Inequality and globalization

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I would like to start my presentation by citing two economists, or better two social scientists, who both wrote articles and books on the topic of my lecture.

"If I had to summarize the essence of what economic history can contribute to economic science, I would say that there exist no "laws" or rules in economics which are valid for all periods of history or for each of the economic systems".
Paul Bairoch, *Economics and World History: Myths and Paradoxes*. University of Chicago Press, 1993.

"Most social scientists conceive it as their exclusive task to discover and stress regularities, stable relationships, and uniform sequences. This is obviously an essential search, one in which no thinking person can refrain from participating. But in the social sciences there is a special room for the opposite type of endeavor: to underline the multiplicity and creative disorder of the human adventure, to bring out the uniqueness of a certain occurrence, and to perceive an entirely new way of turning a historical corner."

Albert O. Hirschman "Political Economism and Possibilism" in Hirschman, *Bias for Hope: Essays on Development and Latin America*, 1971.

I met Albert O. Hirschman (1915-2012) only once, at a conference on Latin America, at Bar-Ilan University, in the late 1970s. I read several of his books, as well as a recent and fascinating biography of Hirschman by Jeremy Adelman, *Worldly Philosopher: The Odyssey of Albert O. Hirschman,* which I highly recommend.

I knew much better Paul Bairoch (1930-1999) who was teaching at the University of Geneva where I spent two sabbatical years and with whom I had lengthy discussions on various topics, not necessarily related to economics. He was a marvelous and very wise person.

OUTLINE OF THE LECTURE

PRELIMINARY REMARKS:

- Globalization, Inequality: Hot topics
- Why study and measure income and wage inequality?

THE FACTS

- Data on inequality
- Data on globalization
- Some data on technological progress
- Some data on labor market institutions

THE FACTS VERSUS THE THEORY

- Globalization and inequality
- Labor share

EMPIRICAL (ECONOMETRIC) STUDIES

- Globalization, technological change, labor institutions and inequality

SOME CONCLUDING REMARKS

PRELIMINARY REMARKS

Globalization, Inequality: Hot topics

See some recent best sellers:

- Jagdish Bhagwati: *In Defense of Globalization* (2004)
- Daniel Cohen: *La mondialisation et ses ennemis* (2004)
- Dani Rodrik: *The Globalization Paradox* (2011)
- Joseph Stiglitz: *The Price of Inequality* (2012)
- Angus Deaton: *The Great Escape: health, wealth, and the origins of inequality* (2013)
- Thomas Piketty: *CAPITAL in the Twenty-First Century* (2014)

Why study and measure income and wage inequality?

- Positive approaches to "Why Inequality Matters?"

- Main stream economics: if the income of some high--income individuals rises while there is no decrease in the incomes of others, such a change satisfies the common-sense *Pareto principle*. In other words *it should be good because it makes some people better off without making anyone else worse off.*

- But as Angus Deaton writes: "If an increase in top incomes does nothing to reduce other incomes but hurts other aspects of well-being, the Pareto principle cannot be called on to justify it. *Money and wellbeing are two different things."* (see, Amartya Sen and Martha Nussbaum)

- Alternative approaches: Fairness and the findings of experimental economics:

Ultimatum and other games show that the notion of fairness is often a determinant of our behavior, whether within families, at work or with respect to the tax system.

The importance of relative income:

- Hirschman and the "***tunnel effect***"

- Income is not only a means whereby I can acquire more goods and services. It is also a tangible recognition of how society values you (see, Duesenberry, Fred Hirsch and later Robert Frank on positional goods, Milanovic).

- Even Adam Smith:

" By necessaries I understand not only the commodities which are indispensably necessary for support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without. A linen shirt, for example, is, strictly speaking not a necessary of life. The Greeks and Romans lived, I suppose, very comfortably though they had no linen. But in the present times, through the greater part of Europe, a creditable day-labourer would be ashamed to appear in public without a linen shirt, the want of which would be supposed to denote that disgraceful degree of poverty, which, it is presumed nobody can fall into without extreme bad conduct. Custom, in the same manner, has rendered leather shoes a necessary of life in England. The poorest creditable person of either sex would be ashamed to appear in public without them."

- Henry Louis Mencken (1880-1956), an American journalist and satirist once defined *a wealthy man as one who earns $100 a year more than his wife's sister's husband…*

- In fact David Neumark and Andrew Postlewaite found a striking support for Mencken's definition. They examined the behavior of a large sample of American sisters, each with a sister who did not work outside the home. Keeping constant the unemployment rate in the local market, the wage rate, education, etc.., they found out that relative income had the greatest impact:

  a woman in their sample was 16% to 25% more likely to seek paid employment if her sister's husband earned more than their own…

THE FACTS

On inequality indices:

- The most popular indices are the Gini and Theil indices (or extensions of the latter, that is, entropy related indices).

- If s_i is income share of decile or centile *i* (ranked by decreasing values), a simple inequality index is (s_1/s_{10}) but it does not have some nice properties which the Gini or Theil indices have.

