

**Herzliya Conference 2017**

# **The Herzliya Indices**

**National Security Balance  
The Civilian Quantitative Dimension**

**Prof. Rafi Melnick, IDC Herzliya**

# Herzliya Indices Team

## Team Leader

**Prof. Rafi Melnick**

## Team Members

**Mr. Tommy Steiner**

**Dr. Maoz Rosenthal**

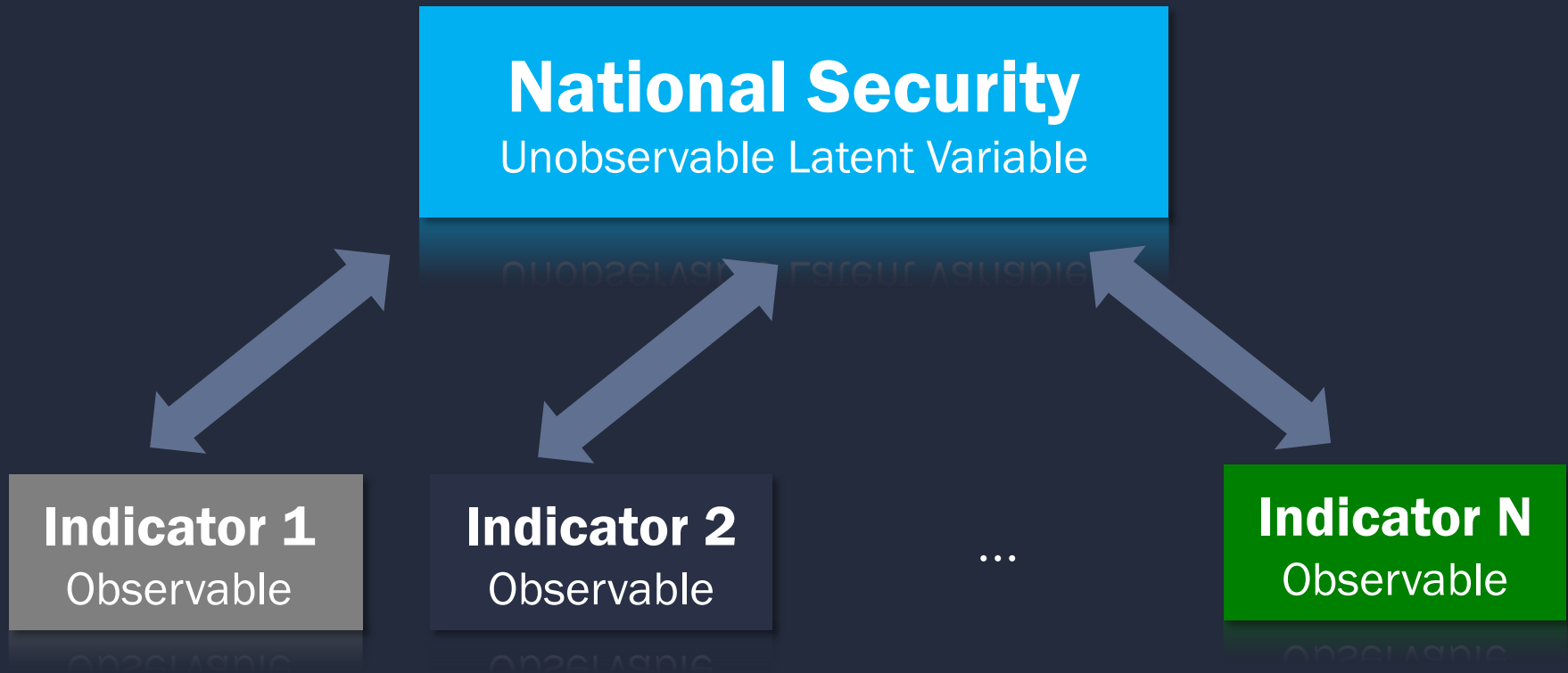
## Research Assistants

**Mr. Gilad Skutelsky**

**Ms. Naama Strul**

# Methodological description

## Multiple Indicators Approach



- N indicators are measurable; they affect and are affected by national security, which is an unobservable latent variable.
- The presence of multiple indicators allows (under defined assumptions) one to quantify national security.
- A rise in each indicator means improvement in national security, in the corresponding dimension.

# The Model

- Construction of a panel data set of 27 countries
- The model includes:
  - Israel
  - 26 OECD countries
- Data ranges from 1990 through 2014-2016

# Economic Data Resources

## Primary Sources

- OECD Statistics
- OECD Economic Outlook
- Israel's National Insurance institute - Research and Planning Administration
- Israel's Central Bureau of Statistics
- The Democracy Barometer – **New\***

## Secondary Sources

- IFS – International Financial Statistics (IMF)
- IMF – World Economic Outlook
- Bank of Israel and various central banks
- Other sources

\* Project based in WZB, Berlin Social Science Center

# Methodology

- \* A preliminary base is calibrated.
- \* Each variable is measured in percentage change or percentage difference in the case that its basic measurement is in percents.
- \* An annual weighted average is calculated using the weights obtained from a panel of experts.
- \* The indices are formed, over time, by cumulating annual weighted averages.

# **The Herzliya Indices Economic Dimension**

**2016 RESULTS**

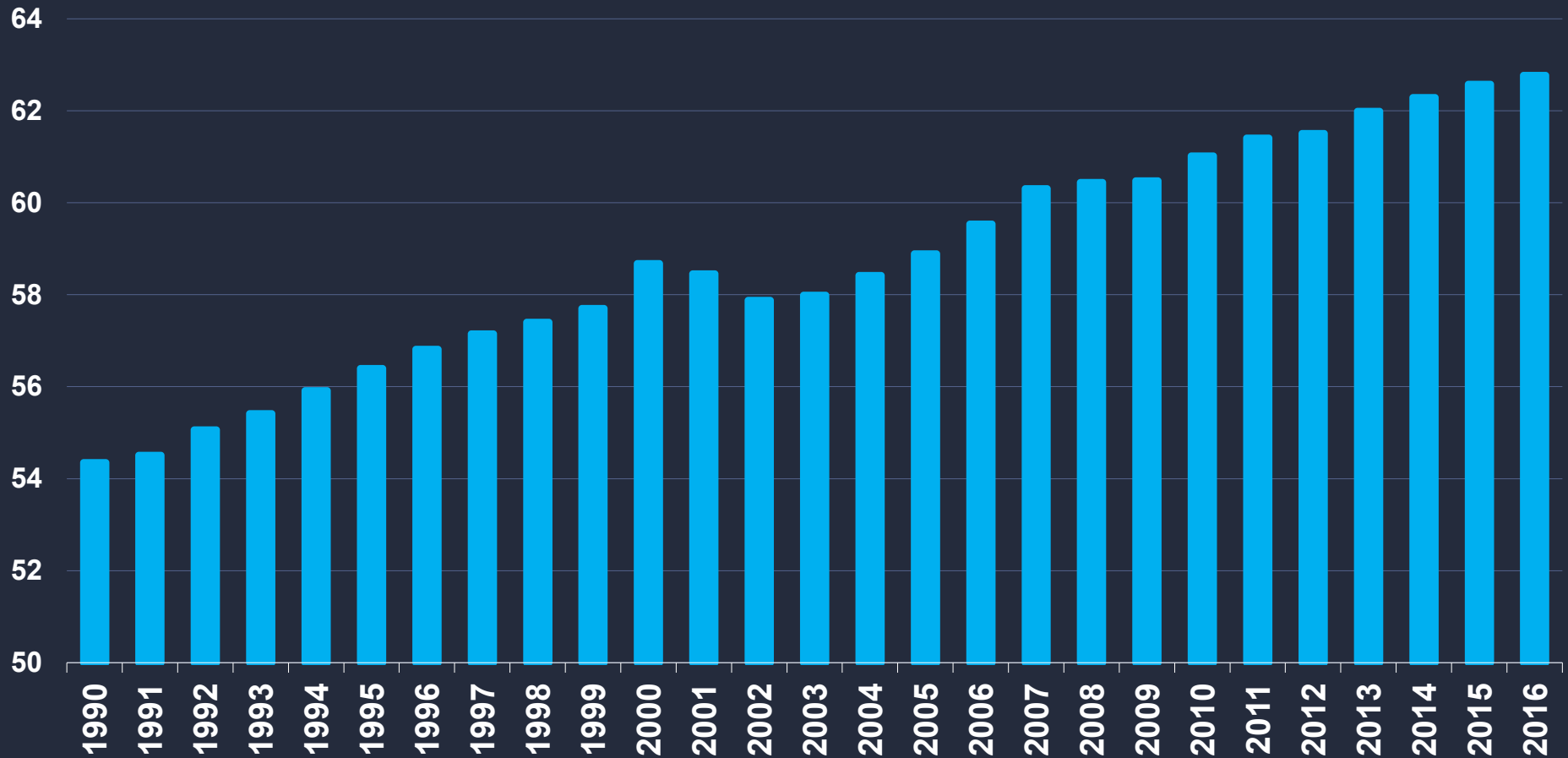
# Components of the Economic Indicator

(Relative Weight in Parenthesis)

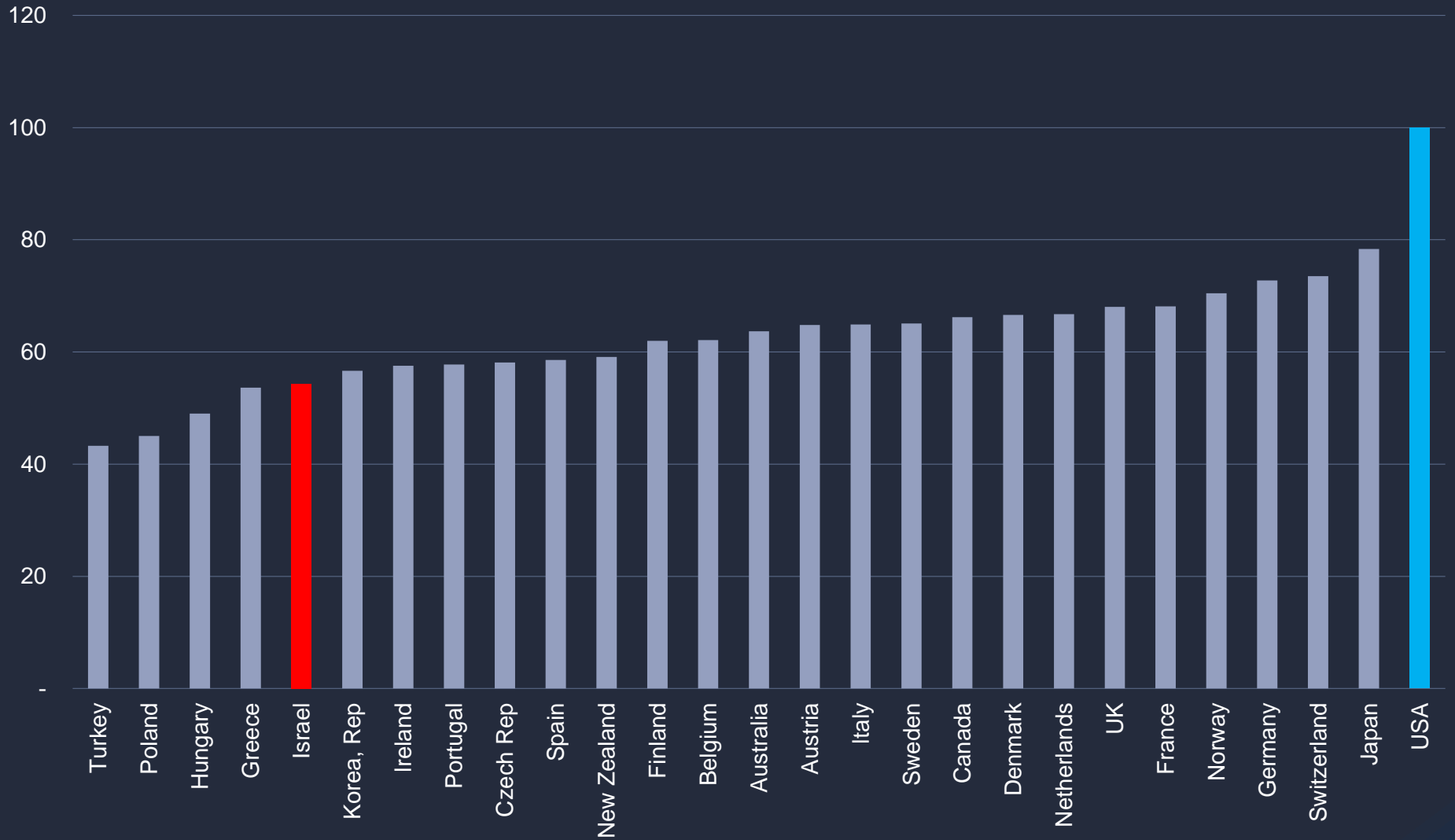
1. GDP Per Capita, PPP (16%)
2. GDP, PPP (15%)
3. Unemployment (15%)
4. General Government Gross Financial Liabilities (half weight 11%)
5. R&D Investment - Percent of GDP (11%)
6. Current Account Balance (11%)
7. Inflation (11%)
8. Long Term interest rate (5%)
9. Fiscal Deficit (5%)



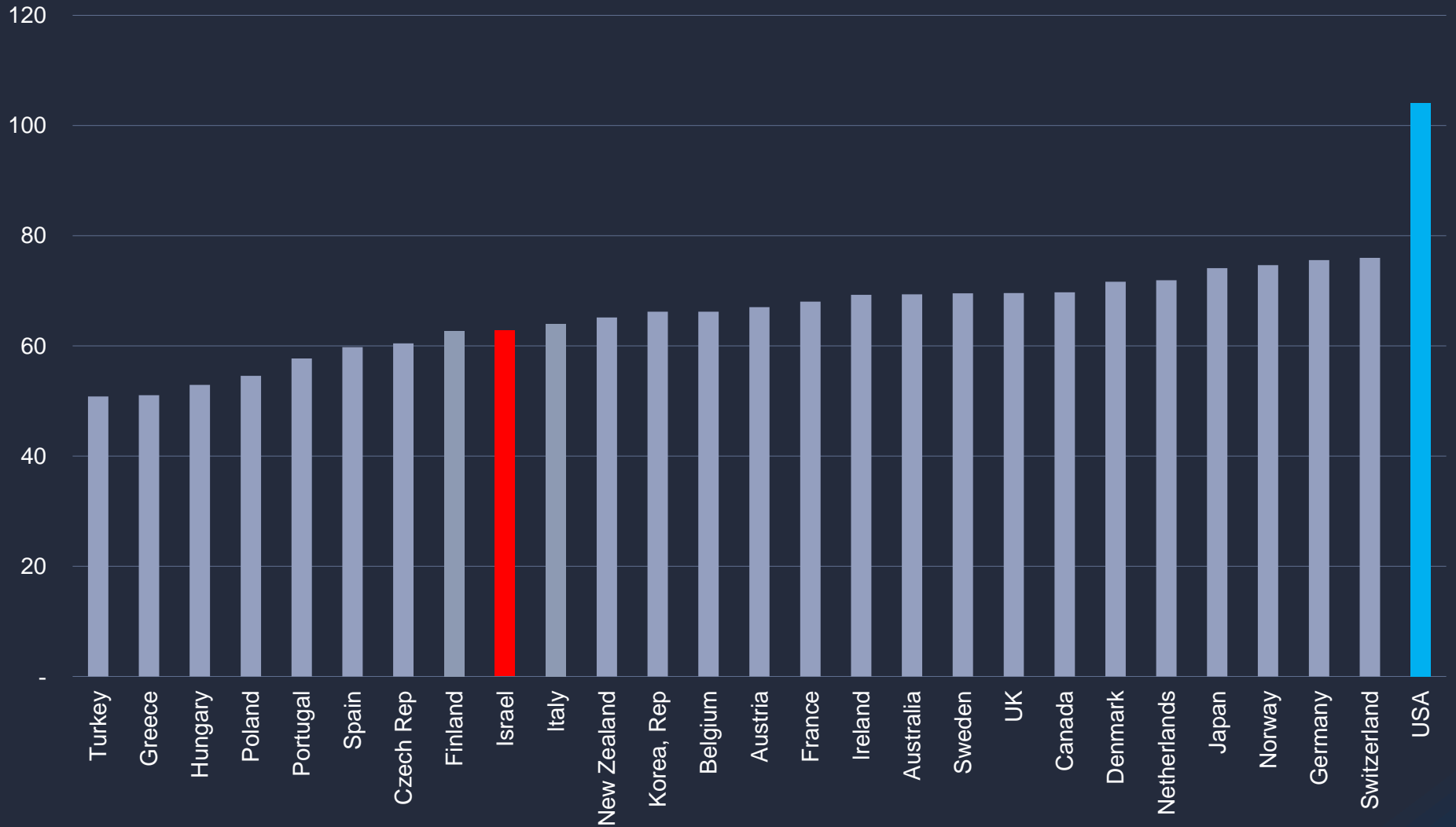
# Development of the Economic Dimension in Israel 1990-2016



