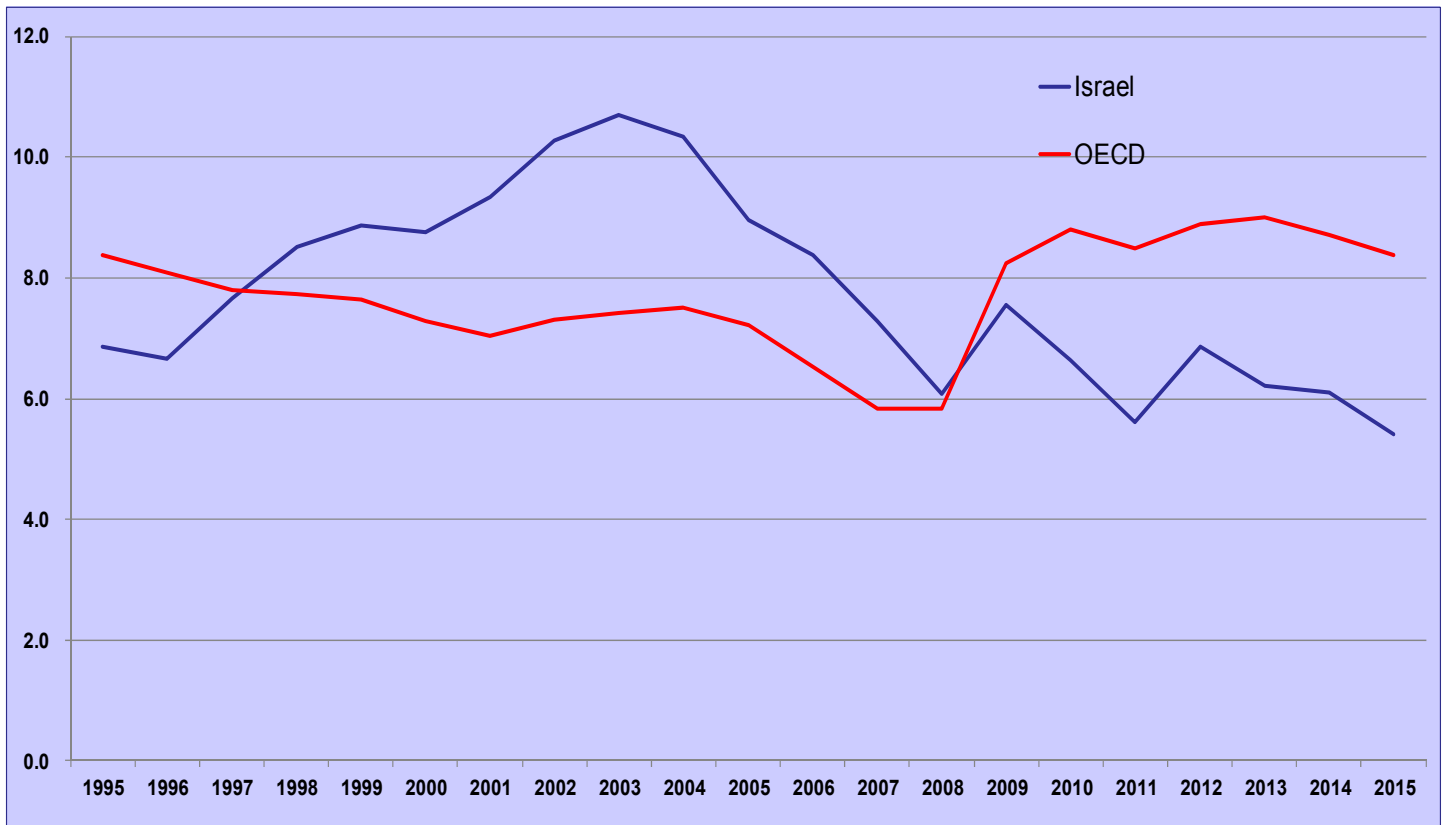
**Figure 8: Market income inequality in Israel and OECD, 2004–2013**



Source: OECD Stat.

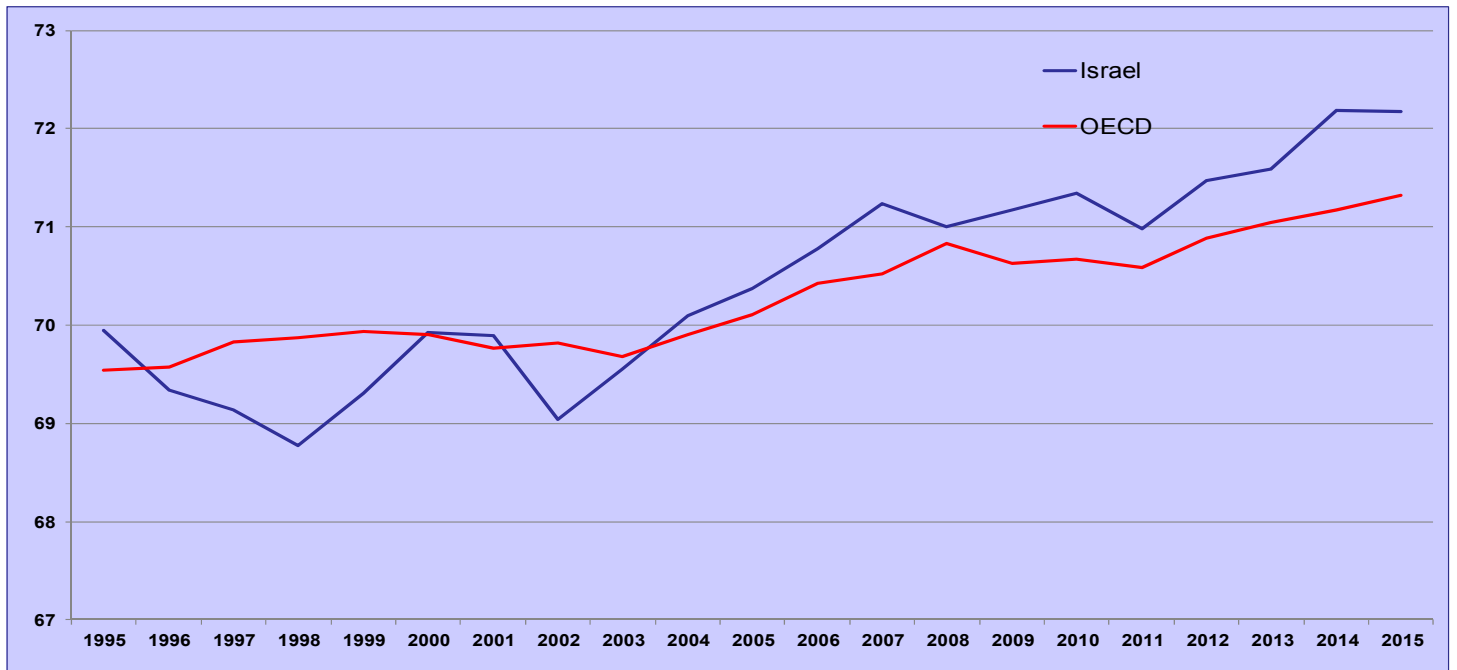
The OECD average is based on 17 countries with available data during the years 2003–2014.