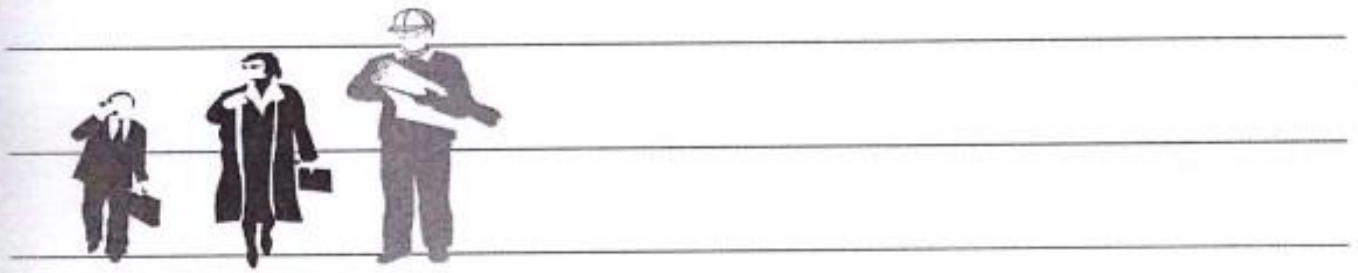
- Piketty uses as index s_1 where the subindex 1 refers to the richest centile or pro-mil. It is easy to show that if we divide the population into two groups, the richest centile and all the other centiles, then the between (two) groups Gini index is equal to s_1-0.01.

Decomposition of inequality indices:

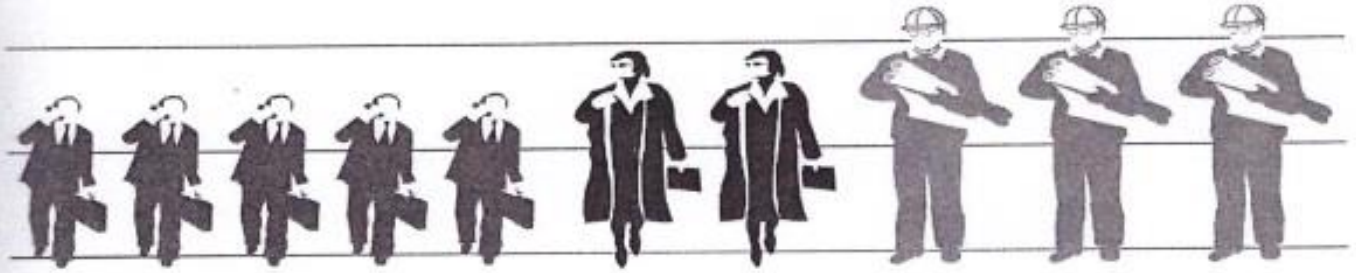
- The Theil index can easily be broken down into the sum of between and within groups inequality.
- The Gini index is generally broken down into three components:
    - between groups Gini index
    - within groups Gini index
    - residual which measures the extent of overlapping between the groups

Implication: the three concepts of world inequality (Milanovic, 2005)

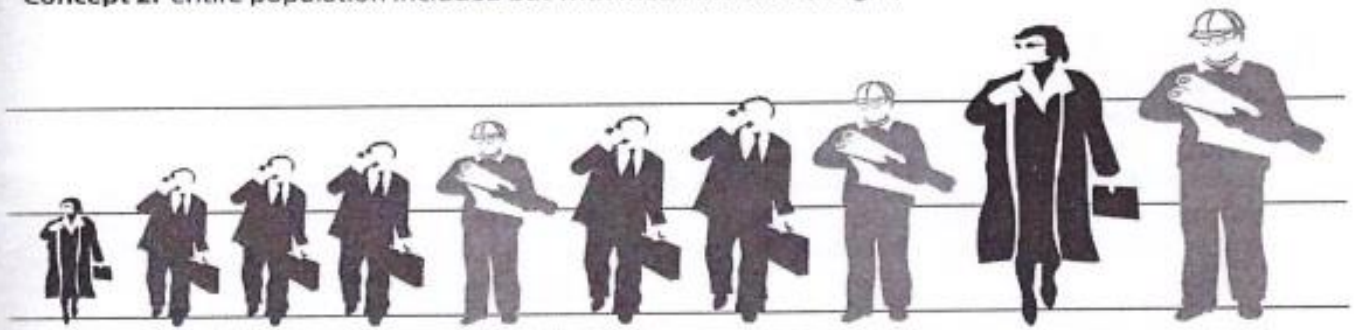
Three types of Gini indices (Milanovic, 2005)



Concept 1: three countries and three representatives with mean incomes (height)



Concept 2: entire population included but with mean incomes (height)



Concept 3: all individuals with their actual heights (incomes)

Figure 1.1. Three concepts of inequality illustrated.