# Economic Base - 1990

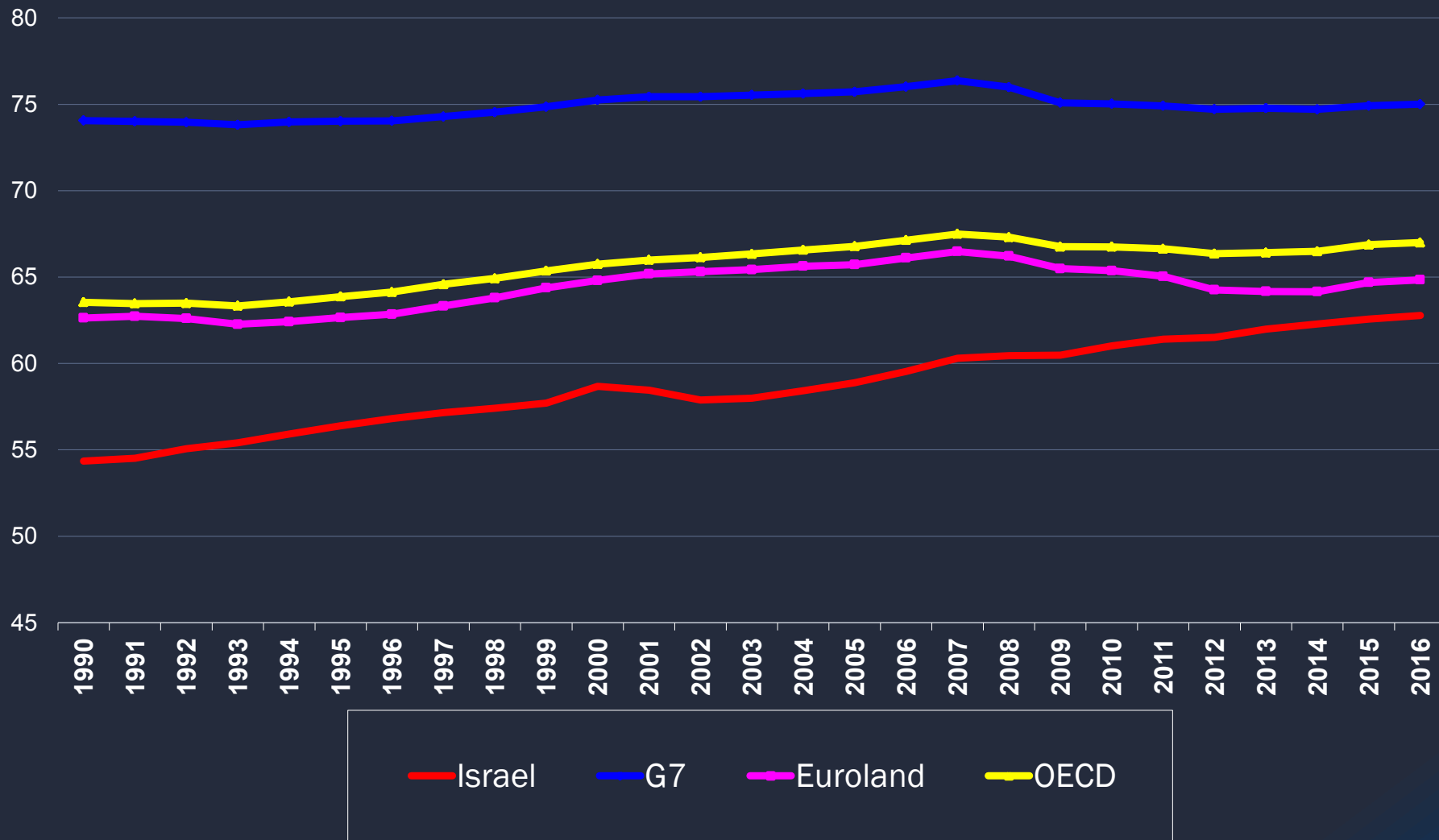


# Economic Base - 2016



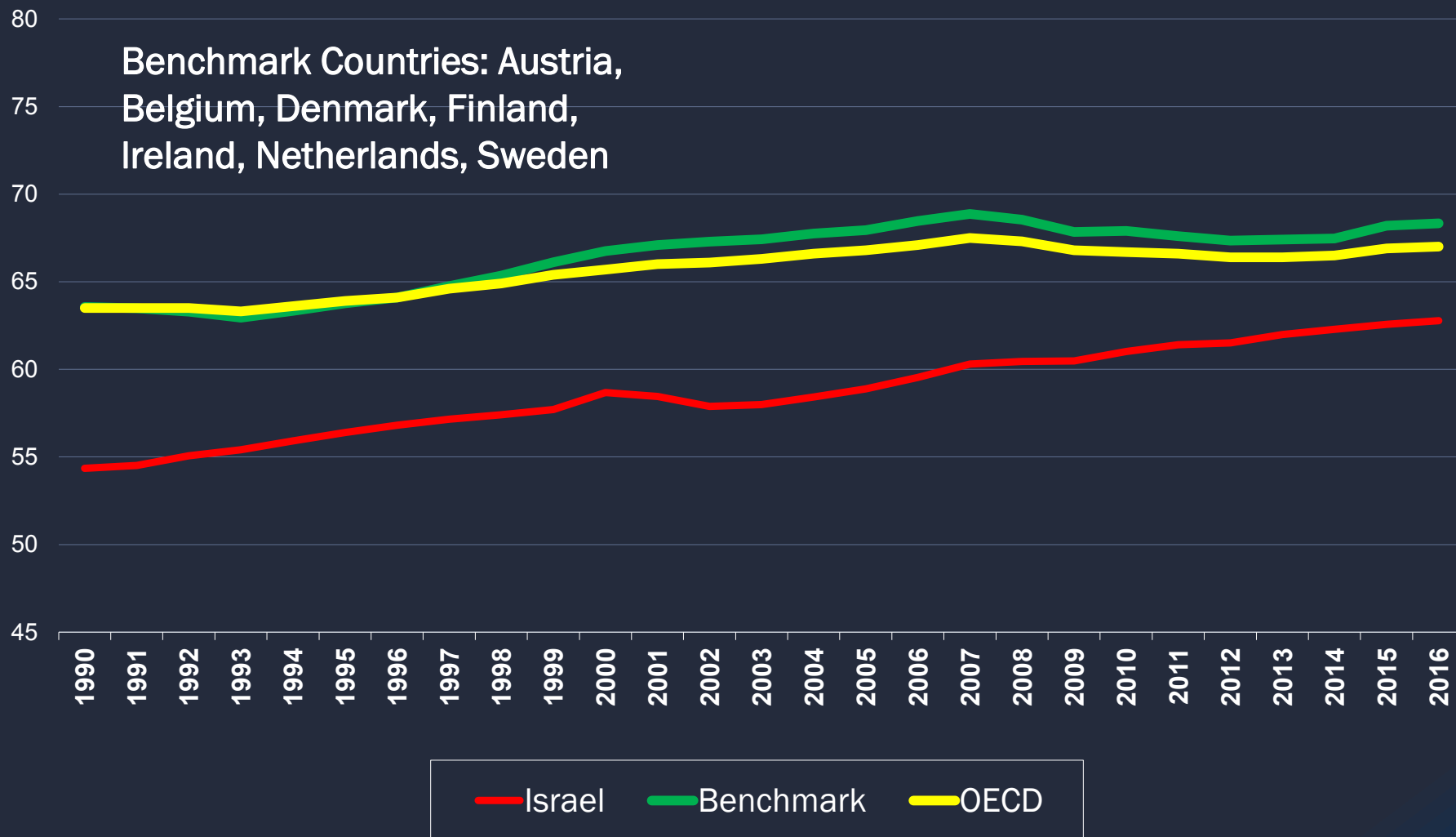
# Development of the Economic Dimension

Israel and the Developed Countries

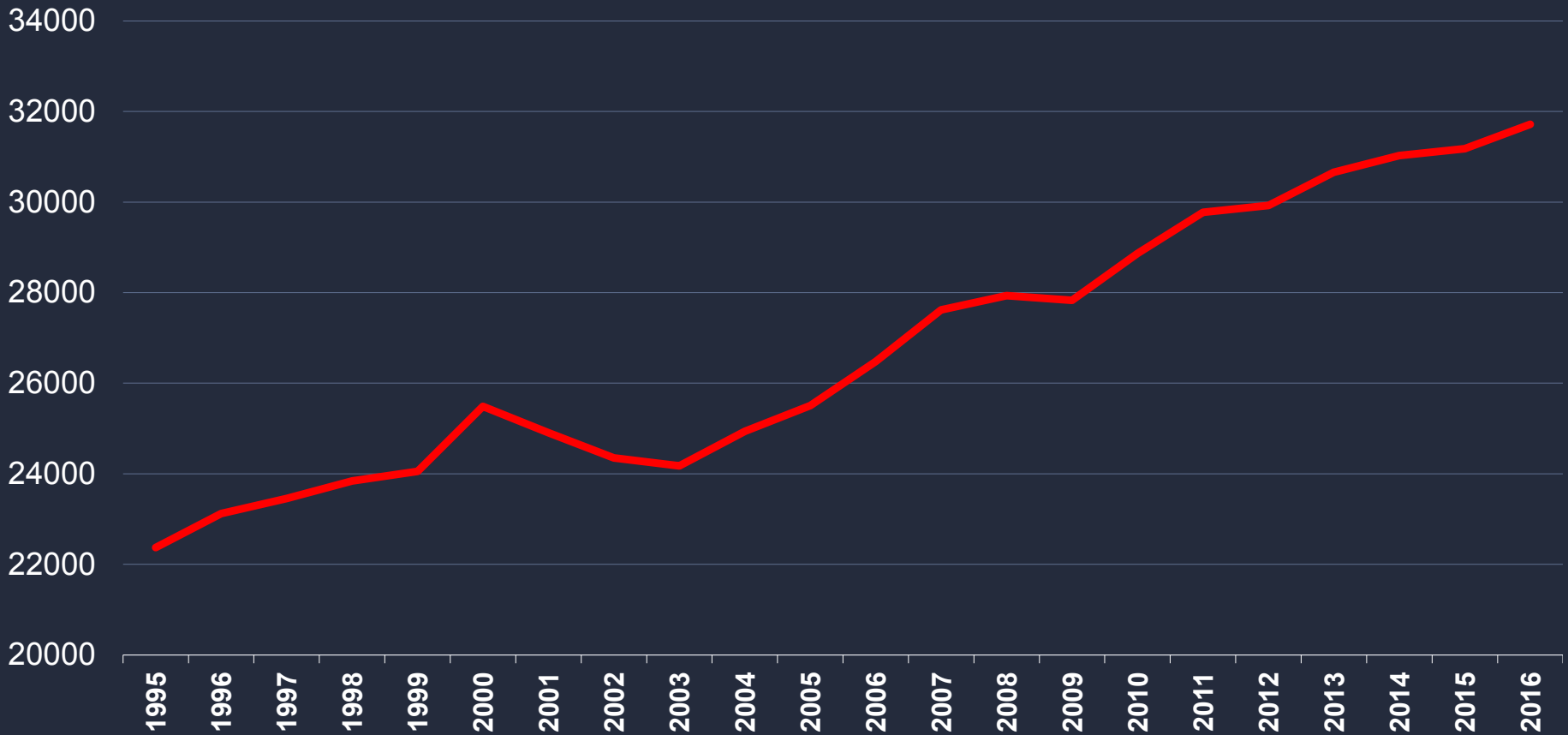


# Development of the Economic Dimension

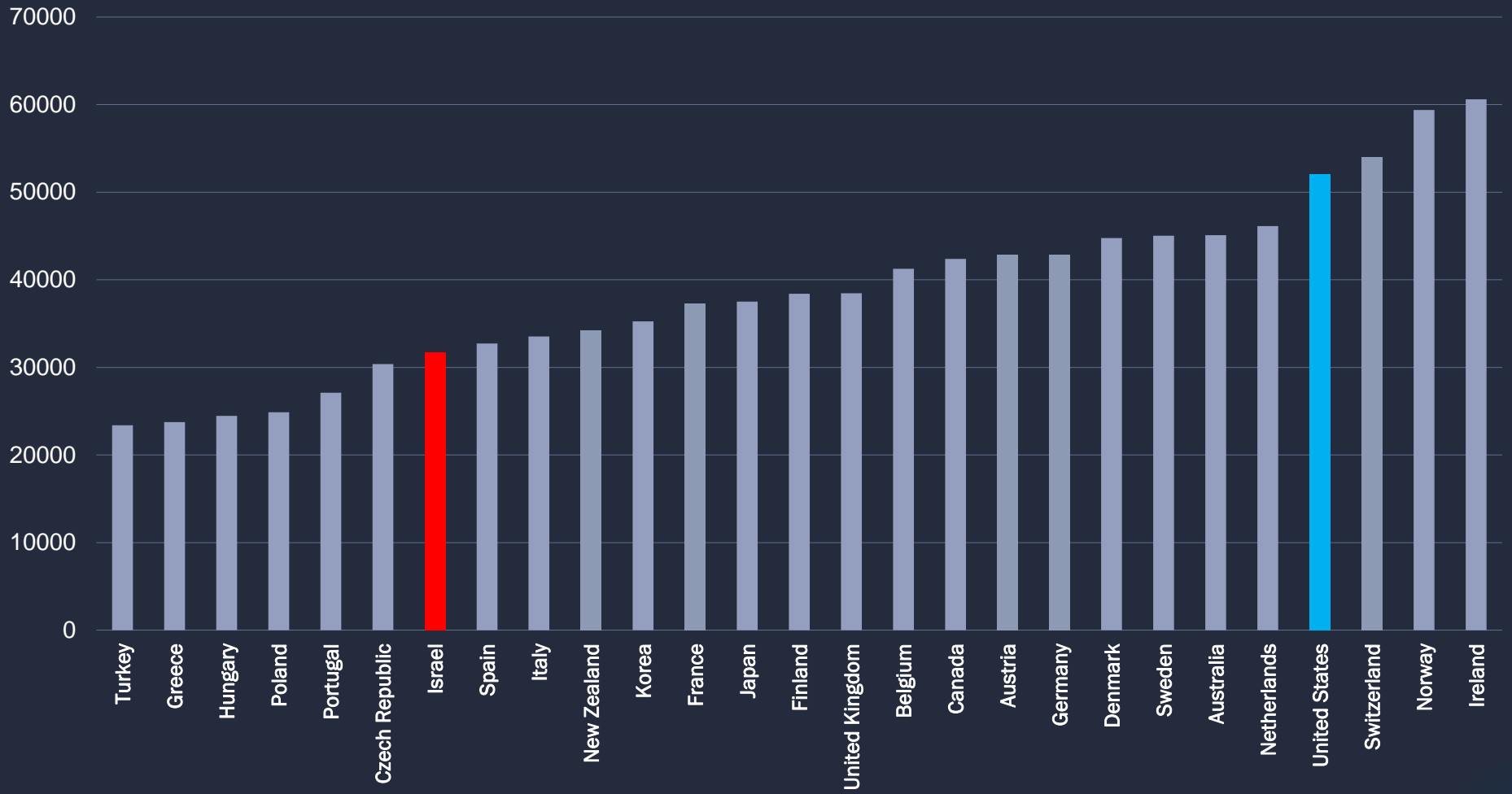
Israel and the Benchmark Countries



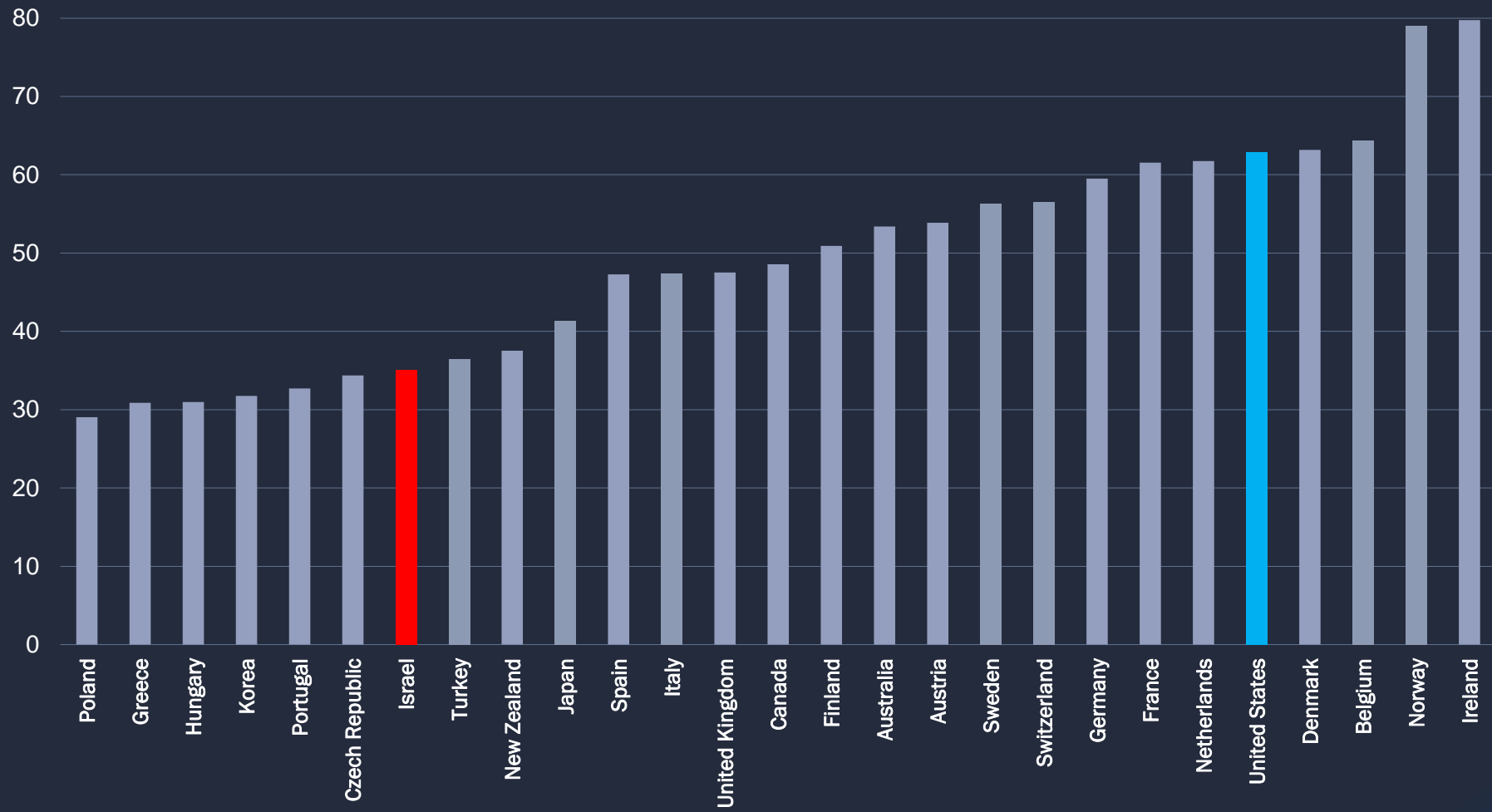
# GDP per capita in Israel 1995 - 2016



# GDP per capita - 2016



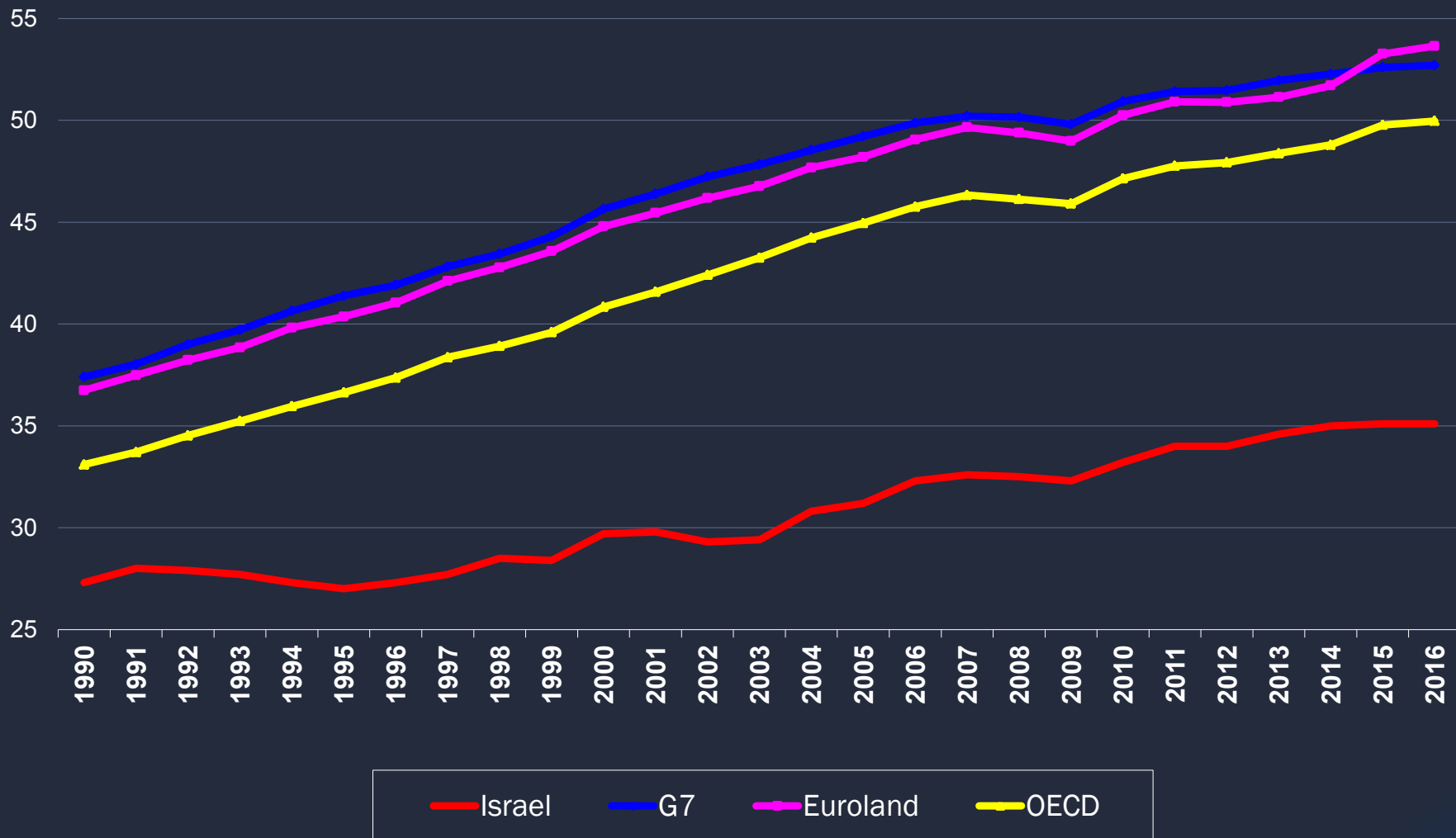
