



RESEARCH PAPERS IN ECONOMICS AND FINANCE

JOURNAL HOMEPAGE: www.ref.ue.poznan.pl

Income inequality in Israel between 2003 and 2014

Beny Tzarfati¹

¹ PhD student, Poznań University of Economics and Business, Poland

ABSTRACT

Inequality in the distribution of income in the population is an important economic indicator. Today, economic inequality receives considerable attention due to the book of Thomas Piketty *Capital in the 21st Century*. The tremendous media coverage of the topic also attracted the attention of the world leaders. In many countries, the topic of inequality in income distribution was defined as a national challenge and was found at the top of the priorities of many important organizations, such as the International Monetary Fund (IMF) and the Organization for Economic Co-operation and Development (OECD). These organizations treat income distribution as the top priority because they see the problem to be a threat to the continuation of the existence of the global economic system [Piketty and Qian 2009]. This paper aims to describe the distribution of income in Israel and provide solutions for a more equal distribution of income.

Keywords: income inequality, distribution of income, Gini index, Israel.

1. Introduction

Measuring the inequality in the distribution of income in Israel, as well as in most countries of the world, relies only on data concerning current financial income. There is no agreed-upon measure that reflects economic inequality in all its aspects, such as the level of possession of property, residential conditions, level of education, public services, level of consumption, level of health services, security services, social isolation, level of risk, exposure to violence, and so on. In Israel, full and comprehensive information does not exist about the distribution of property and capital. According to the findings, it is possible to estimate that the level of inequality in the distribution of capital is higher than the level of inequality in the distribution of income, which is for the most part income from paid work [Central Bureau of Statistics of Israel].

Income inequality in Israel has risen sharply over the last 30 years. The periods of steepest rises were the late 1980s to early 1990s

and then since 2000. Since the early 1990s, the level of inequality is very similar to, and even slightly exceeding, that of the United States.

With the exception of income tax, there are additional macro-economic factors and parameters in the economic policy that directly or indirectly influence changes in economic inequality: inequality in the distribution of human capital. Salary gaps, rate of participation in the work force, investment in infrastructure, liberalization in trade and globalization, employment of foreign workers, labor savings as a result of technological progress, systems of transfer payments, long-term macro-economic policy, minimum wages, intervention in the distribution of ownership of physical assets, discrimination or differences on a geographic, social or national background, structural changes, burnout in the workforce, laws and regulations, and unequal growth [Atkinson 2015].

This paper aims to describe the distribution of income in Israel and provide solutions for a more equal distribution of income.

2. Research method and data

This article draws on the data from the years 2003 to 2014 of a survey of the Central Bureau of Statistics [CSB] titled Monthly Income in the Deciles of Households according to Net Financial Income for Household. In each of the years, the data are divided into deciles regarding the sum of income tax levied and the data regarding income. For each of the years, the Gini index, which shows the level of inequality between the years, is calculated.

There are a number of measures of inequality in the distribution of income, such as the Theil Index, the coefficient of change, variance, and the Atkinson Index for inequality. They are differentiated by the weight each economic unit receives (for instance, the family) in the index that summarizes the inequality. The present study uses the Gini index, in light of the frequency of the use of this index in international publications, in research studies conducted in Israel, and in publications of the National Insurance Institute of Israel [NII]. The Gini index is one of the main indexes for the measurement of gaps in the distribution of income. The value of the measure ranges from zero to one, where the value of zero indicates a completely equal distribution of all income, while the value of 1 indicates a completely unequal distribution of all income. The index only takes into consideration the position of families in the ranking of income and in the level of their income.

The measurement is performed as follows: data is collected regarding monthly income in the deciles of households according to the gross financial income per household until the year 2012 (the last year for which the author has found data). From the total mandatory payments, the author has separated income tax and performed an examination of whether inequality decreases as the tax rate on income increases [CBS].

The data on wages come from two different sources: the Central Bureau of Statistics of Israel [CBS] Income Survey, based on self-reporting of sample respondents and on the reports of employers national insurance contributions for payment tax payments.

3. International comparison of the Gini index for 2012

In an international comparison, the Israeli trend of widening gaps is higher than in other Western countries. Israel ranked 29th out of 32 places, whereas Denmark is in the first place (the most equal) and Mexico in the last place in 2012, according to the Gini index.