Concept 1: Un-weighted international inequality (Milanovic, 2005)

It appears that there was a rising unweighted international inequality? What is Milanovic's explanation

- Between 1960 and 1982 the increasing contribution of Africa to inequality (due to its slow growth) was counterbalanced by the decreasing inequality among the rich countries (WENAO=Western Europe, North America and Oceania) and the catching up of Eastern Europe and the former Soviet Union and Latin America.
- In the next two decades inequality rose because per capita GDP stagnated in Latin America or even declined in Eastern Europe and the former Soviet Union.

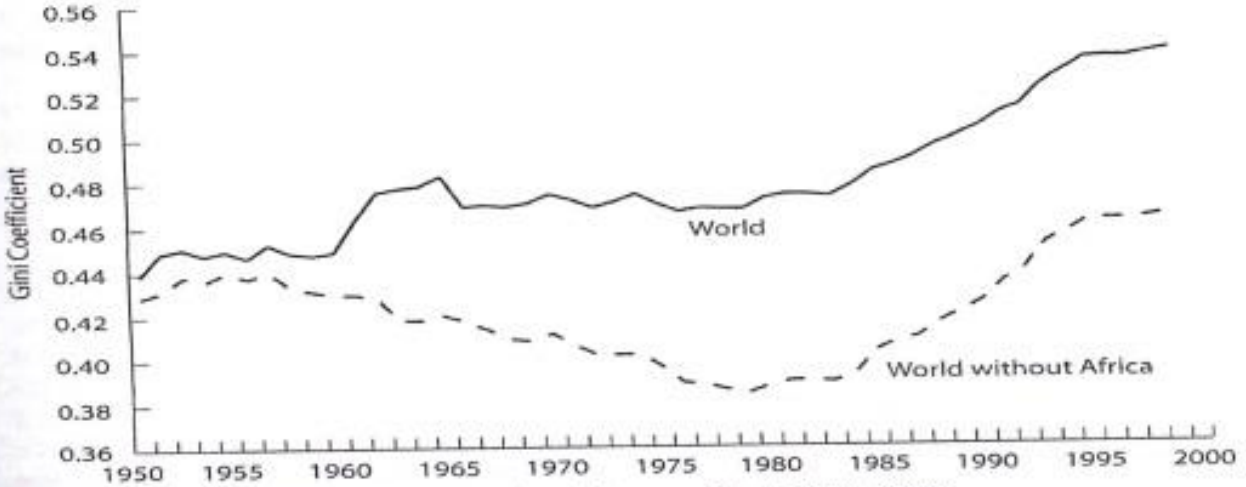


Figure 4.6. Unweighted international inequality I, 1950–2000.

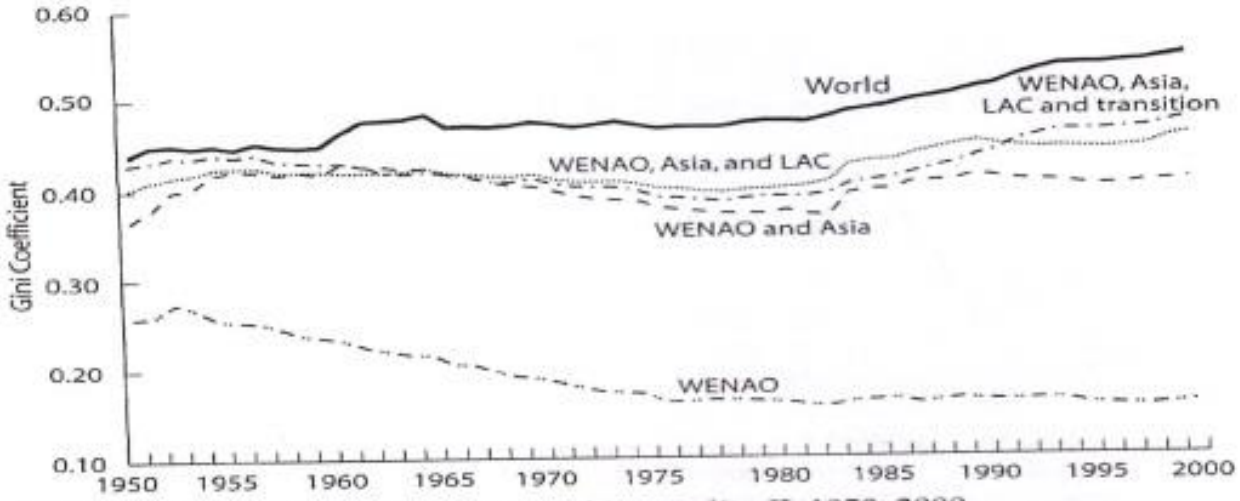


Figure 4.8. Unweighted international inequality II, 1950–2000.