# Productivity - GDP per Hour - 2016





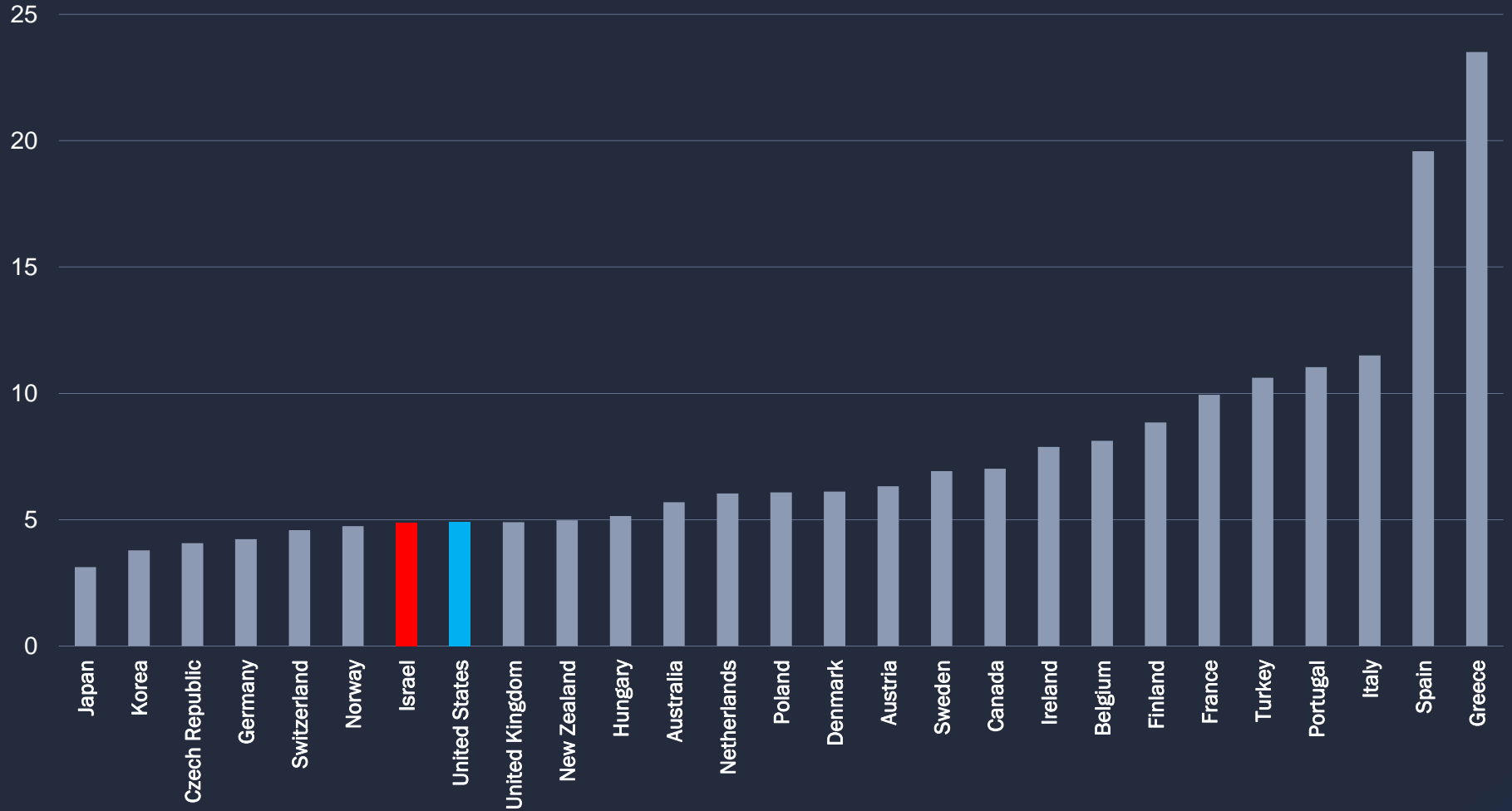
# Productivity - GDP per Hour 1990-2016

Israel and the Developed Countries



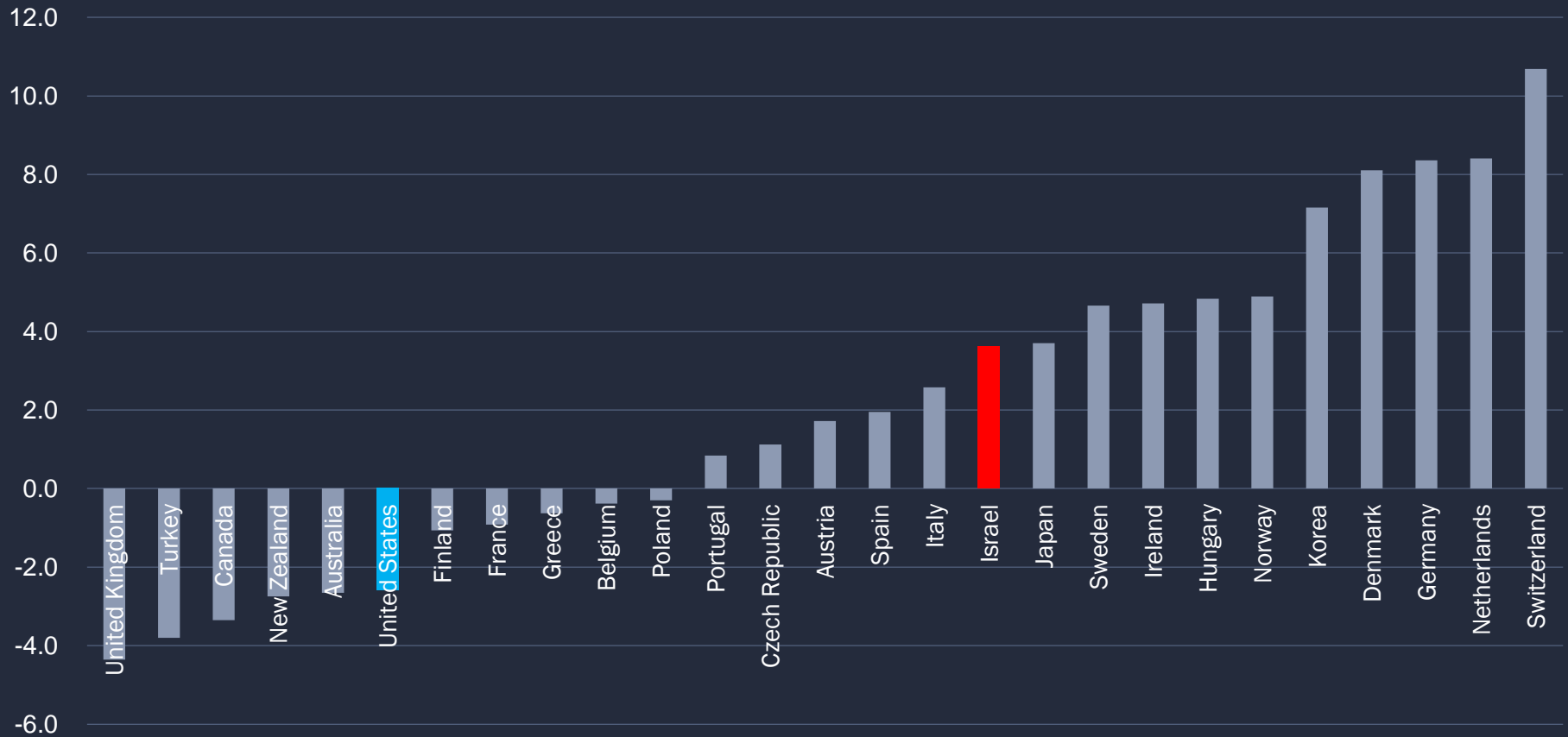
# Unemployment Rate - 2016

(percent)



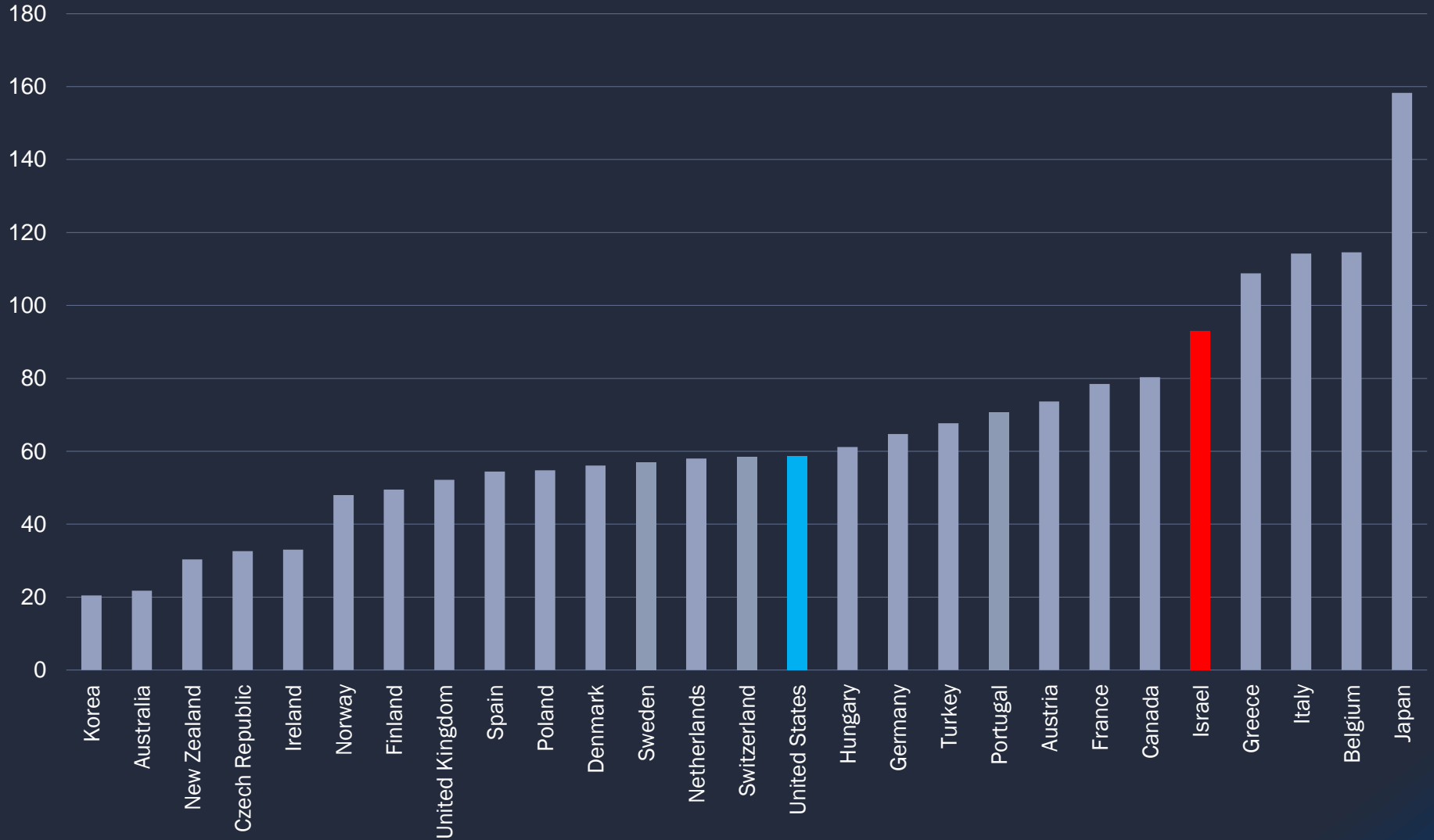
# Current account balance - 2016

(percent of GDP)



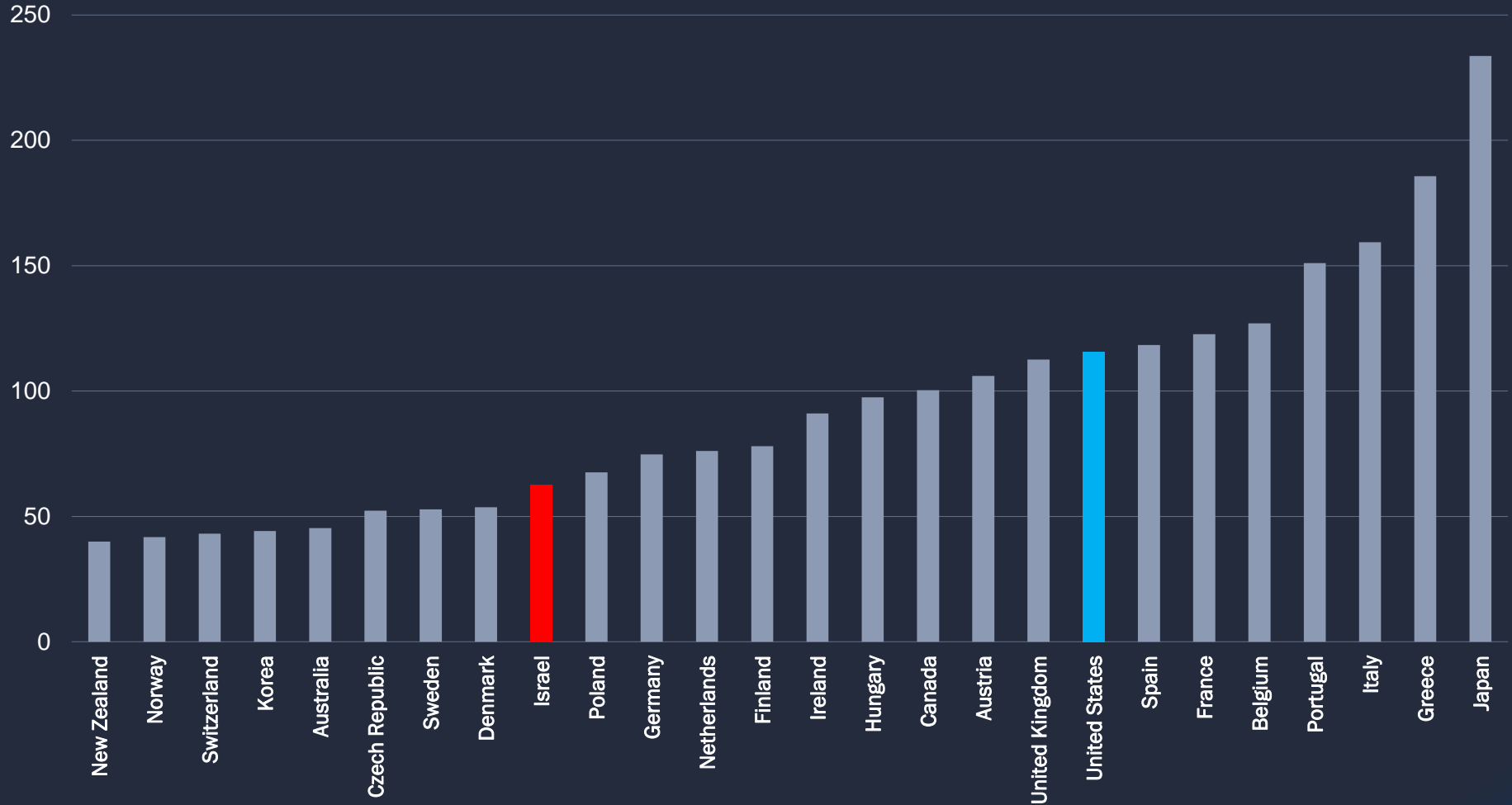
# General Government Liabilities - 2003

(percent of GDP)



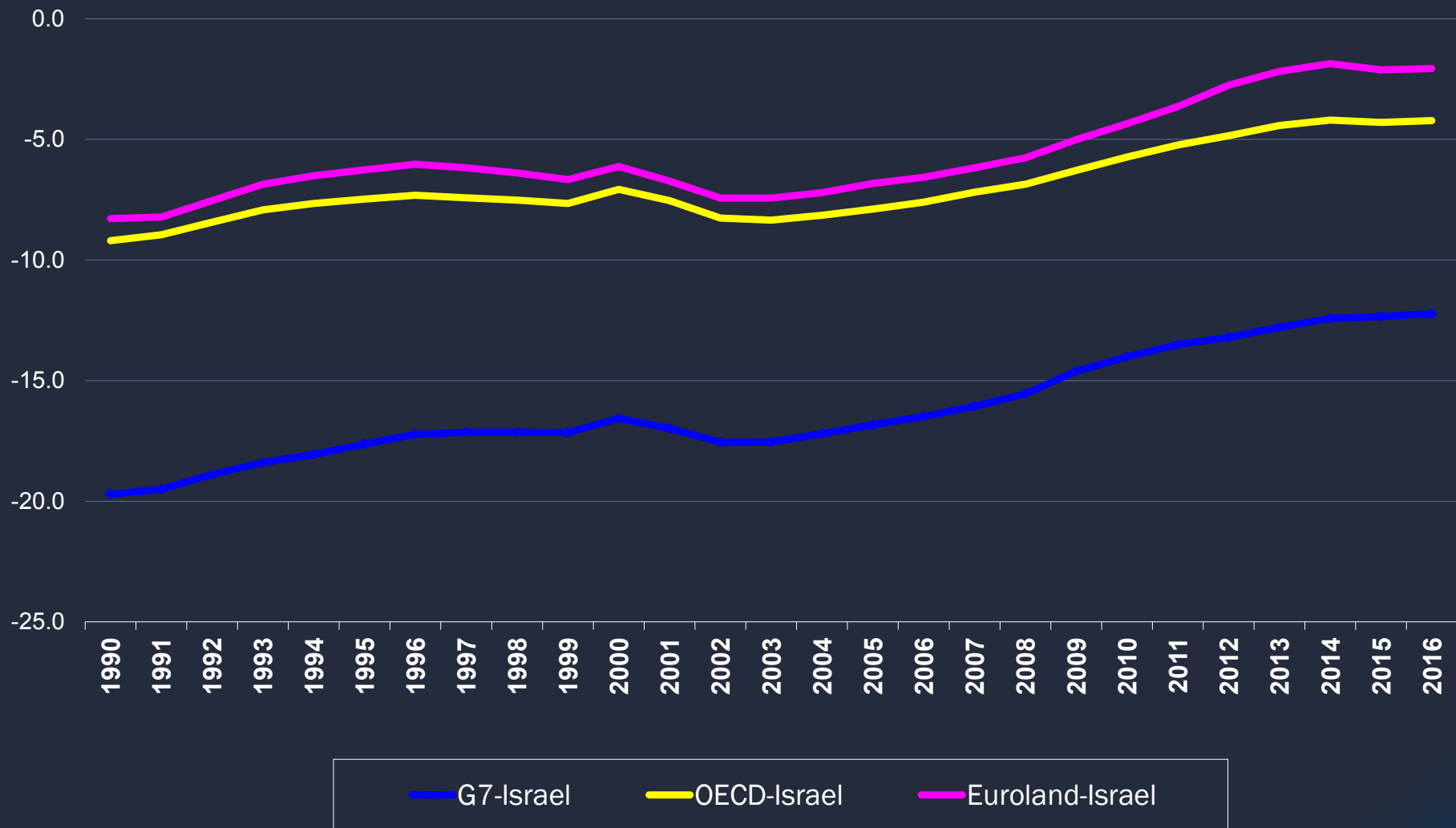
# General Government Liabilities - 2016

(percent of GDP)