Table 1: The Gini index in selected countries in 2012

Ranking	LOCATION	Value
1	DNK	0.249
2	SVK	0.250
3	SVN	0.250
4	NOR	0.253
5	CZE	0.256
6	ISL	0.257
7	FIN	0.260
8	BEL	0.268
9	SWE	0.274
10	AUT	0.276
11	NLD	0.281
12	CHE	0.285
13	DEU	0.289
14	HUN	0.289
15	POL	0.298
16	LUX	0.302
17	IRL	0.304
18	FRA	0.306
19	KOR	0.307
20	AUS	0.326
21	ITA	0.327
22	NZL	0.333
23	ESP	0.335
24	PRT	0.338
25	EST	0.338
26	GRC	0.340
27	LVA	0.347
28	GBR	0.351
29	ISR	0.371
30	USA	0.390
31	TUR	0.402
32	MEX	0.457

Source: [OECD 2015].

The average Gini index of the surveyed countries is 0.309, while in Israel it was 0.37 in 2012, i.e. 19% higher than the average. The rate of inequality differs between Israel and Denmark (in the first place) greater by more than 48%. In Mexico, the most unequal country, the Gini index is 0.457. The relationship between Mexico and Denmark is 83%. That is, in relation to Denmark, Mexico has 83% less egalitarian income equality. Israel ranks second among industrialized countries in terms

of the level of inequality in the distribution of disposable income. During the economic crisis in 2008, there was an increase in inequality due to an increase in unemployment. Countries that suffered most during the crisis saw especially severe damage to the lower classes. The Israeli trend of widening gaps is higher than in other Western countries. Compared to the above-mentioned, Israel ranks 29th out of 32 countries, with Denmark being the most equal and Mexico the least equal countries. Many of these inequalities remain wide, and some have widened since the economic crisis. The legacy of the crisis has not fallen equally. The consequences of this will form the backdrop not just to the coming General Election, but also to the way the society and public policies evolve over the years and decades to come [Hills, Cunliffe, Obolenskaya and Karagiannaki, 2015].

4. The gaps trend in Israel

From 1979 to 2013, there was a consistent trend of expansion in gaps in gross income (before taxes and transfer payments). The phenomenon of widening social gaps in the last two decades is characteristic of many developed countries, and is not unique to Israel. This phenomenon is explained mainly by the accelerating process of globalization and the effects of technological and media revolutions.

For any given level of income in a country,

high inequality has a direct, negative effect on welfare. There are good reasons to be interested in inequality and social welfare from the perspective of a comprehensive evaluation of public policies and social programs that go beyond their impact on poverty [Wodon and Yitzhaki 2004]

High taxation on labor creates a negative incentive to work, while a parallel non-taxation of capital gains and interest exacerbates the distortions. Compared to the sharp increase in economic income disparities, the disparities in disposable income have become more stable over time. In 2012, the Gini index for disparities in disposable income. The income after taxes and transfer payment was 0.37. In 1979, the Gini index of inequality in disposable income amounted to approximately 0.32, and in 2013 it increased by 17%. An analysis conducted by the OECD suggests that the most negative impact on the growth associated with inequality is a large gap between low-income earners and the rest of the population. It is emphasized that it does not just concern the lowest decile, but it is a range which includes many low-income families – the four lowest deciles which also include the lower middle class. A gross income household in the upper decile was 50,741 NIS, i.e. 20.6 times higher than the income in the lowest decile (2,458 NIS). The Gini index for inequality in the gross income of households whose heads

Table 2: Gini index of inequality in income distribution among households in 1998 – 2014

Year	The Gini index, before payment transfer and direct taxes	The Gini index after payment transfer and direct taxes	The rate of increase in the Gini index (before and after taxes)
2014	0.4771	0.3706	29%
2013	0.4755	0.3634	31%
2012	0.4891	0.3770	30%
2011	0.4973	0.3794	31%
2010	0.5045	0.3841	31%
2009	0.5099	0.3892	31%
2008	0.5118	0.3853	33%
2007	0.5134	0.3831	34%
2006	0.5237	0.3923	33%
2005	0.5225	0.3878	35%
2004	0.5234	0.3799	38%
2003	0.5265	0.3685	43%
2002	0.5372	0.3679	46%
1999	0.5167	0.3593	44%
1998	0.5230	0.3556	47%

are salaried employees was 0.37.

The Gini index measuring inequality between households by net money income per standard amounted to 0.363 points in 2013. In 2014, the index was 0.3706 points, i.e. 1.9% increase from the previous year. The analysis carried out by the author has decreased by 3.7% in the Gini index (after payment transfer and direct taxes) in 2013 compared to 2012, which means that the income distribution is more equitable economy. There is reduction in

inequality in each year under analysis. An average percentage gap in 1998-2014 was 36%. The Gini index after payment transfer and direct taxes increased by 4%, whereas before payment transfer and direct taxes the Gini index dropped by 9% between 1998-2014.