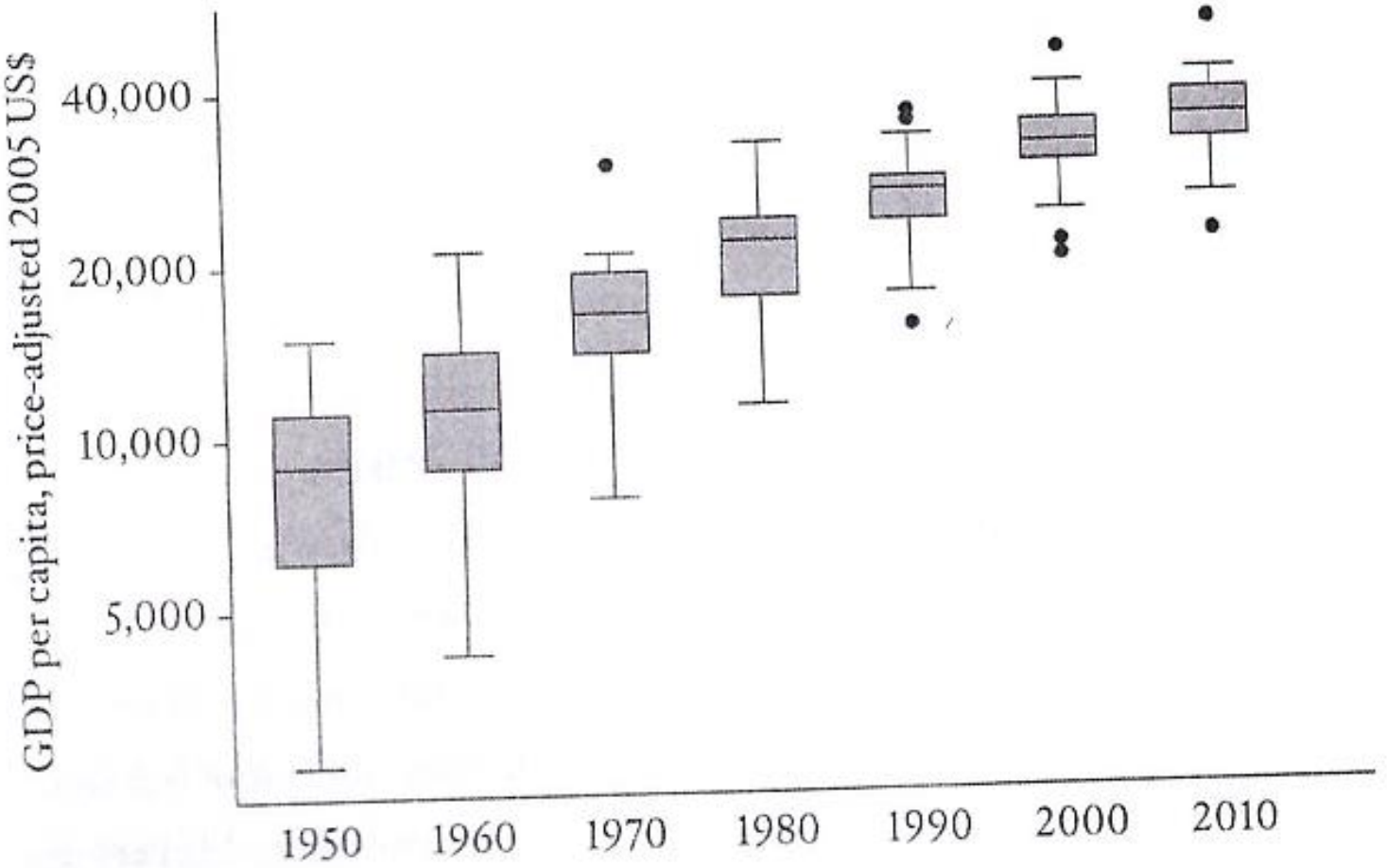


FIGURE 1 GDP per capita in twenty-four rich countries (Australia, Austria, Belgium, Britain, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and United States).