# Economic Dimension Gap

Israel and the Developed Countries



# Economic Index 2016

1	USA	104.07	17	New Zealand	65.14
2	Switzerland	75.96	18	Italy	63.99
3	Germany	75.57	19	Israel	62.77
4	Norway	74.64	20	Finland	62.74
5	Japan	74.09	21	Czech Rep	60.44
6	Netherlands	71.89	22	Spain	59.75
7	Denmark	71.66	23	Portugal	57.72
8	Canada	69.70	24	Poland	54.56
9	UK	69.56	25	Hungary	52.93
10	Sweden	69.56	26	Greece	51.03
11	Australia	69.37	27	Turkey	50.82
12	Ireland	69.25			
13	France	68.03			
14	Austria	67.01			
15	Belgium	66.21			
16	Korea, Rep	66.20			

# **The Herzliya Composite Economic Social Index**

**2016 RESULTS**



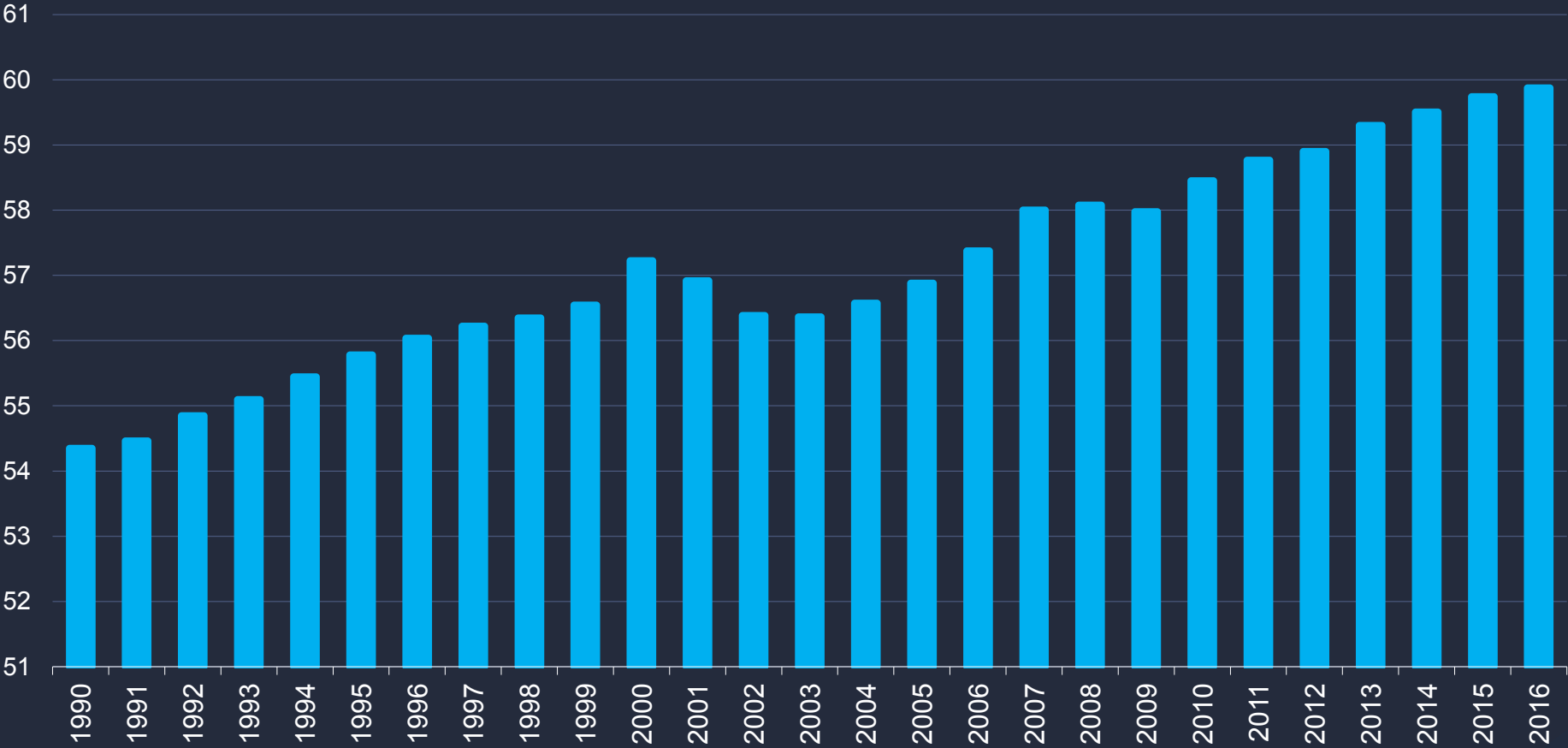
# Components of the Economic-Social Indicator

(Relative Weight in Parenthesis, Social indicators in yellow)

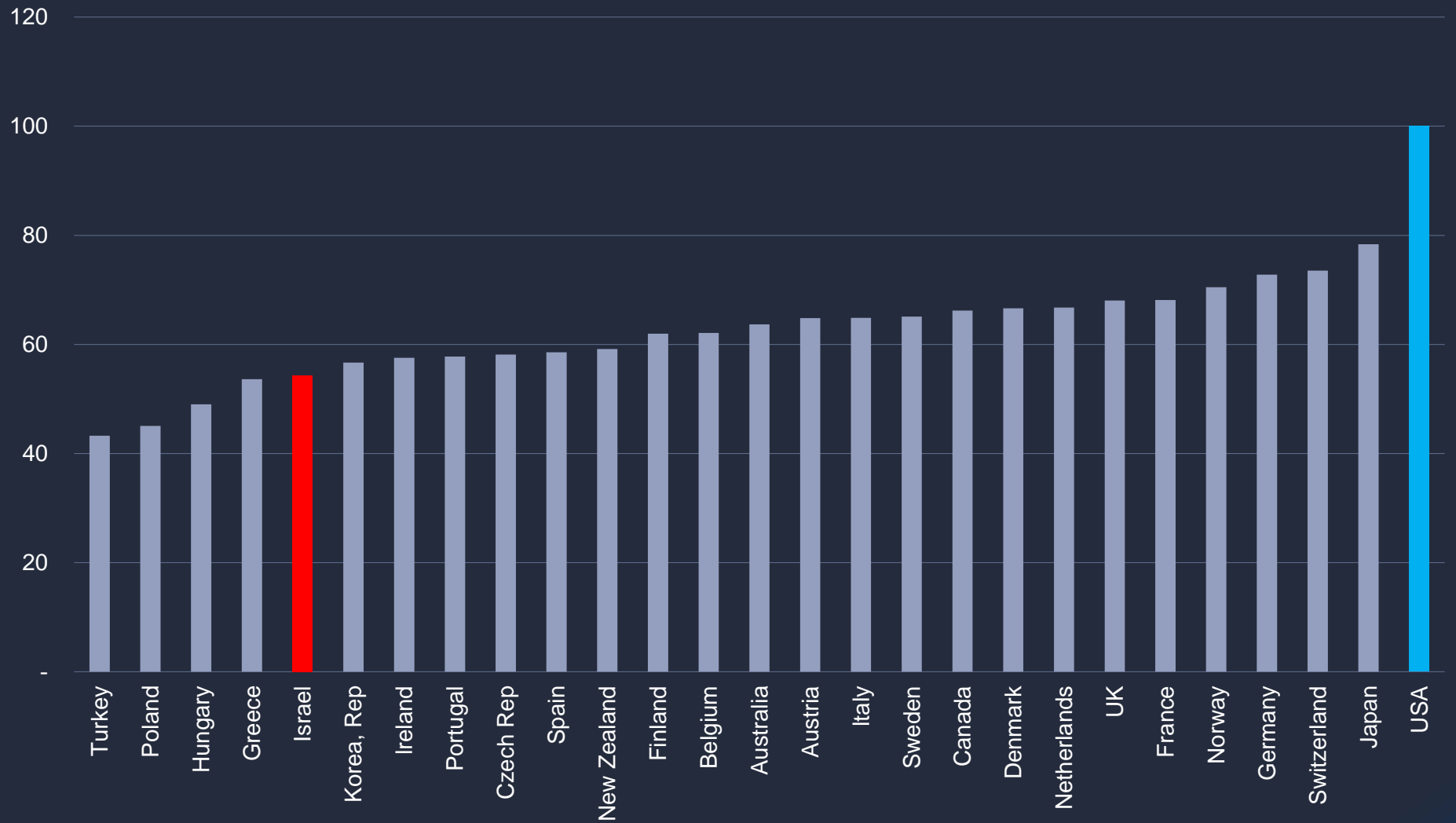
1. GDP Per Capita, PPP (11%)
2. GDP, PPP (10%)
3. Unemployment (10%)
4. Poverty Incidence (10%)
5. Inequality Gini (8%)
6. General Government Gross Financial Liabilities (8%)
7. R&D Investment - % of GDP (8%)
8. Current Account Balance (8%)
9. Long Term Unemployment (7%)
10. Employment Rate (7%)
11. Inflation (7%)
12. Long Term Interest Rate (3%)
13. Fiscal Deficit (3%)

# Development of the Economic and Social Dimension in Israel

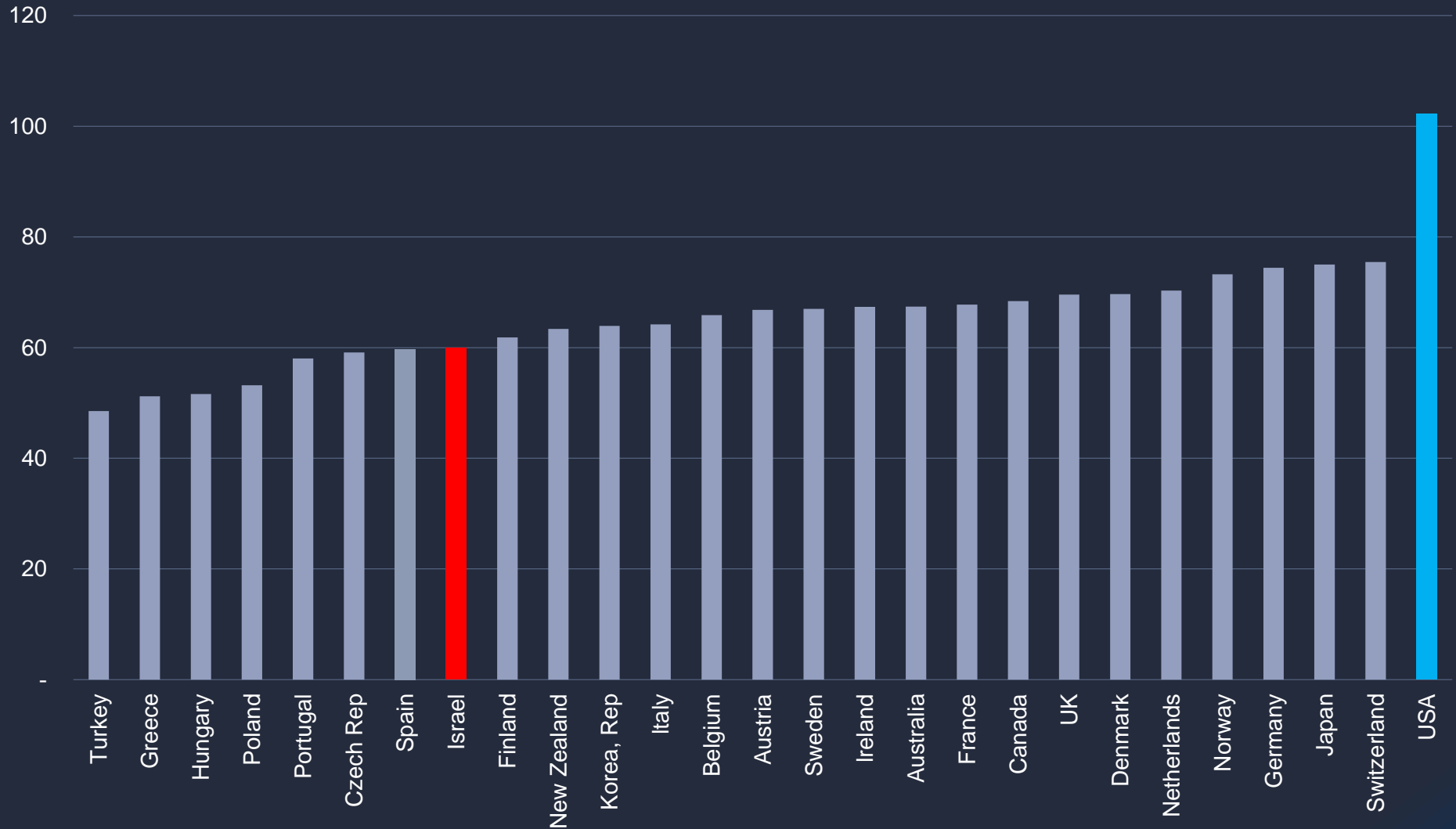
1990 - 2016



# Economic Social Base - 1990

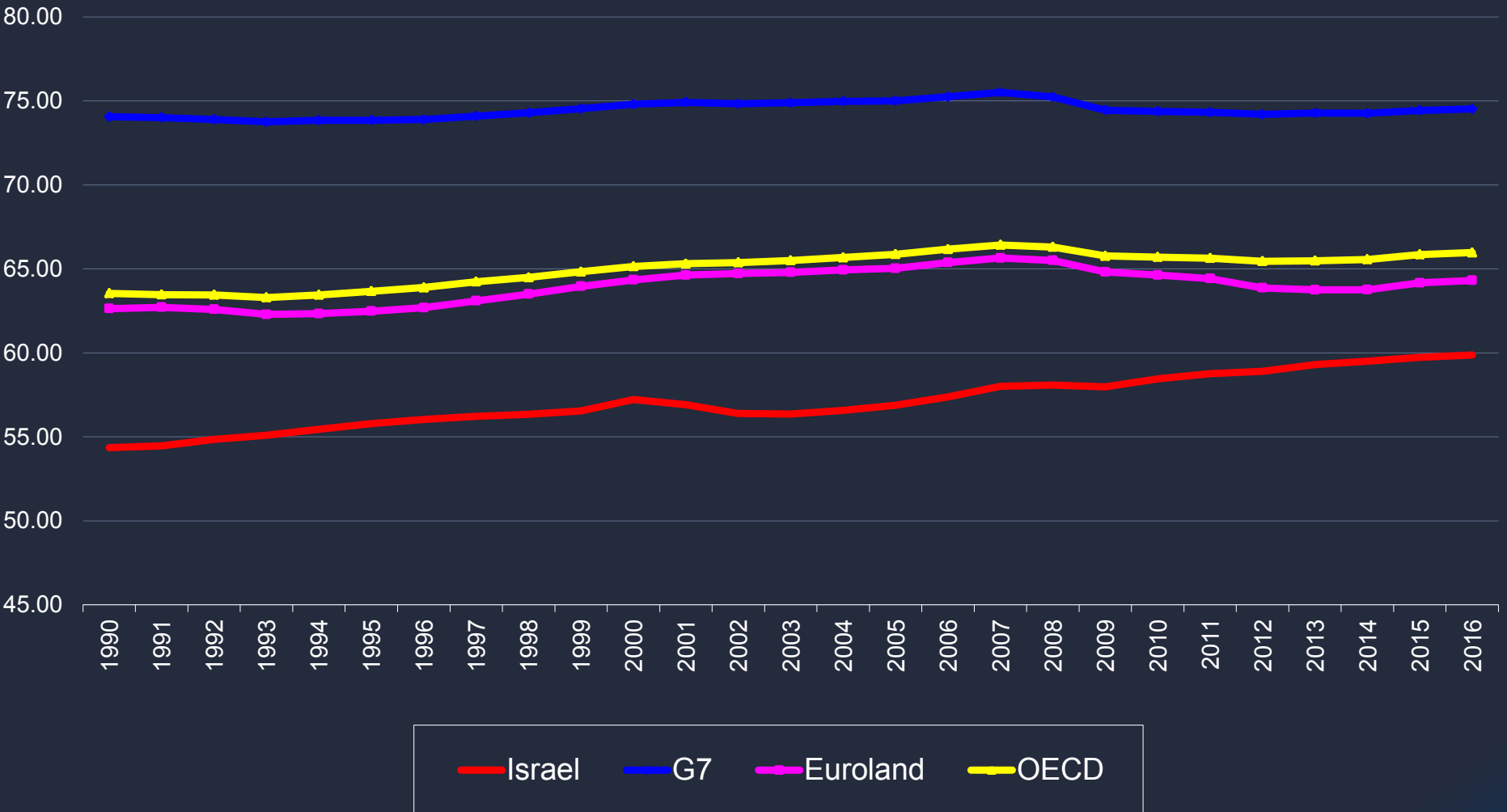


# Economic Social Base - 2016



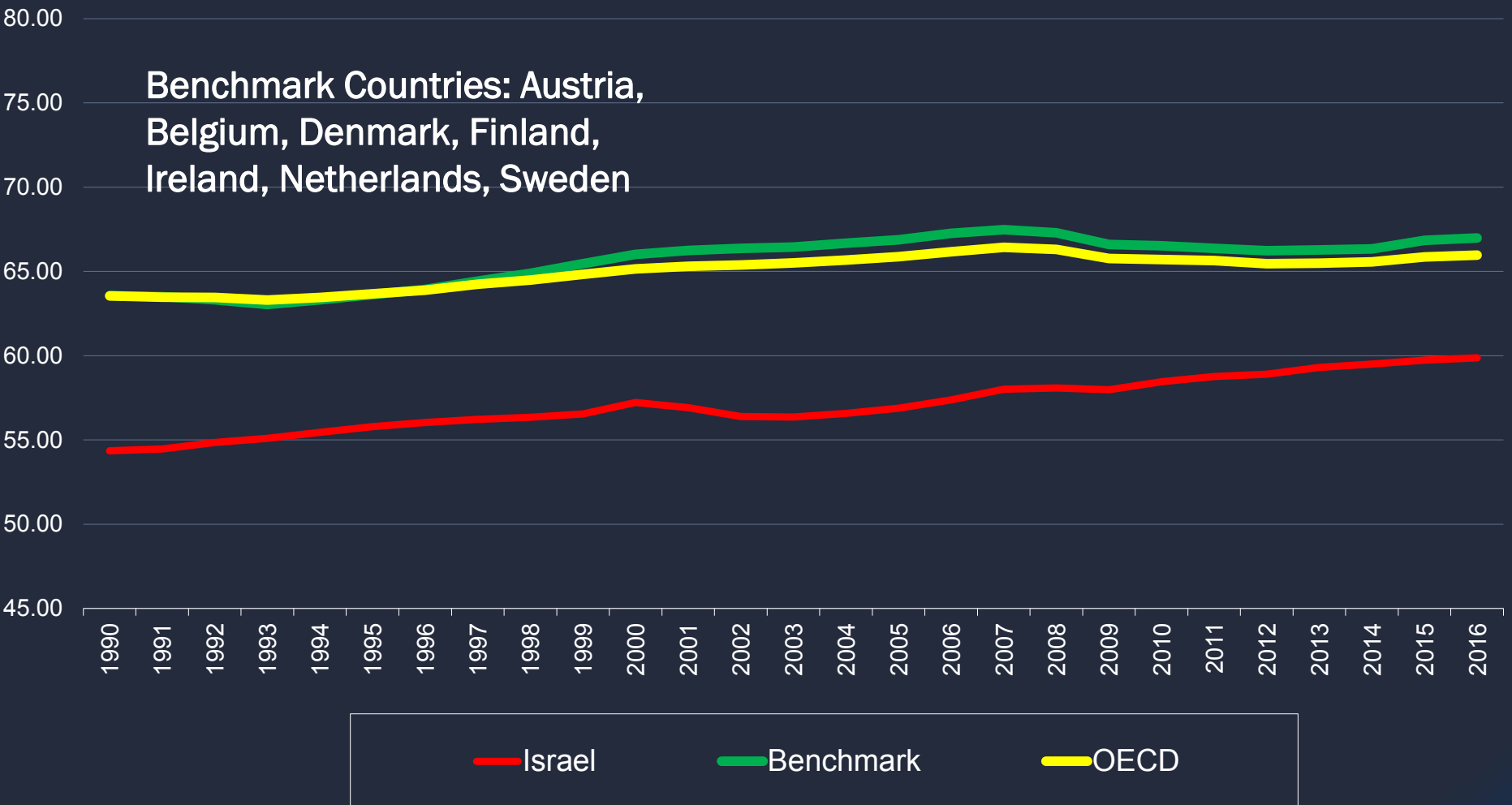
# Development of the Economic Social Dimension