In 2012, gross revenue household in the upper decile was 20.6 times greater than that of households in the lowest decile. In 2012 the net disposable income of households in the upper decile was 16.4 times higher than household in the lowest decile.

Table 3: Average monthly income deciles of households by net income per standard Israel in 2012

Total	1	2	3	4	5	6	7	8	9	10	NIS, unless otherwise stated
-	3,975	5,991	7,984	10,102	12,466	15,347	18,882	24,027	33,664	-	Upper limit (NIS)
8,742	905	896	849	852	865	877	866	859	884	889	Households in sample
2,270.0	227.1	227.2	227.0	226.8	227.0	227.1	227.0	227.4	226.6	226.8	Households in population (thousands)
2.71	1.85	2.39	2.55	2.67	2.75	2.87	2.89	2.97	3.11	3.09	Average standard persons in a household
1.40	0.29	0.64	0.89	1.16	1.39	1.62	1.75	1.95	2.17	2.18	Average earners in a household
47.2	55.9	51.6	46.9	46.3	44.5	44.3	45.4	44.4	44.9	48.1	Average age of the head of a household
13,829	2,260	4,733	6,532	8,428	10,344	12,522	15,013	18,348	23,097	37,051	Net money income per household
4,199	1,169	1,703	2,135	2,613	3,097	3,535	4,223	4,984	5,880	9,524	Net money income per person
10,751	4,247	5,730	7,244	8,331	9,732	10,842	12,125	13,477	15,489	20,304	Money expenditure per household
3,264	2,197	2,062	2,368	2,583	2,914	3,061	3,411	3,661	3,943	5,219	Money expenditure per person
12,466	2,696	5,050	6,955	9,080	11,201	13,800	16,967	21,304	27,871	43,135	Median of gross money income per household
16,577	2,458	4,998	6,956	9,065	11,232	13,844	17,005	21,336	28,180	50,741	Gross money income - tota

Source: The survey was based on a sample of 8,742 households, representing about 2,700,000 households in the population.

The analysis carried out by the author for the Central Bureau of Statistics in 2012 shows that:

- In 2012, average financial income (gross) for households in Israel was 16,577 NIS, and after compulsory payments the average income (net) was 13,829 NIS
- Net income per household in the upper de-

cile was 16.4 times the income in the lowest decile (37,051 NIS in the highest decile compared with 2,260 NIS in the lowest decile)

- The average gross money income per household a month in 2012 came to 16,577 NIS. Net income of the household in Israel at the end of 2012 was 13,829 NIS. Net standard income per person was 4,199 NIS a month.

5. The solutions for more equal distribution of income

The present study aimed to describe the distribution of income in Israel and provide solutions for a more equal distribution of income. Here are the author's suggestions for solutions. Taxes and other payments reduce the gap between income deciles. Size differences between the highest and lowest deciles in various areas (sorted by size): According to table no. 3, gross disposable income, before taxes and transfer payments (2012) was 20.6. Disposable income, after taxes and transfer payments (2012) was 16.4. The changes in the Gini index before taxes and transfer payments between 1998 – 2014 show that the Gini index decreased from 0.523 in 1999 to 0.4771 in 2014. This means a total decrease of 1%. In other words, there was a small decrease in inequality. The changes in the Gini index after taxes and transfer payments between 1998 – 2014 show that the Gini index increased from 0.3556 in 1998 to 0.3706 in 2014. This means a total increase of 4%. In other words, there was an increase in inequality.

6. Recommendations

There was increased activity in improving access to and the quality of social services: schools, higher education, health and housing, as well as improving the situation of low-income families in the four lowest deciles. Enabling policy in the field of reducing inequality and promoting equal opportunities will also reduce inequality and encourage growth. Employment growth can contribute significantly to improving income equality, where employment conditions are in jobs that offer opportunities for career advancement. In addition, the increase in non-standard employment (non-permanent, part-time, contractor freelance, etc.) creates employment opportunities, but contributes to the growth in inequality. According to the OECD, high levels of inequality in the population hamper economic growth and weaken those on low incomes. Inequality has a significant negative impact on growth. The struggle to reduce inequality in disposable incomes, measures of redistribution, has no negative impact on growth.