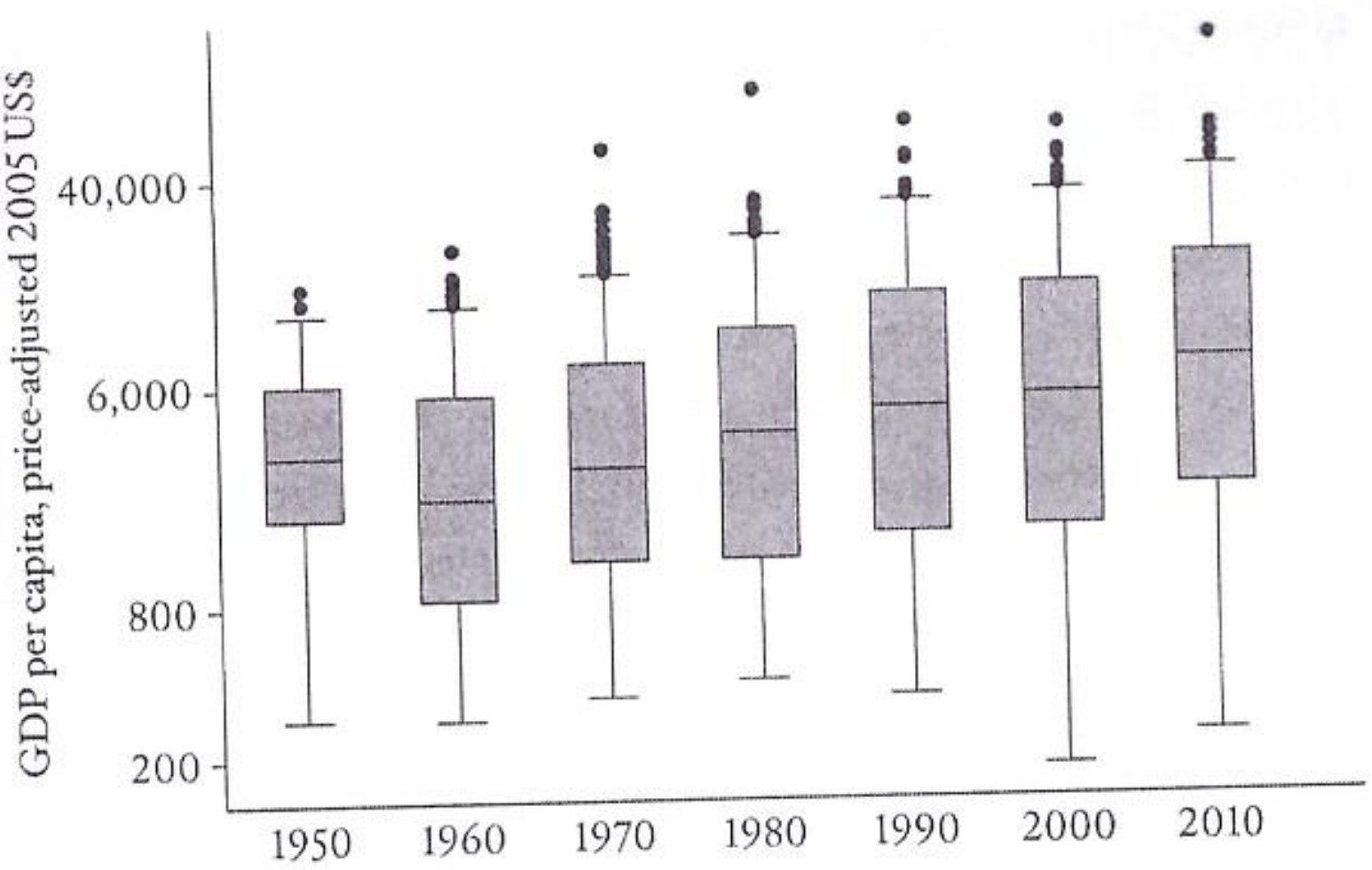


FIGURE 2 GDP per capita in all countries of the world.

Concept 2: International weighted inequality (Milanovic, 2005)

- Let us first take a look at the first graph. It appears that there are two upward jumps in inequality, one in 1952 when China was added to the sample, and one in 1960 when African countries were included. Afterwards there is a decline in weighted per capita international inequality (even more according to the Theil than to the Gini index).
- The second graph shows that we get the same picture whether we use the actual 1960 or the 2000 population weights of the country. So population weights are not the explanation.
- The third graph shows that when we exclude China there is no more any downward trend. There is even a slight upward trend. When we exclude both India and China, we observe an increase in inequality, starting, as before, in the mid-1980s.