Israel and the Developed Countries



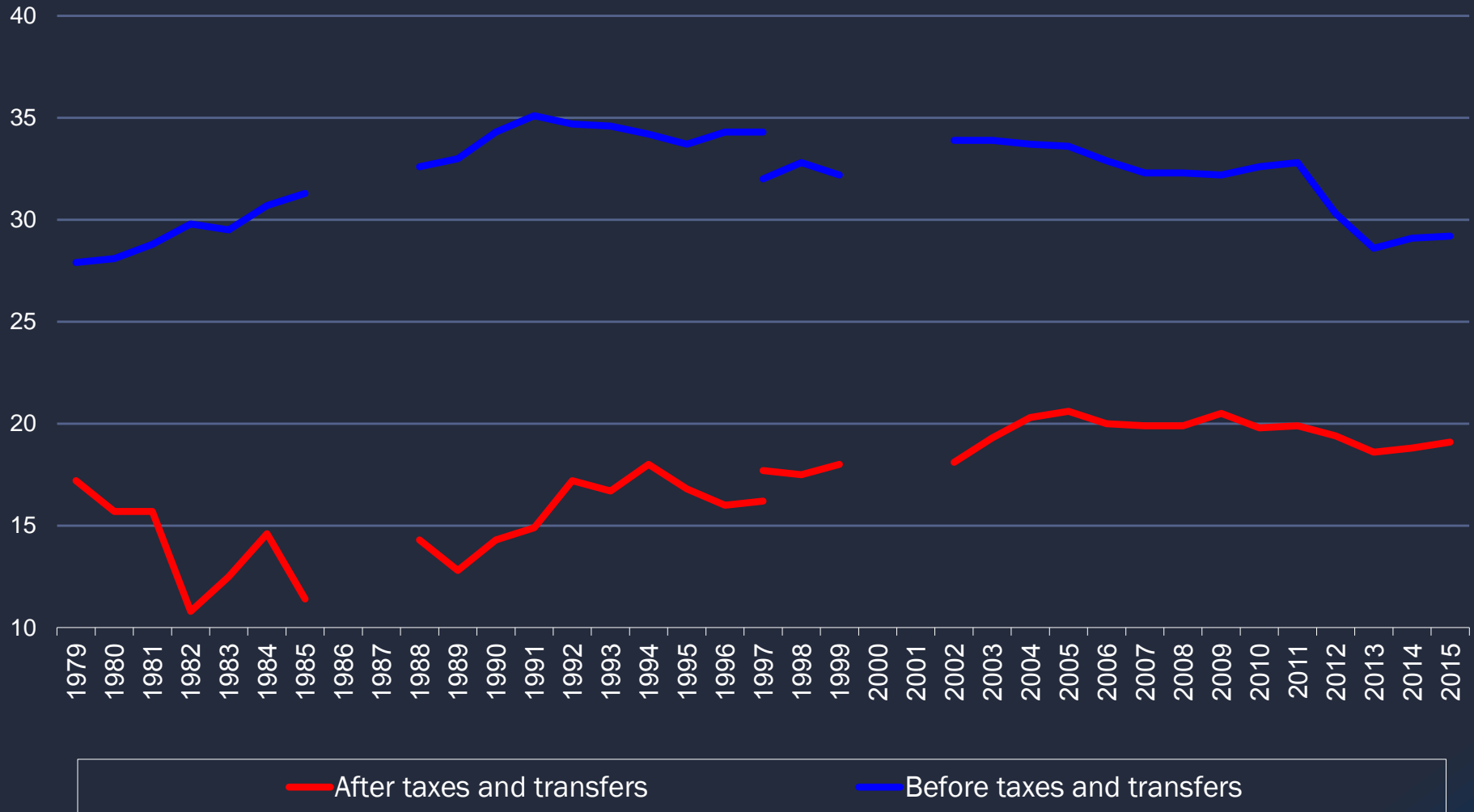
# Development of the Economic Social Dimension

Israel and the Benchmark Countries



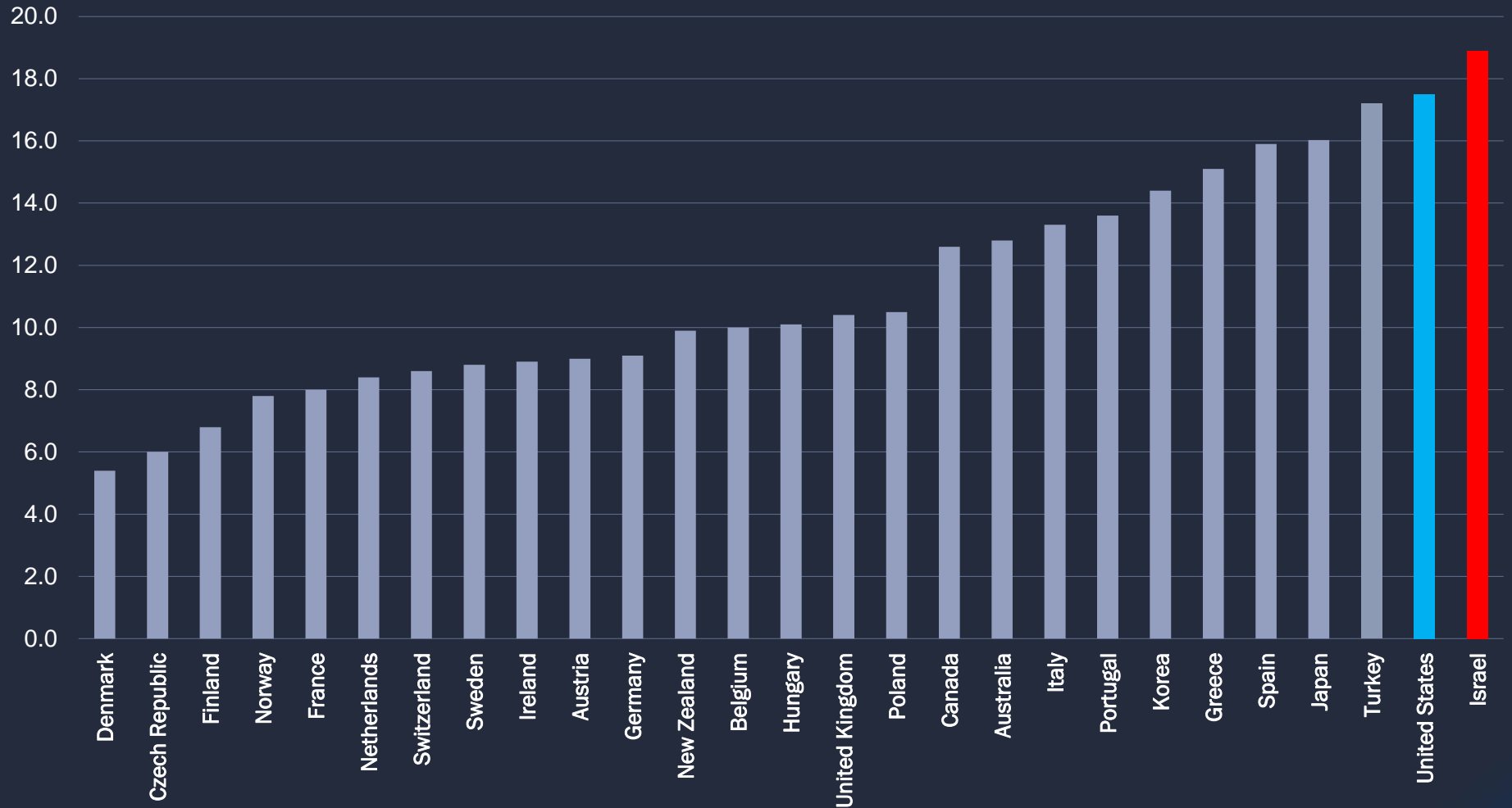
# Poverty Incidence in Israel 1979 - 2015

(Families, percent)



# Poverty Incidence

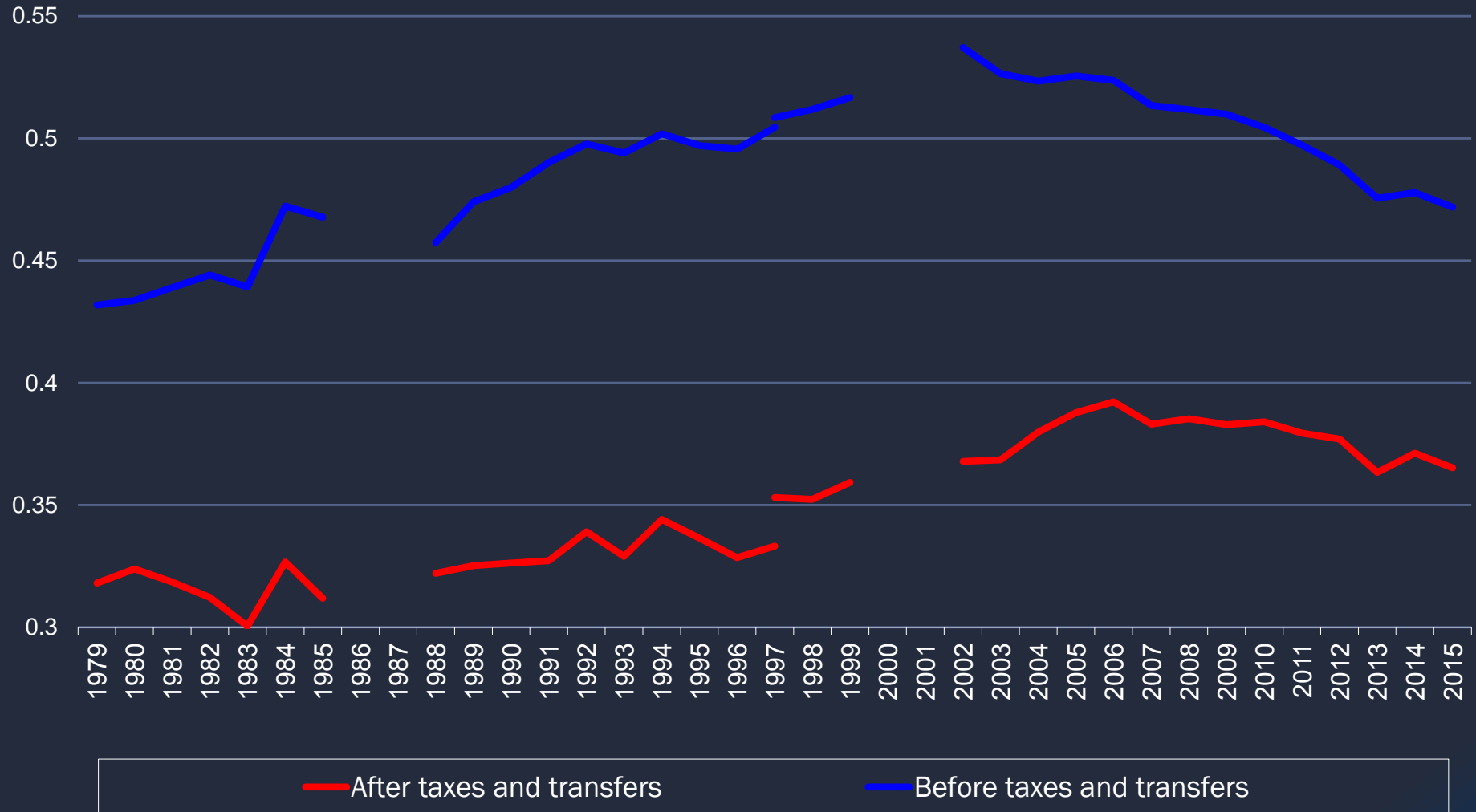
(Families, the latest available data point, percent)





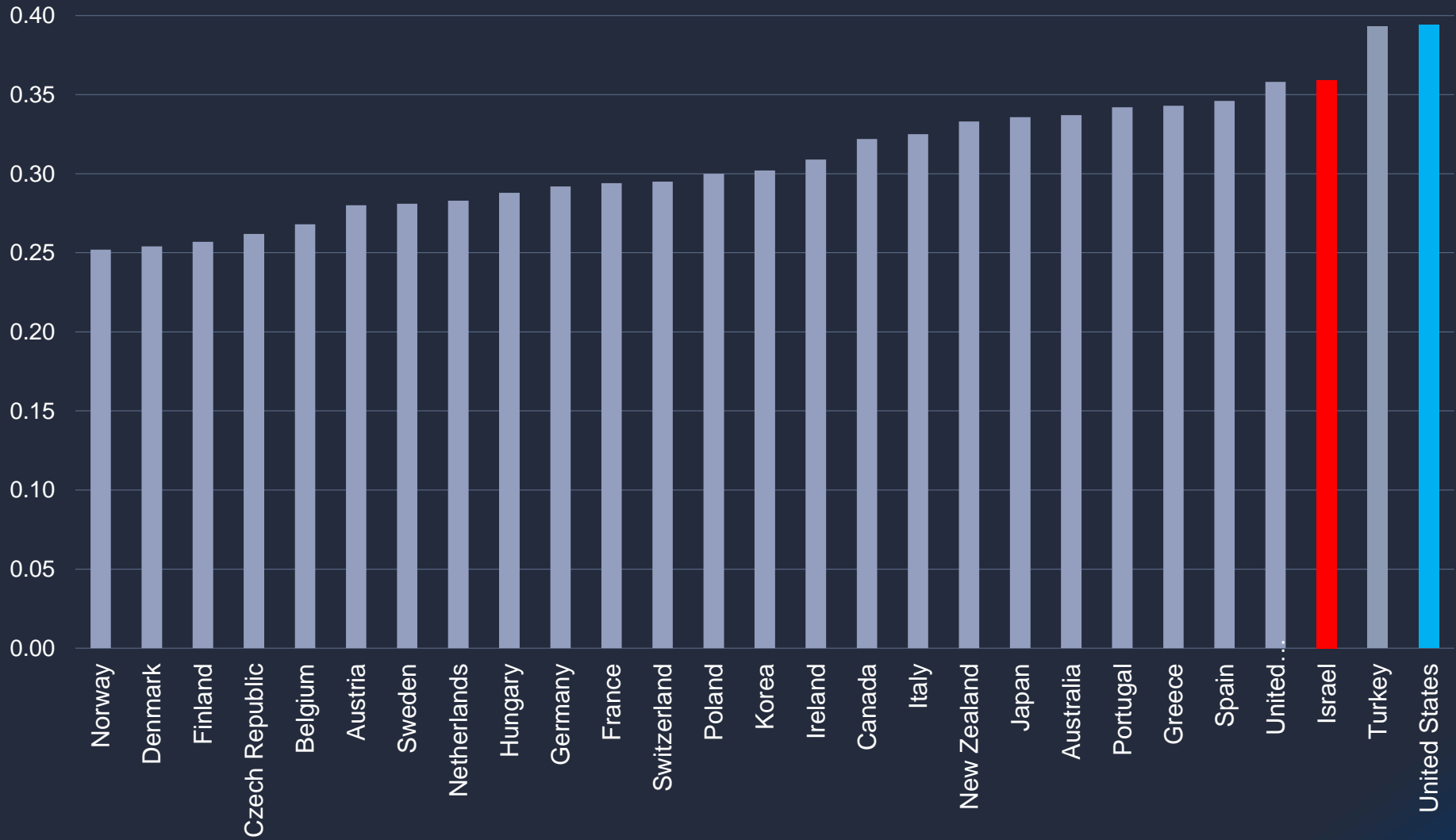
# Inequality in Israel 1979-2015

(Families, Gini Coefficient)



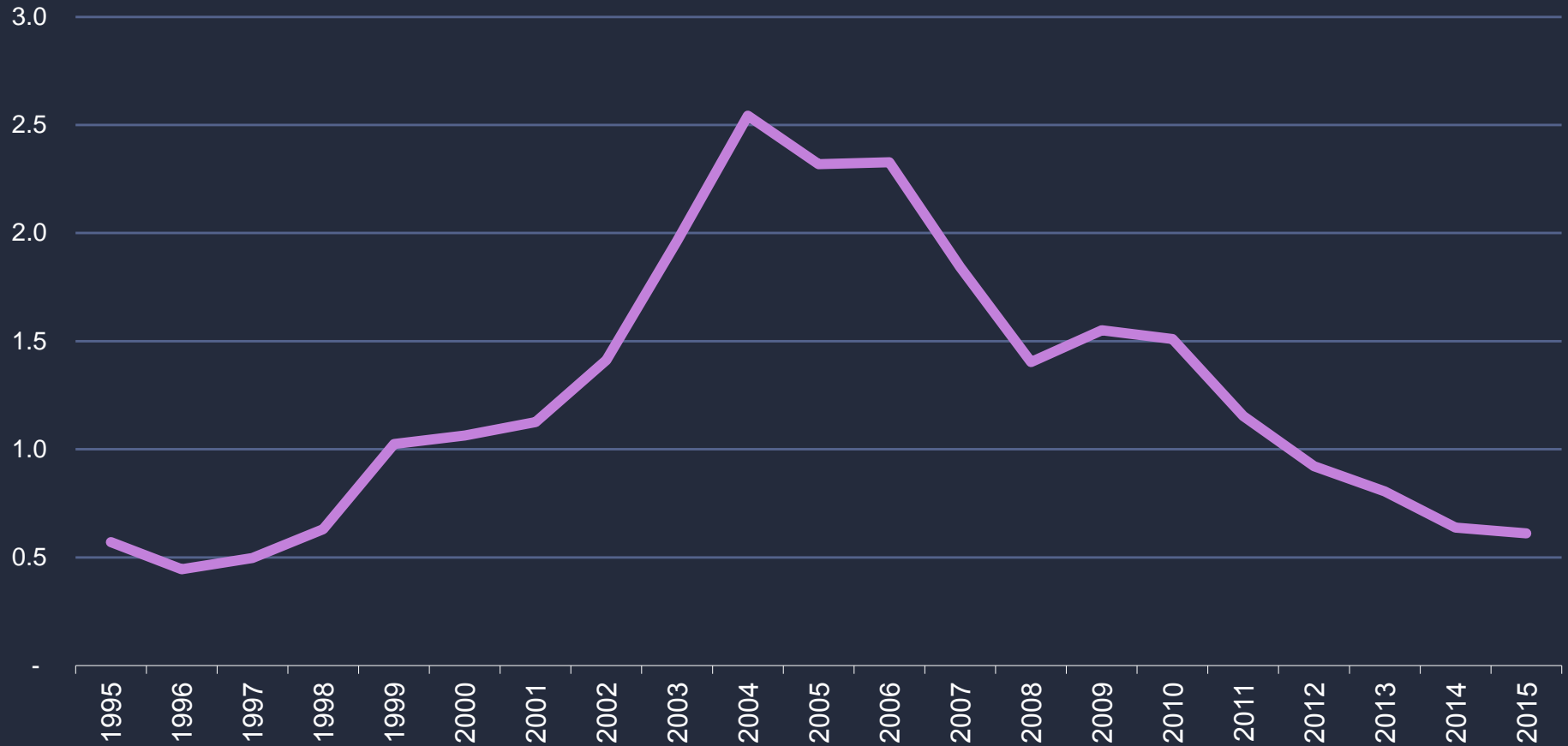
# Inequality

(Families, the latest available data point, Gini coefficient)