**Figure 9: Unemployment rate in Israel and OECD, 1995–2015**



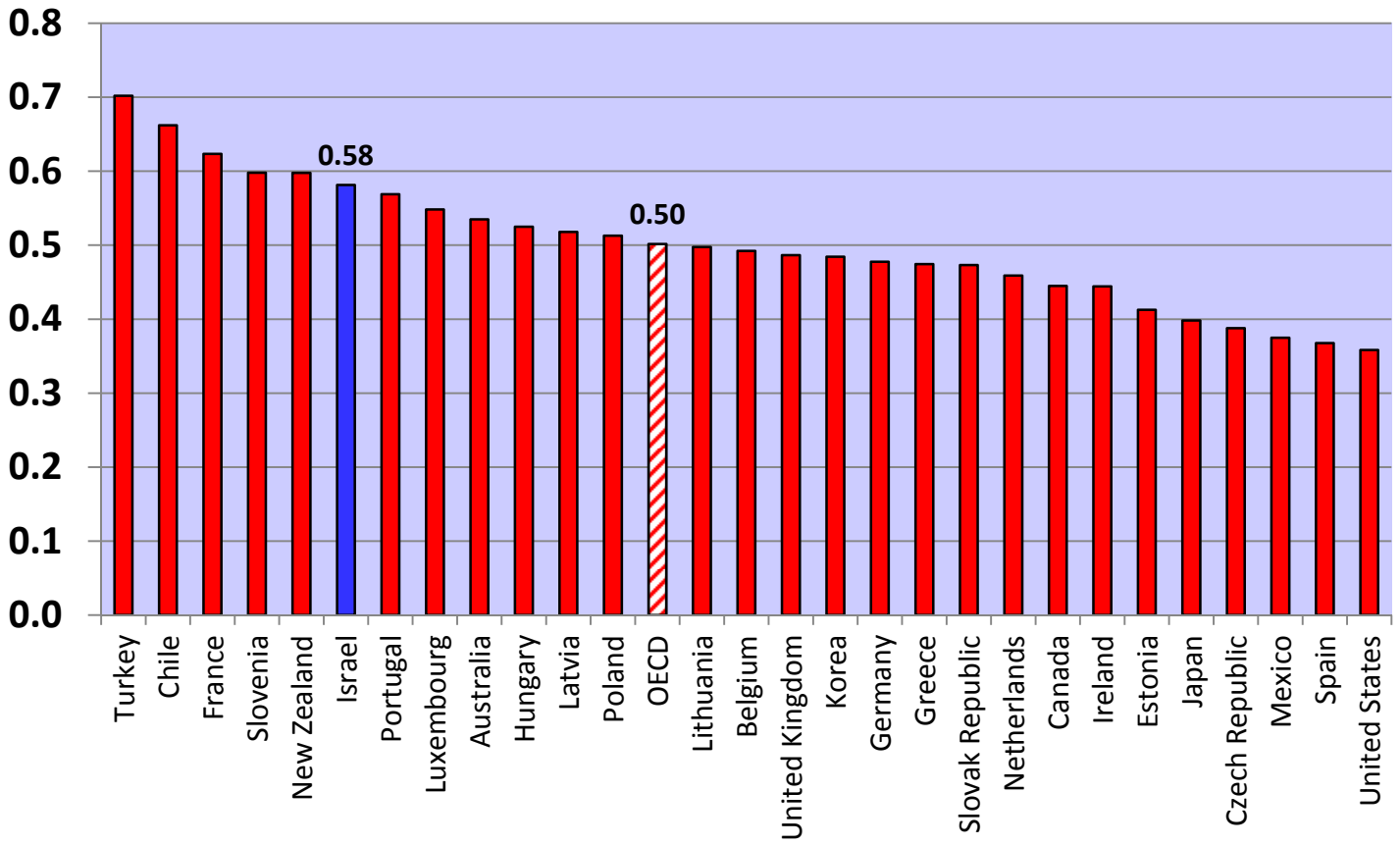
Source: OECD Stat.

**Figure 10: Labor force participation in Israel and OECD, 1995–2015 (ages 15–64)**



Source: OECD Stat.

Figure 11: Ratio of minimum to median wage, 2015



Source: OECD Stat.