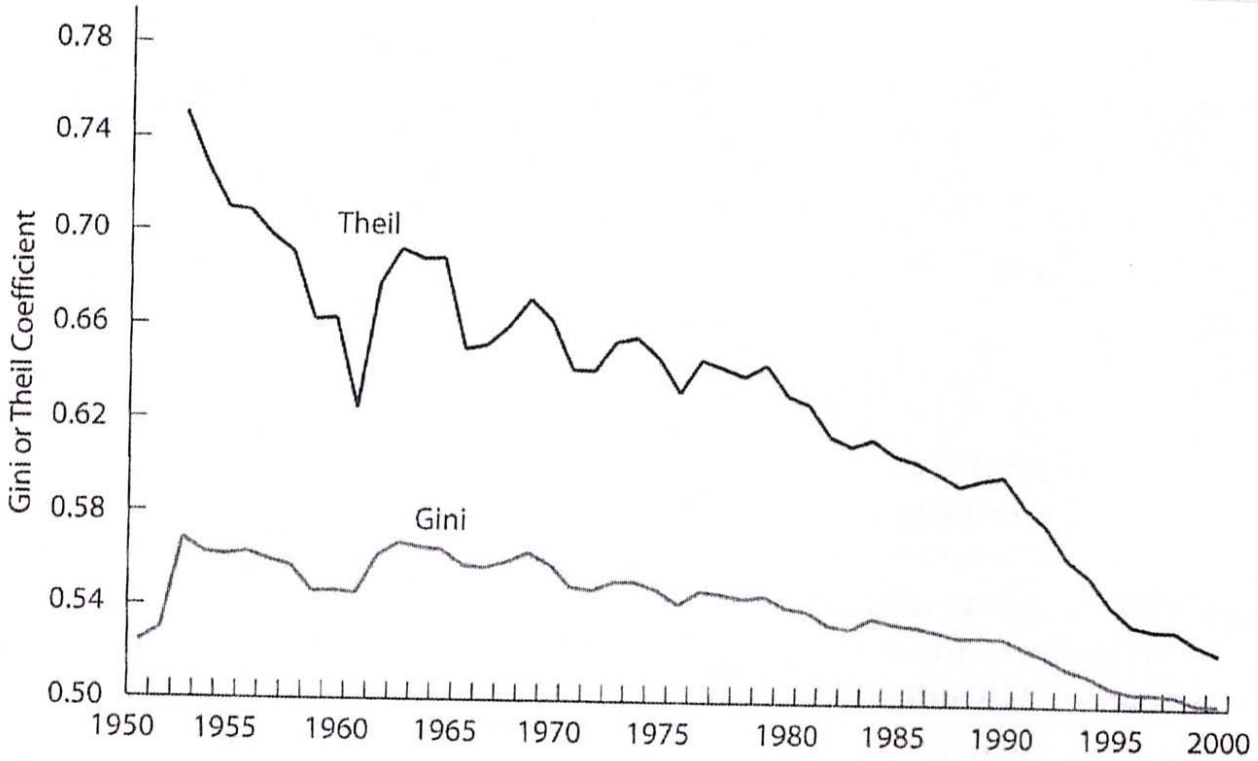


Figure 8.1. Concept 2 inequality: Weighted international inequality, 1950–2000.

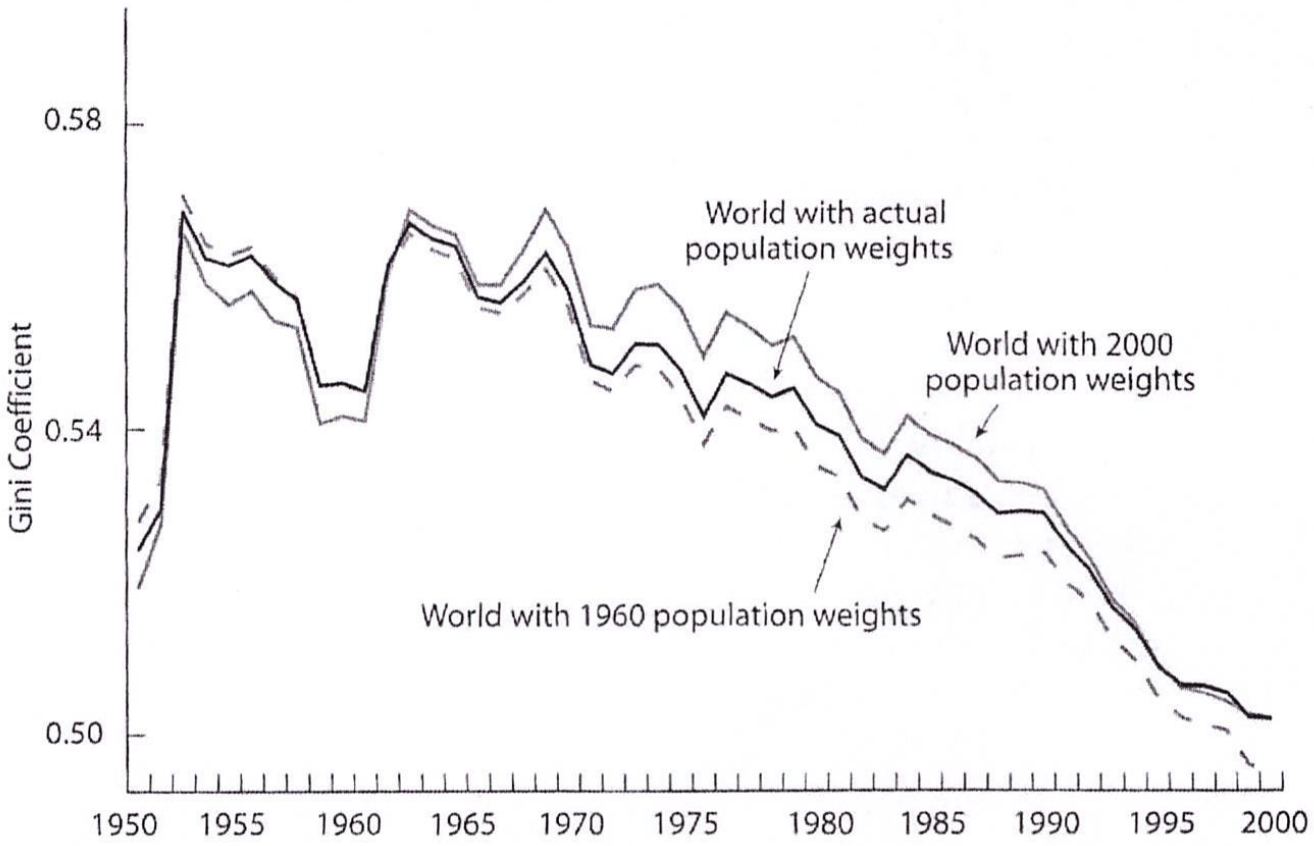


Figure 8.2. International weighted inequality (with different population weights).