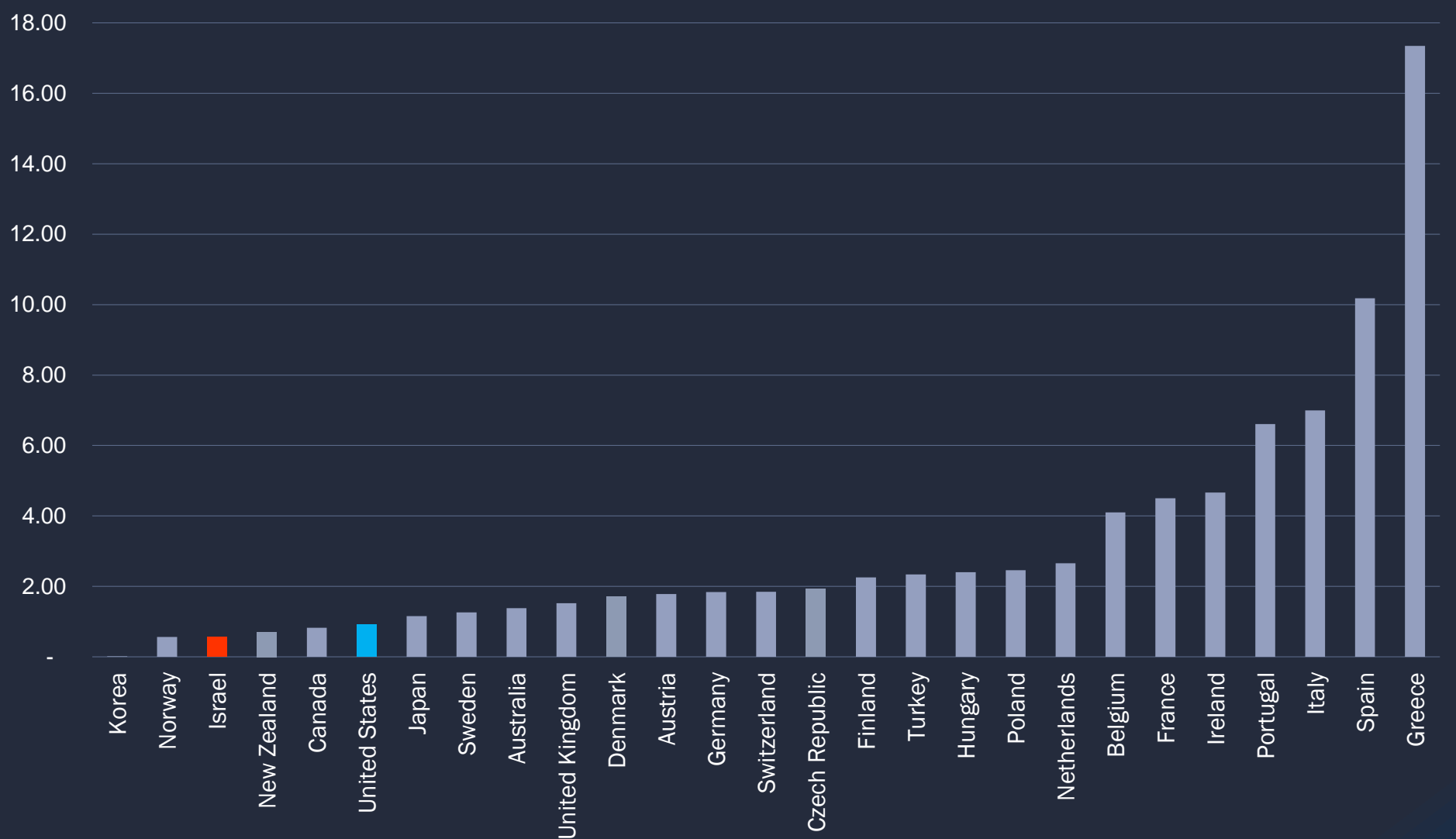
# Long Term Unemployment in Israel 1995-2015

(Families, percent)



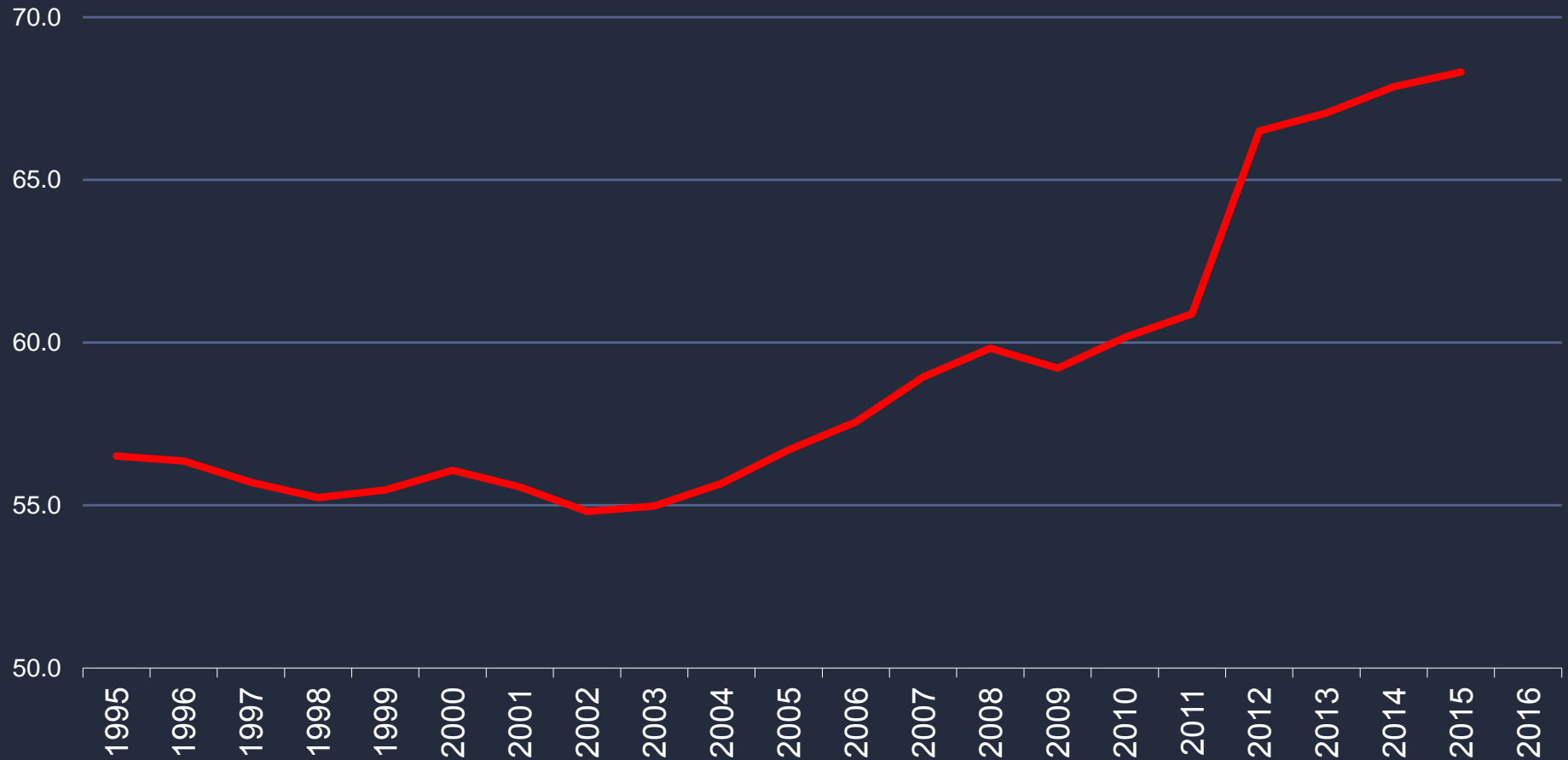
# Long Term Unemployment

(Families, the latest available data point, percent)



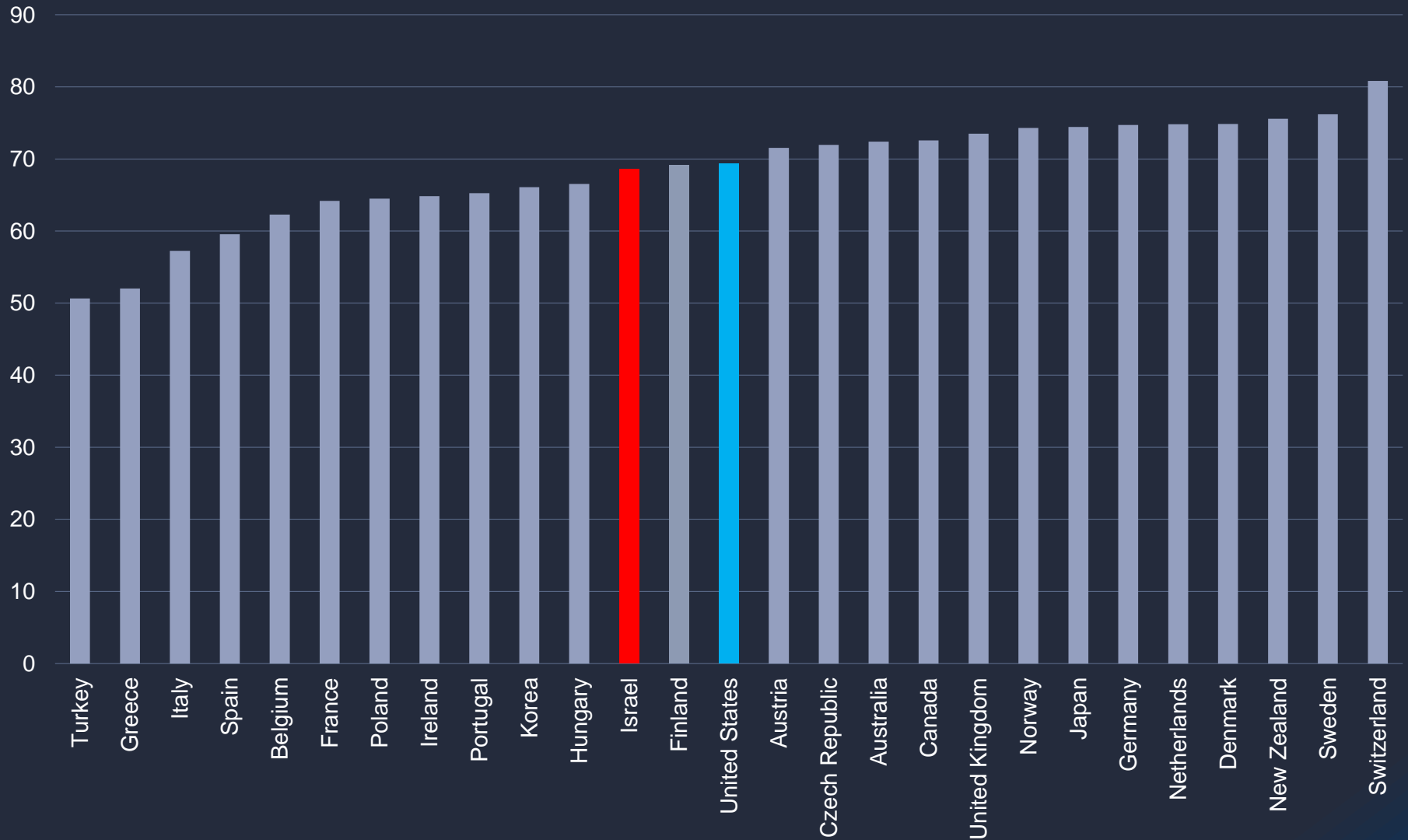
# Employment Rate Israel 1995 - 2016

(percent)



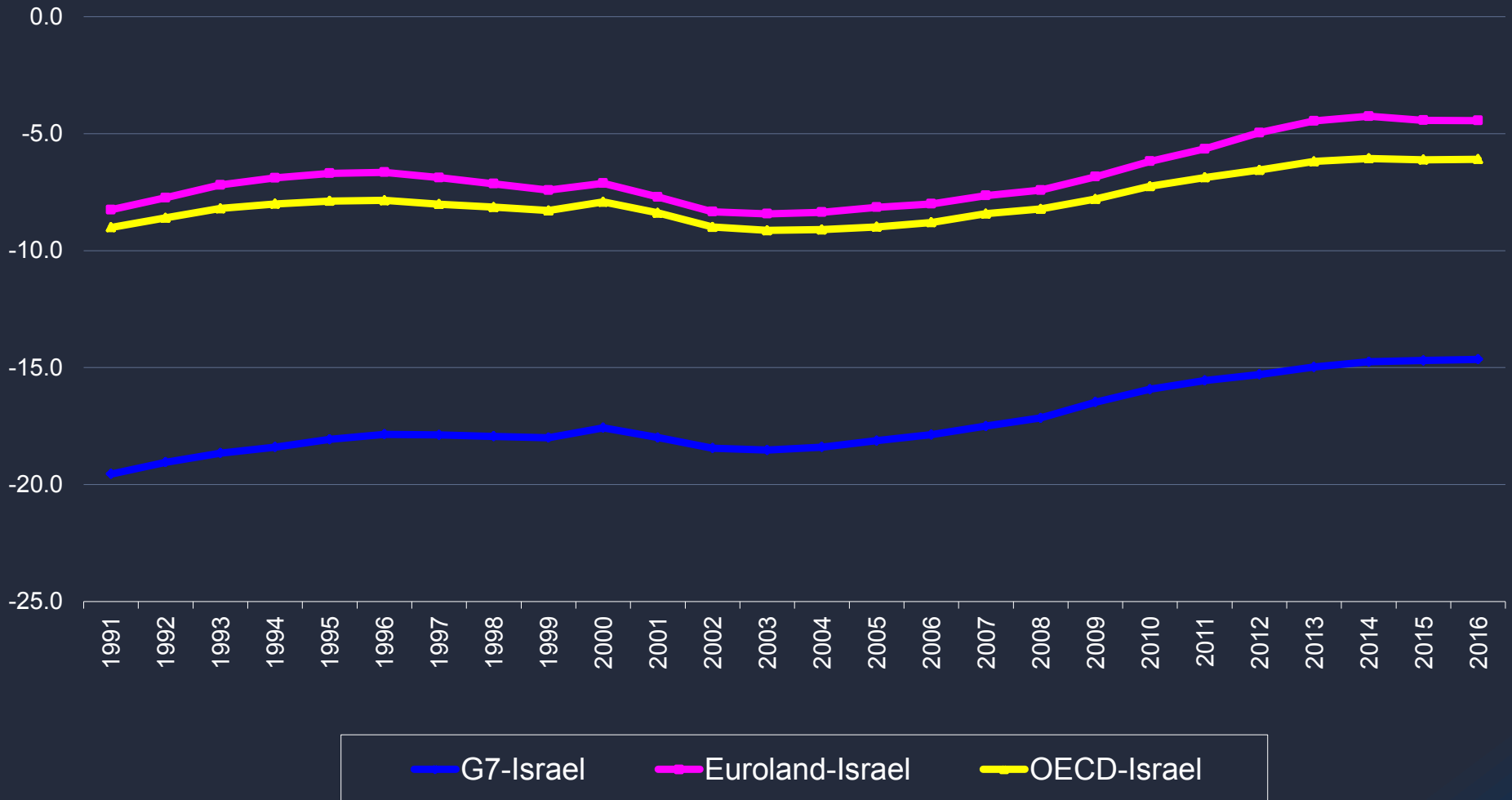
# Employment Rate

(The latest available data point, Percent)



# Economic Social Dimension Gap

Israel and the Developed Countries



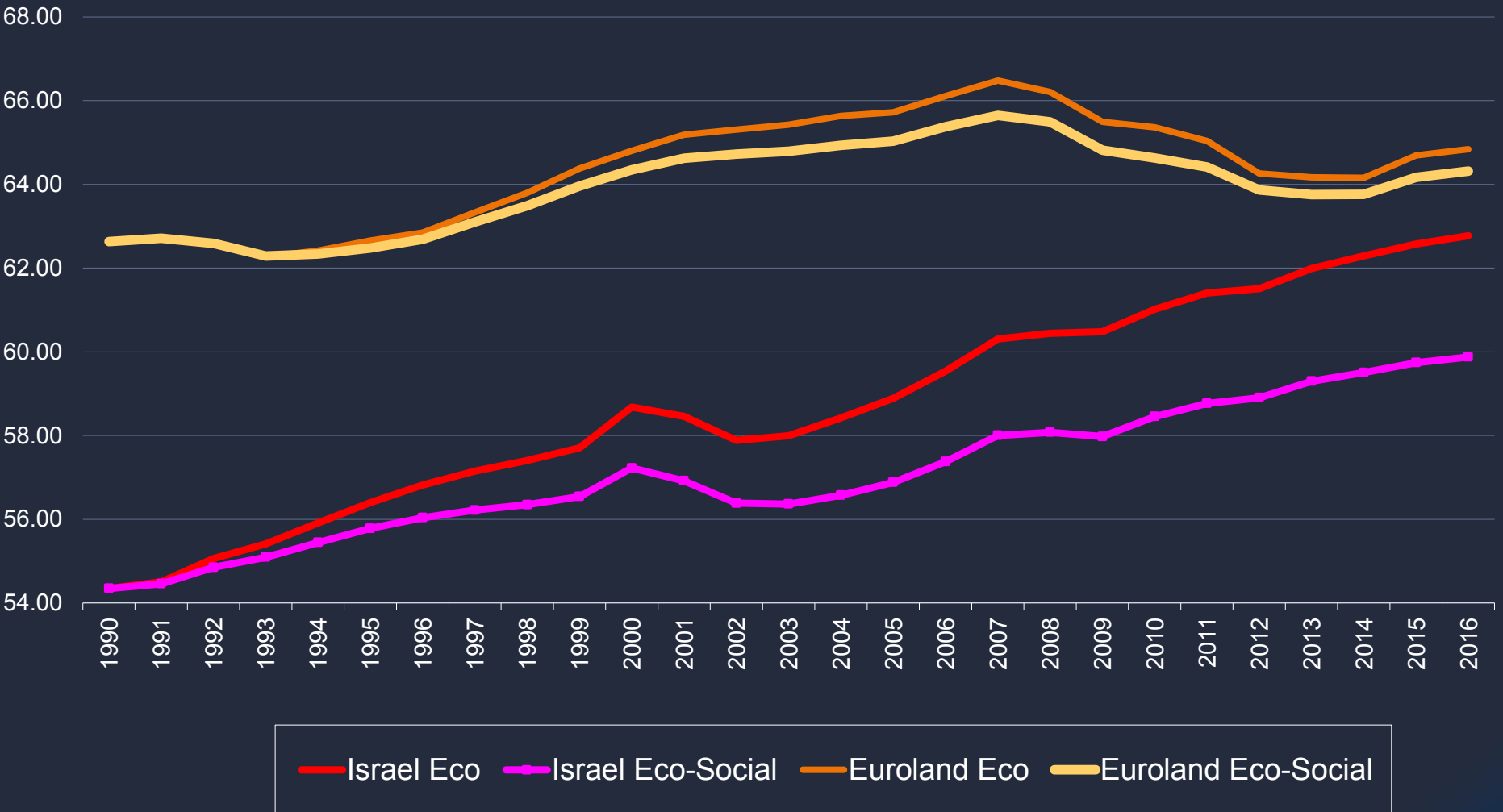
# Economic Social Index 2016

1	<b>USA</b>	<b>102.27</b>	17	Korea, Rep	63.90
2	Switzerland	75.46	18	New Zealand	63.35
3	Japan	75.02	19	Finland	61.86
4	Germany	74.43	20	<b>Israel</b>	<b>59.87</b>
5	Norway	73.26	21	Spain	59.69
6	Netherlands	70.28	22	Czech Rep	59.14
7	Denmark	69.67	23	Portugal	58.03
8	UK	69.58	24	Poland	53.19
9	Canada	68.41	25	Hungary	51.60
10	France	67.74	26	Greece	51.20
11	Australia	67.42	27	Turkey	48.52
12	Ireland	67.34			
13	Sweden	66.99			
14	Austria	66.82			
15	Belgium	65.86			
16	Italy	64.19			