Empirical studies show the fact that the increase in inequality measured by the share of the highest income is positively related to the economic growth. While in the case of the overall dispersion of income (measured by the Gini coefficient), the results of empirical studies are inconclusive. There is a positive correlation between the economic growth and the top income

seems to be clearly indicated in subject literature. First, Frank (2009) document a positive long-term relationship between the economic growth and the share of income earners for most American states. The current belief is that income inequality has a negative relationship with the economic growth. Results suggest that in the short and medium term, an increase in the country's level of income inequality has a significant positive relationship with the subsequent economic growth. This relationship is highly robust across the samples, variable definitions, and model specifications. Moreover, several recent papers have developed models that predict a positive relationship between inequality and growth. Acemoglu and Robinson (2015) present the results of studies, showing a positive relationship between the inequalities measured by the participation of people with the highest income in the total income and economic development. Piketty (2015) shows that when growth is lower, the capital share of national income will be higher.

Banerjee and Duflo (2003) show that changes in inequality in any direction (measured by the Gini coefficient) are associated with reduced growth in the next period and that its non-linearity is sufficient to explain why previous estimates of the relationship between the level of inequality and growth are so different from one another.

While the results obtained by Forbes (2000) suggest that, in the short and medium term, an increase in the country's level of income inequality has a significant positive relationship with subsequent economic growth. Wodon and Yitzhaki (2004) show that the negative impact of inequality on growth may result from various factors. For example, access to credit and other resources may be concentrated in the hands of privileged groups, thereby preventing the poor from investing. High-income individuals today have a greater ability to pay taxes than before. Therefore, the governments of Israel have been considering a re-examination of the tax system to ensure that residents increase their share of the tax burden. In addition, work has begun to improve the collection of taxes, closing tax loopholes, eliminating or reducing tax preferences given to relatively high-income earners, and reassessment of the tax burden on all types of assets and income, as well as re-examination of the amount of tax on income from capital.

Despite the high level of inequality in Israel, the tax system is already characterized by a high degree of progressiveness. However, as has been already mentioned, this has declined in the past decade because of the reduction of direct tax rates so that there would not be any

'escape' by the top percentile. The income tax system can provide part of the solution, in the guise of higher taxation on people with this income and better balance between taxation of capital and taxation on work. The tax system must be sensitive to the groups of population upon whom the economic burden is especially heavy. The reduction of tax rates harms the progressiveness of the tax system and is expected to increase the social gaps (relative to the situation before the reduction). However, it is reasonable to suggest that the reduction of tax in the past positively influenced growth, but this influence steadily weakens as the tax rate decreases. The tax rates in Israel at the average and high levels are no higher than what is accepted in the OECD, and therefore, the competitive logic that is behind their reduction is lessened. Moreover, competitiveness is not just summed up by low tax rates. A competitive economy is also measured by the nature of the educational system, the level of civilian infrastructure, the support of research and development, quality medicine, and so on. The continuation of the implementation of tax cuts in the present situation will cause significant harm to public expenditure in the near future, which is already at low levels today compared to other developed countries. The continuation of this burnout will harm the government's ability to provide these services at an appropriate level. Aside from the most severe social implications that entail the increase in inequality and economic polarization, this burnout will sooner or later harm the growth potential of the economy. Every solution to this problem will necessitate the use of budgetary funds, which is not commensurate with the additional reduction in taxation. These funds can also come from an increase in indirect taxes (primarily VAT). However, as mentioned earlier, the weight of these obligations in the overall tax system is already high. Therefore, regarding the cancellation of the expected reductions, which focus on direct taxes, if and when the Israeli economy embarks on the path of accelerated fiscal growth, it will be possible to re-examine the policy of the reduction in taxes. It is suggested that this may be done by balancing the goals of the process and the manner of its implementation on the

one hand, and the influences on the distribution of income in the economy and the need to increase the weight of public expenditure on the other.

The increase in income tax on high income (the increase of the income tax rate at the highest tax level) should return to a more progressive rate for income tax, with increases in the margins of tax rates up to a top rate of 65%, accompanied by broadening of the tax base. The income tax system should be progressive and it should reduce inequality [Atkinson 2015]. As a rule, the present tax levels are correct in terms of the level of progressiveness of the tax system and in terms of their influence on incentives to work. However, an adjustment in the top tax level should be made, so that effectively, another tax level will be created, commencing from an income of 40,231 shekels a month. This taxation adjustment will be a compromise between the desire to increase the degree of progressiveness of the direct tax system and the fear of the creation of tax distortions and negative financial incentives, which can derive from the determination of high marginal tax, especially on those with high incomes. The increase in the income of the state from the increase of the high tax level is estimated at about 0.8 billion shekels a year. Tax evasion influences financial efficiency and equality in the distribution of income. The tax regime in the United States evaluates that the rate of tax evasion amounts to 15% of the population obliged to pay tax. In 1993, the marginal tax rate in the United States was raised to 36% for income ranging \$140,000-250,000 and to 39.6% for income above \$250,000 a year.