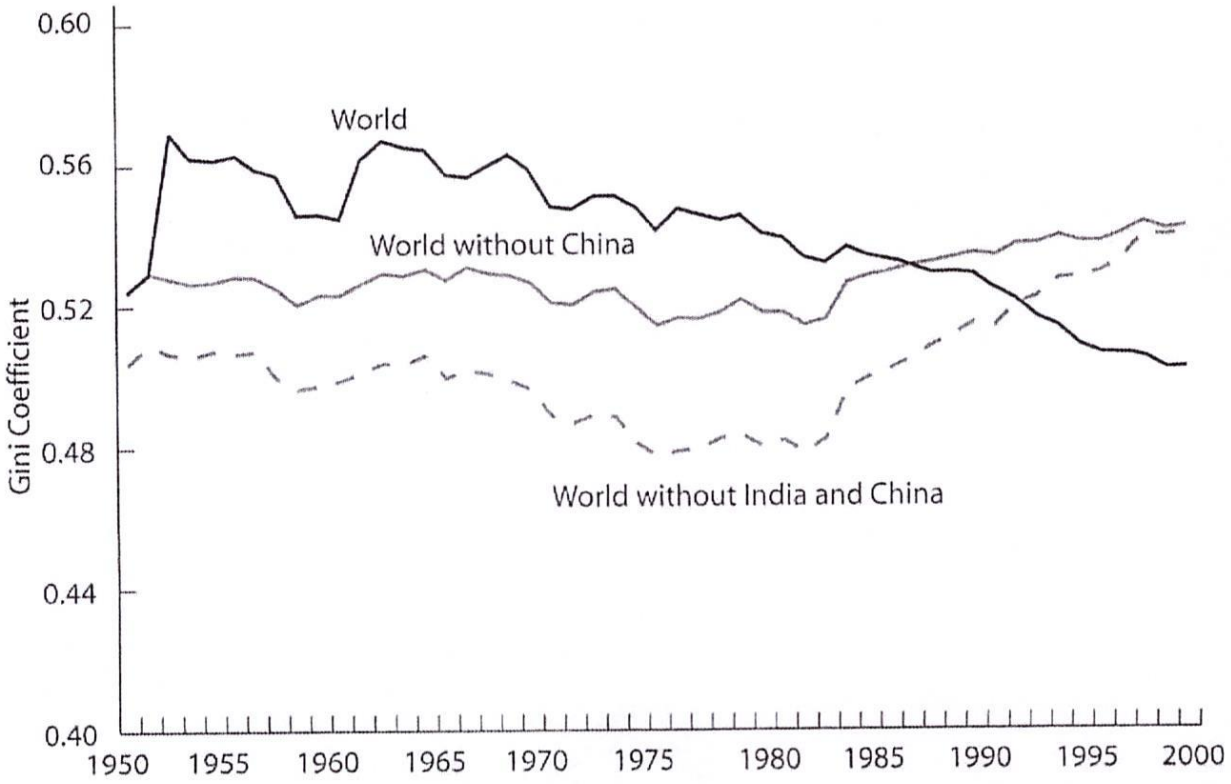


Figure 8.3. Weighted international inequality without China and India.

Concept 3: World Inequality among Individuals

Concept 3: Bourguignon and Morrisson on the Decomposition of Inequality among World Citizens: 1820-1992 (AER, 2002)

During the two first periods that were examined (1820-1870 and 1870-1910) the two main contributions to the change in world inequality were

- the slow economic growth of Asia (in 19th century the average annual growth rate was 0.2%,4.5 times slower than world average)

- the second dis-equalizing factor was evidently the rapid enrichment of the European population.

TABLE 3—DECOMPOSITION OF CHANGE IN INEQUALITY BY REGIONAL INCOME, POPULATION, AND INEQUALITY EFFECTS

Source of change in world inequality	Africa	Asia	Japan, Korea, and Taiwan	Latin America	Eastern Europe	Europe and European settlements	Total	Total observed change in inequality	Discrepancy
A. *Theil Index:*									
1820–1870									
Difference in income growth from world average	0.005	**0.050**	0.002	0.000	0.000	**0.039**	**0.095**		
Difference in population growth from world average	0.000	0.003	0.000	0.001	0.001	0.010	**0.015**		
Within-country group inequality	0.001	0.001	0.000	0.000	0.000	**0.013**	**0.016**		
Total							**0.126**	0.149	−0.023
1870–1910									
Difference in income growth from world average	0.008	**0.068**	0.000	0.000	0.002	**0.032**	**0.110**		
Difference in population growth from world average	0.000	0.003	0.000	0.000	−0.002	0.007	0.007		
Within-country group inequality	0.001	0.004	0.000	0.001	0.006	−0.001	**0.010**		
Total							**0.127**	0.125	0.002

- During the third period (1910-1950) the story is quite the same but note the equalizing role of the decline in “within inequality” in Asia, Western and Eastern Europe.