# Development of the Economic and the Economic Social Dimension a Comparison

## Israel and the Developed Countries



# **The Herzliya Governmental/Political Index**

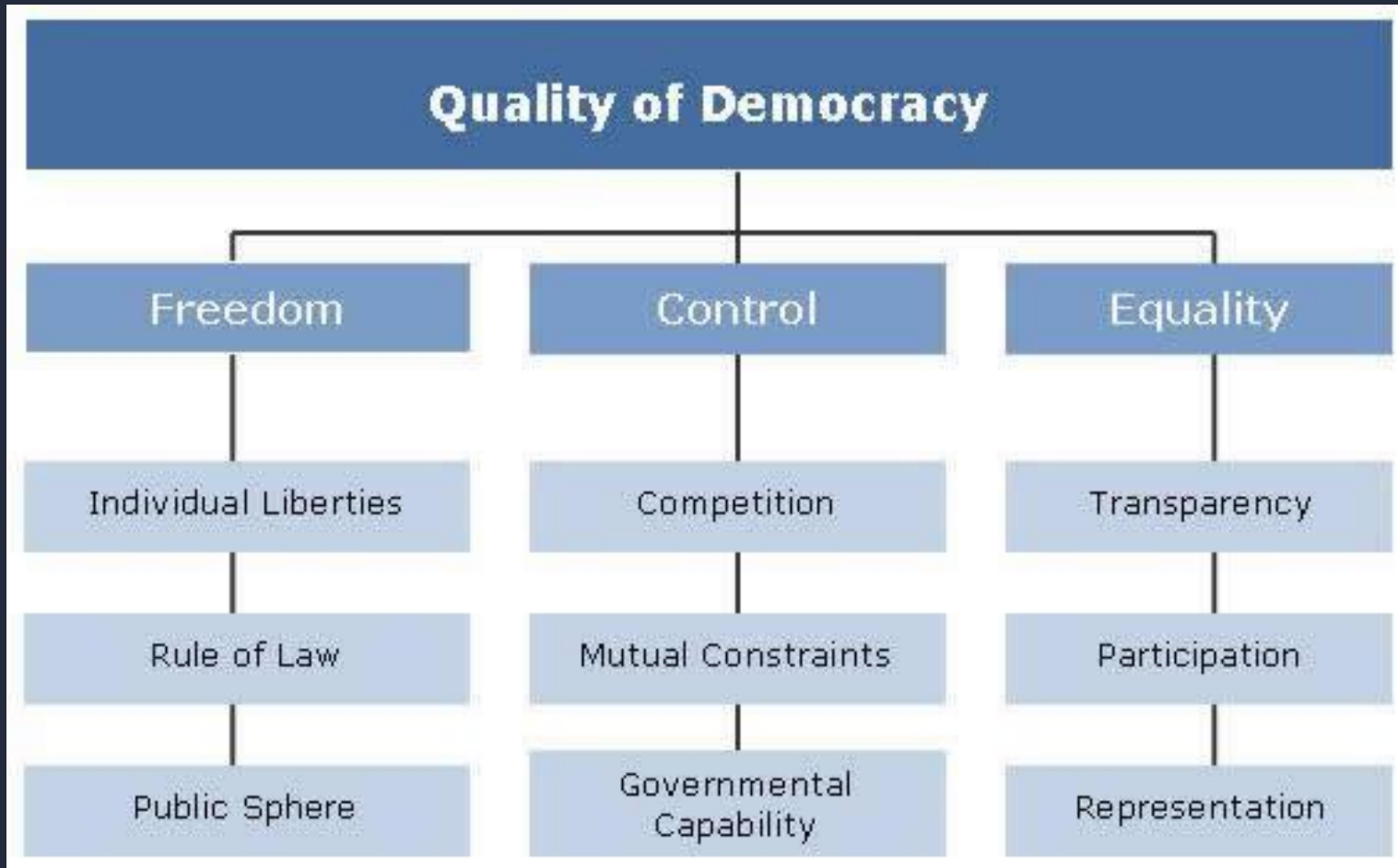
**2016 RESULTS**

# Components of the Governmental/Political Index

(Equal Weights)

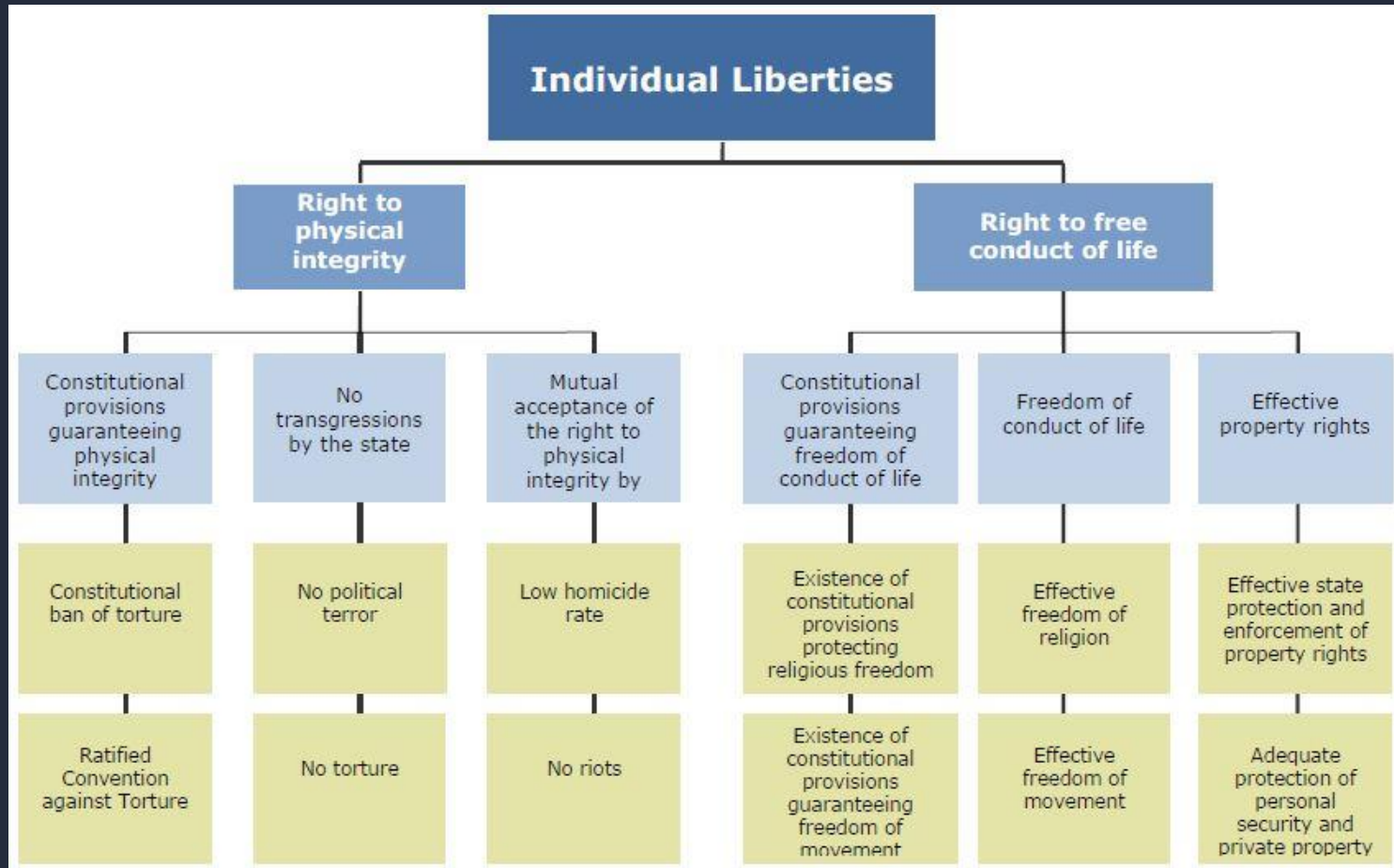
1. Individual Liberties
2. Rule of Law
3. Public Sphere
4. Competition
5. Mutual Constraints
6. Governmental Capability
7. Transparency
8. Participation
9. Representation
10. Regulatory Quality
11. Alliances
12. Membership in International Organizations
13. Hosted Embassies

# Components of the Democracy Barometer Index



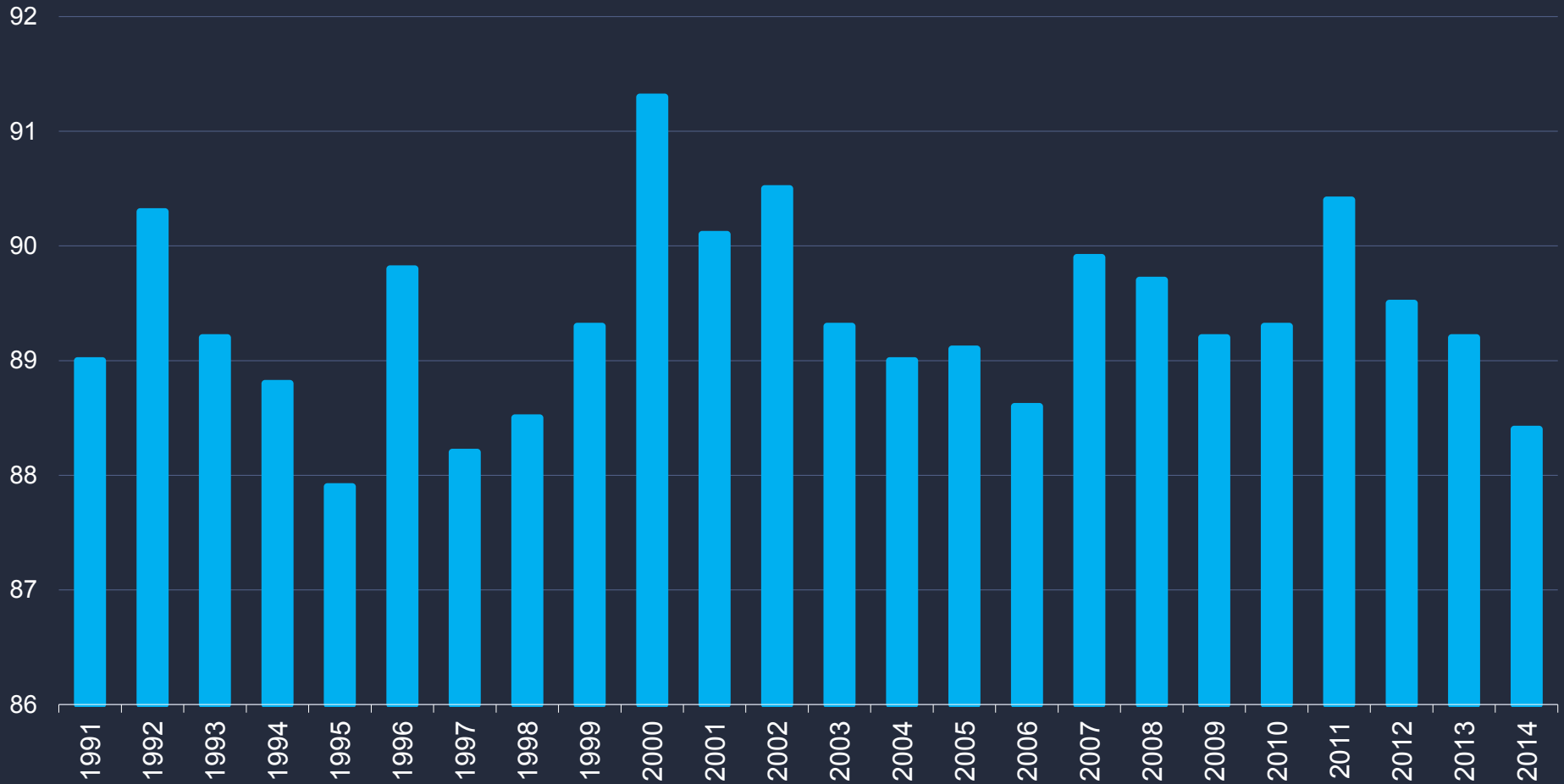
# Components of the Democracy Barometer Index

## Individual Liberties



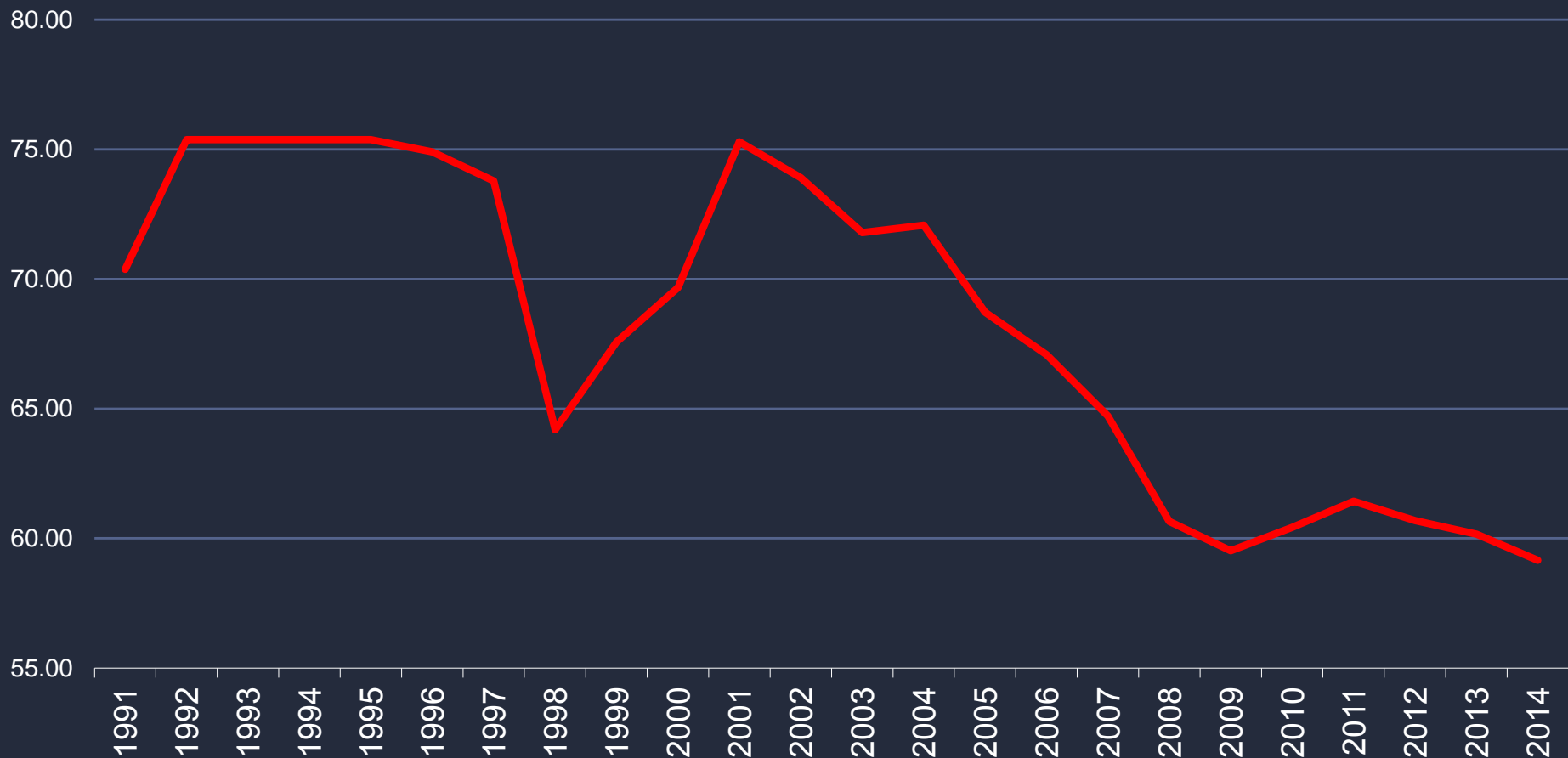
# Development of the Governmental/Political Dimension in Israel