Feldstein and Feenberg have examined the impact of this step on a number of factors, including the scope of the taxable income, the volume of tax revenues, and economic efficiency. The findings indicate that without the increase in tax rates, those with high incomes would report taxable income in 1993 with a sum higher by 7.8% than the sum reported in actuality. Therefore, it was found that the social loss from the increase of the marginal tax rate is double the sum of tax charged, i.e. 8 billion dollars [Slemrod 1989].

References

- Abhijit V. Esther D., 2003, *Inequality and Growth: What Can the Data Say?* Department of Economics, MIT.
- Assaf R and Efraim S., 1995, *Disinflation and Taxation: the Case of Israel* Eitan Berglas School of Economics, Tel Aviv University, Tel Aviv 69978 Israel.
- Atkinson, A., 1973, *How progressive should income tax be?*, in: Parkin, M. and Nobay, A. R. (eds.) *Essays in Modern Economics*, Longman, London, pp. 90–109.
- Atkinson, B., Piketty, T., Saez, E., 2015, *Top Incomes in the Long Run of History*, Publishing House, city (f. ex. New York).
- Bargain, O., Dolls, M., Immervoll, H., Neumann, D., Peichl, A., Pestel, N., Siegloch, S., 2011, *Tax Policy and Income Inequality in the US, 1978–2009: A Decomposition Approach*. IZA Discussion Paper Series No. 5910, Germany.
- Bird, R.M., Zolt, E. M., 2005, *The Limited Role of the Personal Income Tax in Developing Countries*, Journal of Asian Economics, 16, pp. 928–46.
- Bucheli, M., Lustig, N., Rossi, M., Ambile, F., 2014, *Social Spending, Taxes, and Income Redistribution in Uruguay*, Public Finance Review, 42 (3), pp. 413–433.
- Central Bureau of Statistics, Israel.
- Dahan, M., Strawczynski, M., 2012, *The Optimal Asymptotic Income Tax Rate*, Journal of Public Economic Theory vol. 14., pp. 737–55.
- Daron A. James A. Robinson A. J., 2015, *The Rise and Decline of General Laws of Capitalism*, National Bureau Of Economic Research Cambridge.
- Forbes J. K., 2000, *A Reassessment of The Relationship Between Inequality and Growth*.
- Hills, J., Cunliffe, J., Obolenskaya, P., Karagiannaki, E., 2015, *The Changing Structure of Inequality in the UK, 2007–2013*, CASE Social Policy in a Cold Climate Report 5, London School of Economics.
- Kakwani, N., 1984, *On the Measurement of Tax Progressivity and Redistribution Effect of Taxes with Applications to Horizontal and Vertical Equity*, Advances in Econometrics, 3, pp. 149–168.
- Kenway, P., Aldridge, H., Born, 2015, *What happened to poverty under the Coalition?* New Policy Institute
- Kesselman, J. R., Cheung, R., 2004, *Tax Incidence, Progressivity, and Inequality in Canada*, Canadian Tax Journal, 52 (3), pp. 2709–2732.
- Ma, G., Xu, J., Li, S., 2014, *The Income Redistribution Effect of China's Personal Income Tax: What the Micro-Data Say*. Contemporary Economic Policy, 33 (3), July, pp.488–498.
- Ministry of Finance, Israel.
- National Insurance Institute of Israel.
- Organization for Economic Cooperation and Development (OECD), 2011, *Divided We Stand: Why Inequality Keeps Rising*, OECD Publishing.
- Piketty, T., Qian, N., 2009, *Income Inequality and Progressive Income Taxation in China and India 1986–2015*, American Economic Journal: Applied Economics, 1 (2), pp.53–63.
- Schröder, C., Bönke, T., 2012, *Country Inequality Rankings and Conversion Scheme*.
- Slemrod, J. B., 1989, *Are Estimated Tax Elasticities Really Just Tax Evasion Elasticities? The Case of Charitable Contributions*, NBER Working Paper No. 2733, October 1988, and Review of Economics and Statistics, 71 (3) (August), pp. 517–22.
- The American Economic Review, pp. 869 - 887
- Tinbergen J., 1975, *Income distribution*, North-Holland
- Turley G., 2005, *Transition, Taxation and the State*, Ashgate Publishing, Ltd.
- Vito T., 1969, *The Individual Income Tax and Economic Growth*. Johns Hopkins University Press
- Wodon, Q., Yitzhaki, S., 2004, *Inequality and Social Welfare*, from PRSP Sourcebook.
- Yitzhaki, S., 1994, *On the Progressivity of Commodity Taxation*.