1991 - 2014



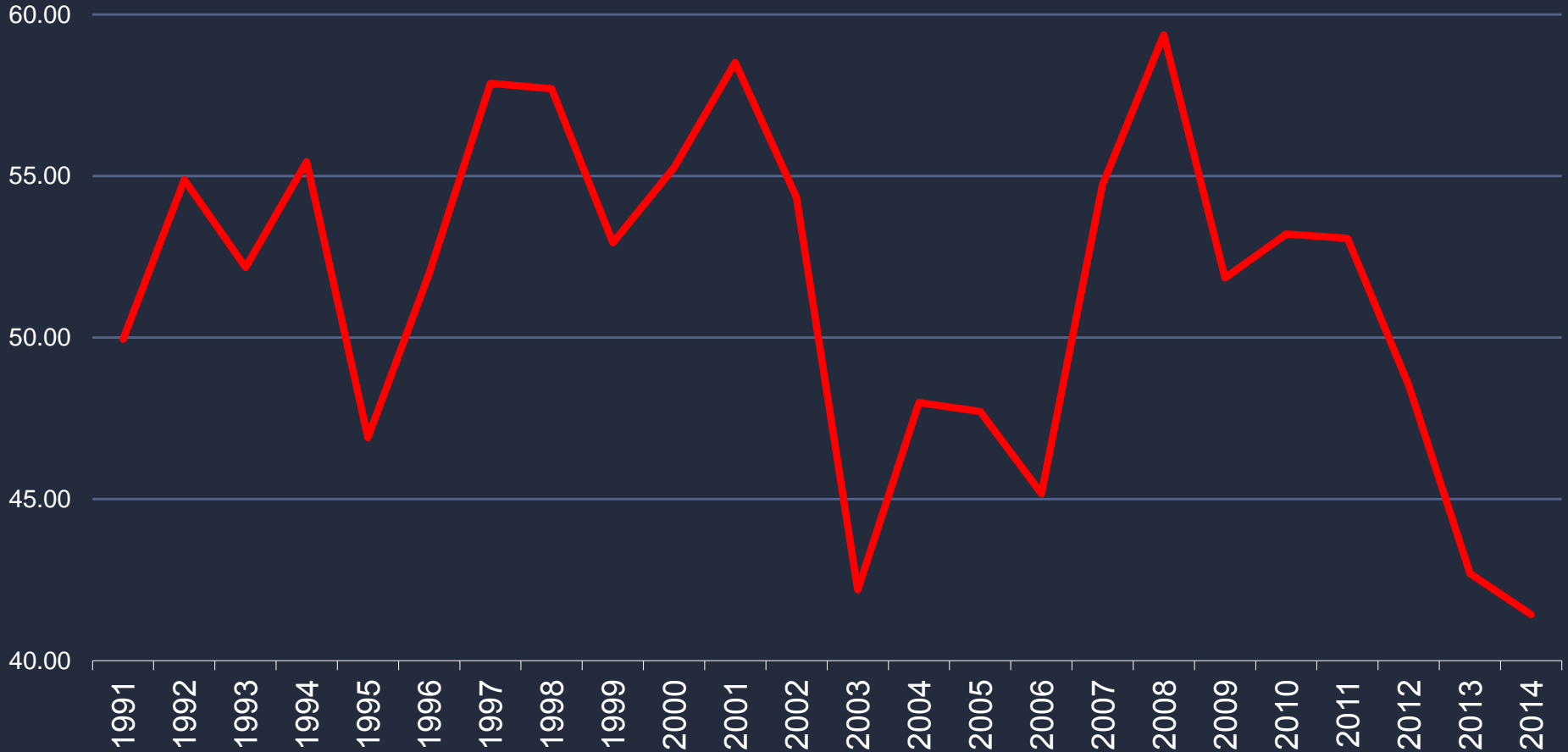
# Rule of law 1991 - 2014

Israel



# Governmental Capability 1991 - 2014

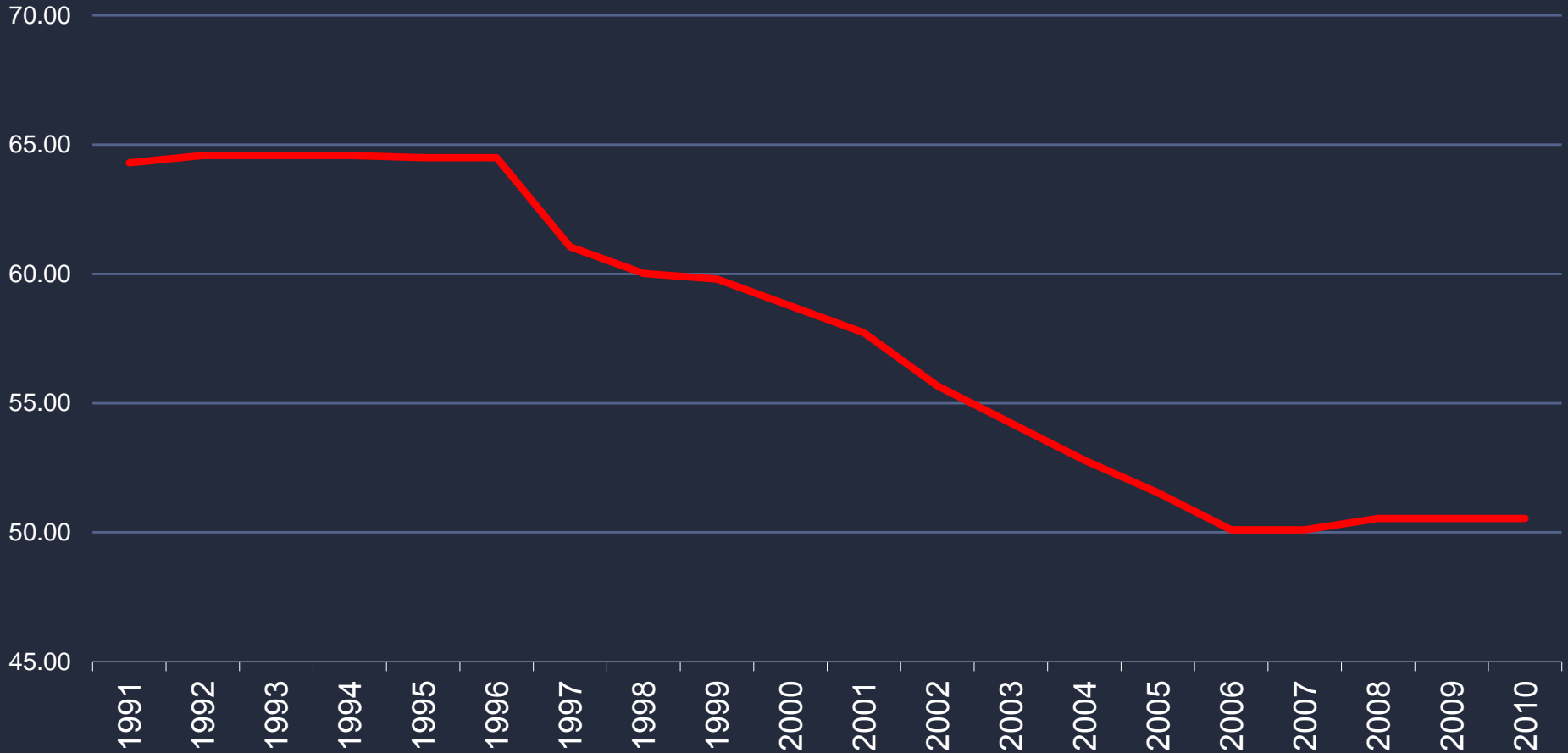
Israel



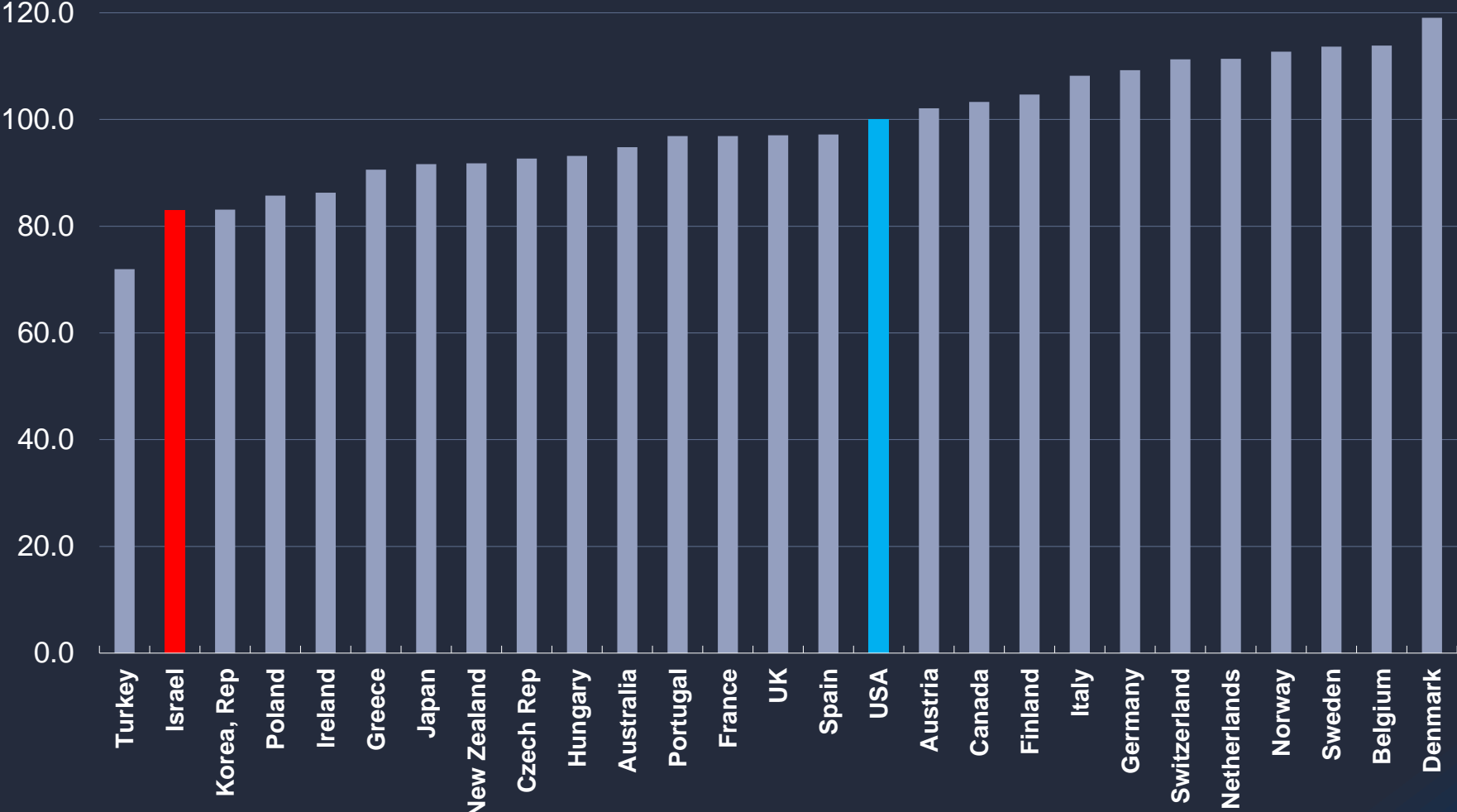


# Participation 1991 - 2014

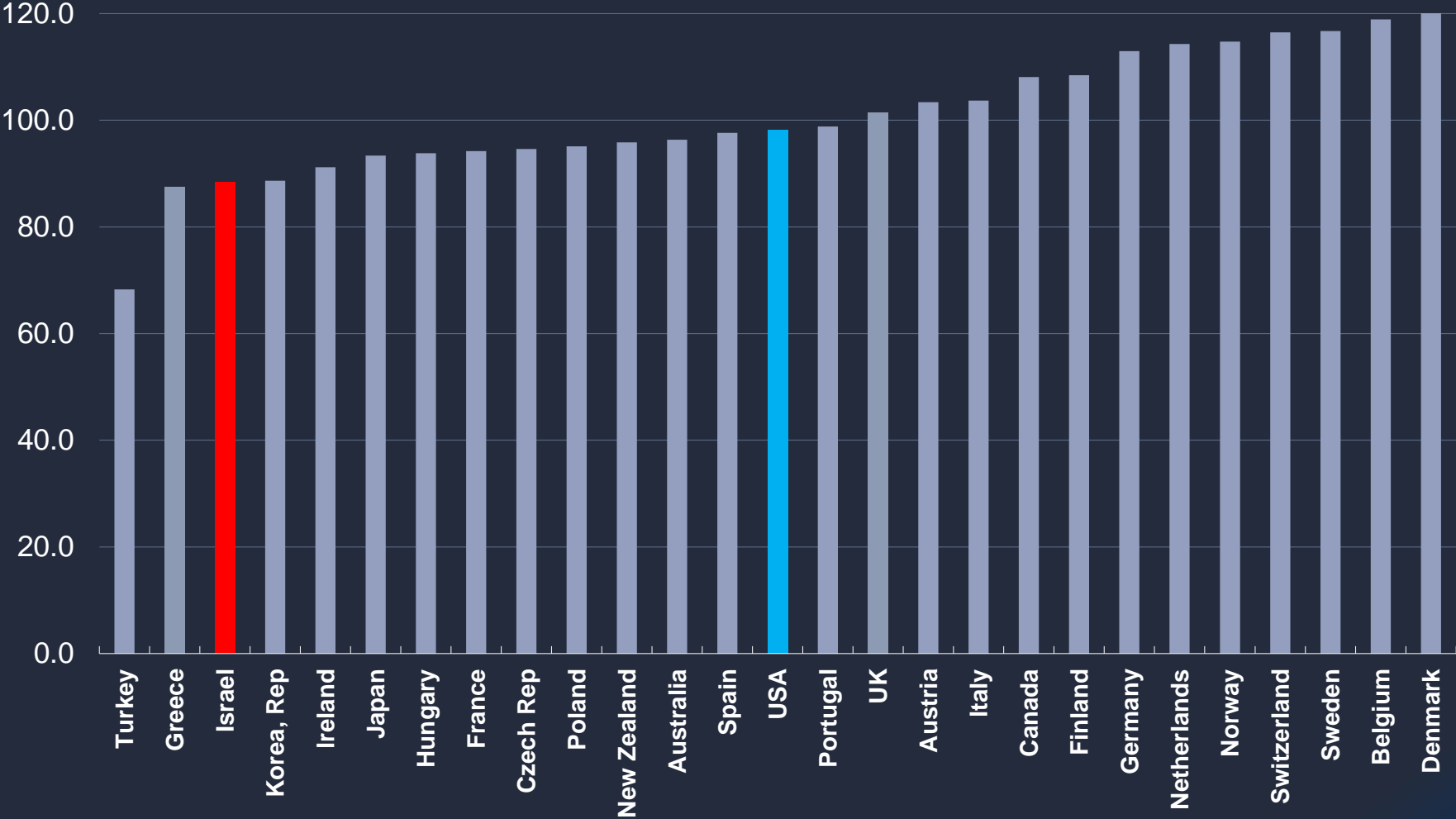
Israel



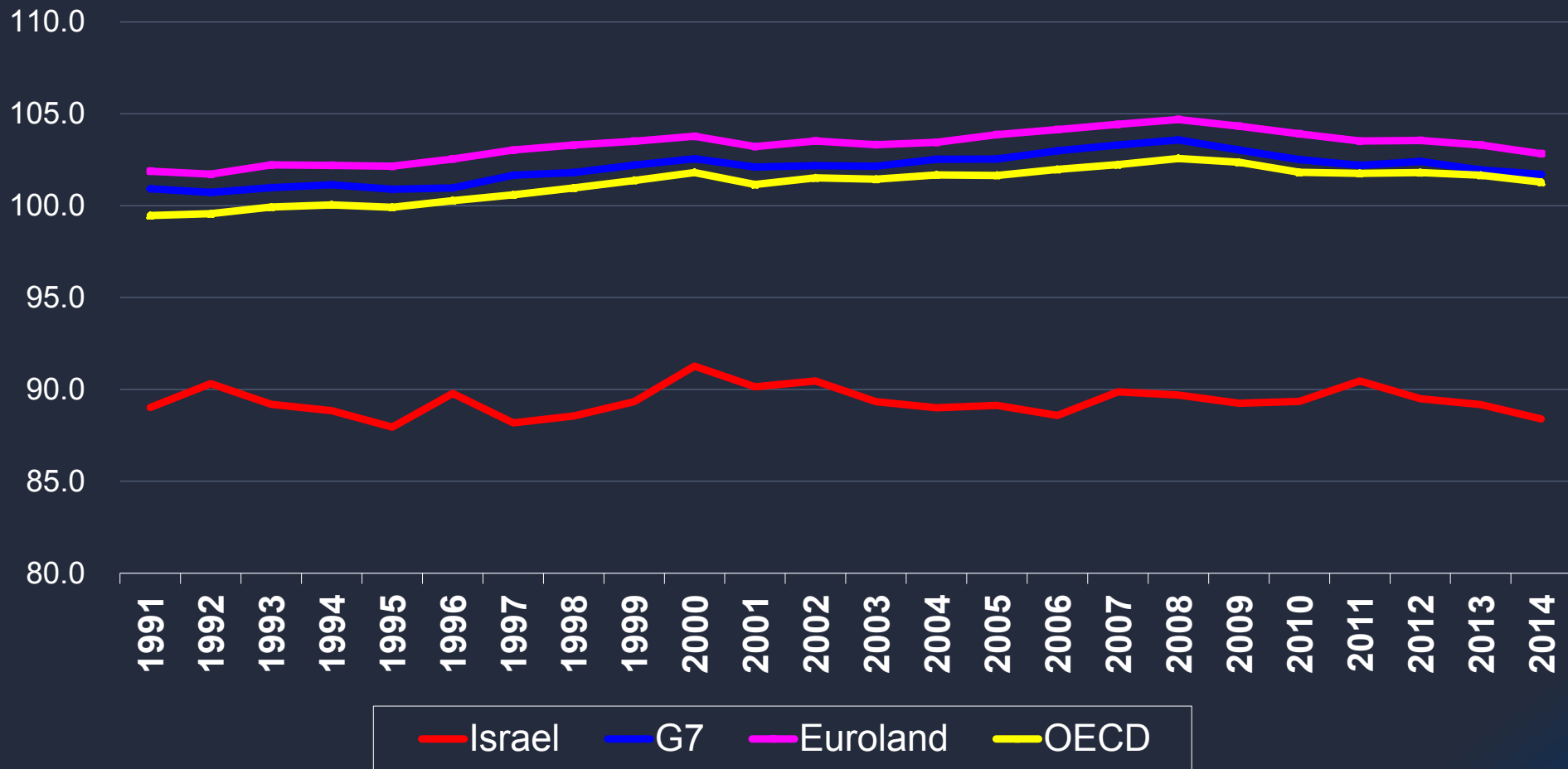
# Governmental/Political Base | 1990



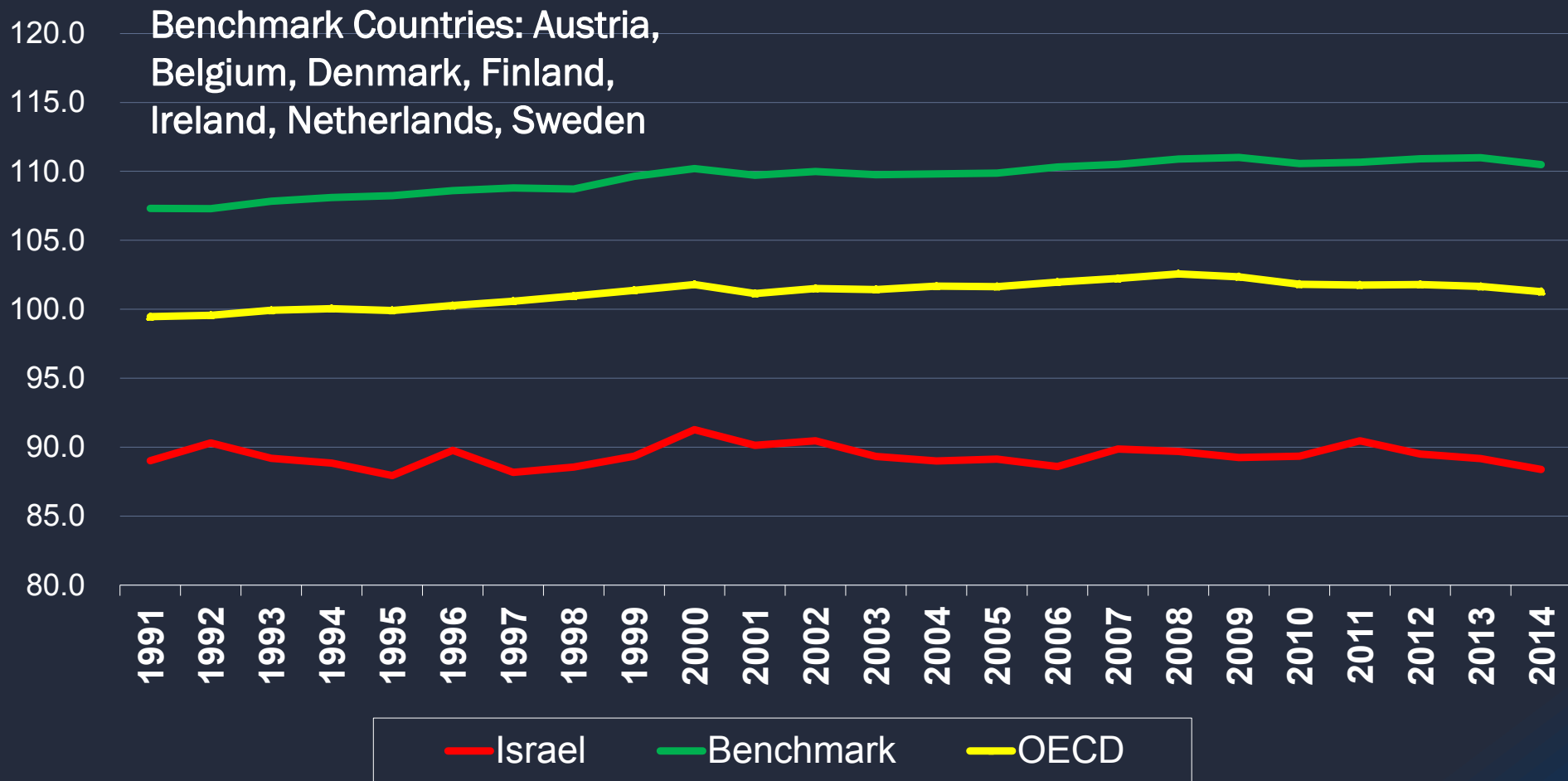
# Governmental/Political Base | 2014



# Development of the Governmental/ Political Dimension Israel and the Developed Countries



# Development of the Governmental/Political Dimension Israel and the Benchmark Countries



# Governmental/ Political Index 2014

1	Denmark	120.4	17	New Zealand	95.9
2	Belgium	118.9	18	Poland	95.1
3	Sweden	116.7	19	Czech Rep	94.6
4	Switzerland	116.5	20	France	94.2
5	Norway	114.8	21	Hungary	93.8
6	Netherlands	114.3	22	Japan	93.4
7	Germany	113.0	23	Ireland	91.2
8	Finland	108.4	24	Korea, Rep	88.7
9	Canada	108.1	25	Israel	88.4
10	Italy	103.7	26	Greece	87.4
11	Austria	103.4	27	Turkey	68.3
12	UK	101.3			
13	Portugal	98.8			
14	USA	98.2			
15	Spain	97.6			
16	Australia	96.3			

# Thank you