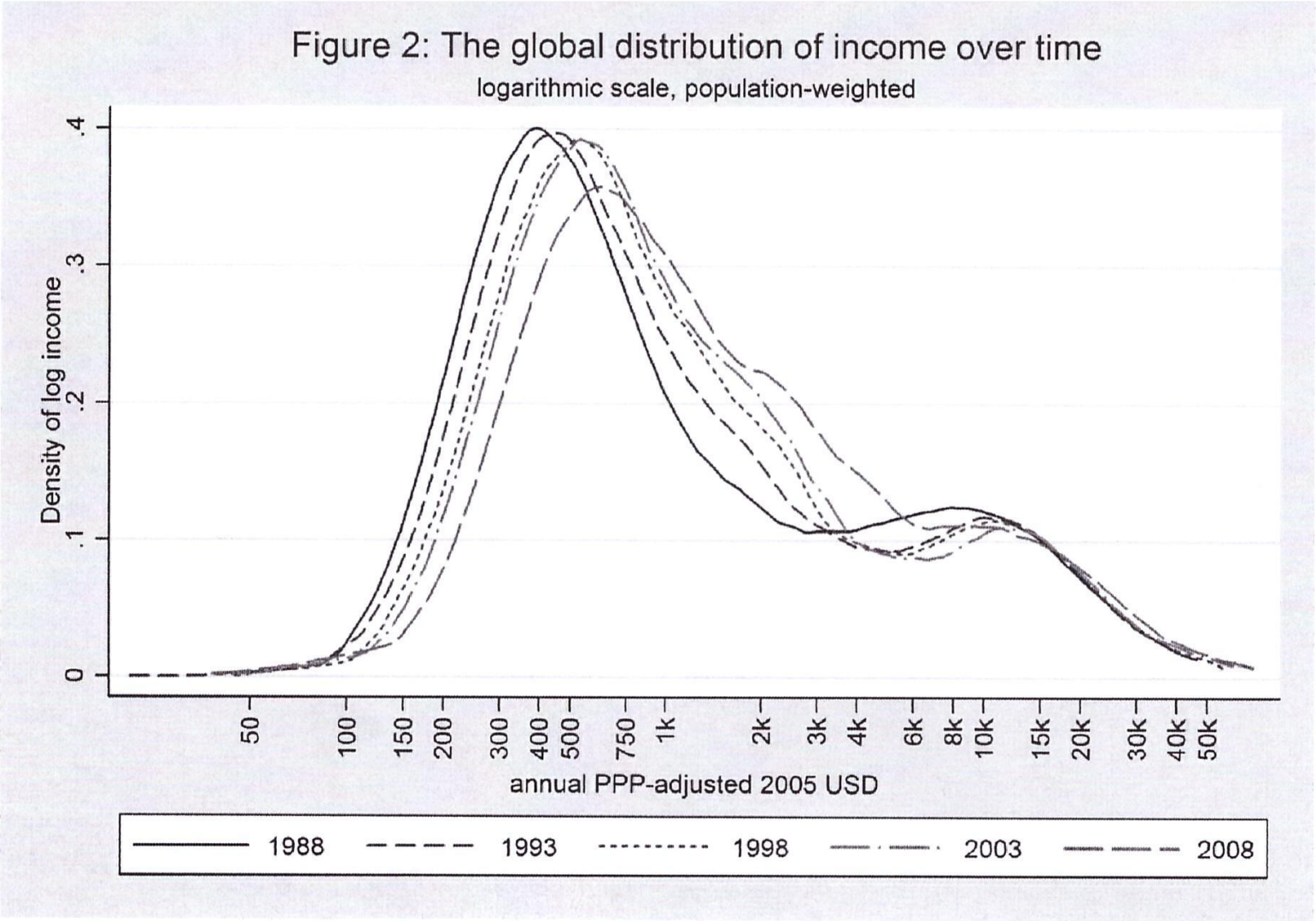
- During the last period (1950-1992) Europe continued contributing to an increase in world inequality but note that now Asia’s growth contributed to a decline in world inequality

1910–1950									
Difference in income growth from world average	0.005	**0.110**	0.001	−0.003	−0.004	**0.050**	**0.159**		
Difference in population growth from world average	−0.001	0.000	−0.003	−0.001	0.003	−0.002	−0.004		
Within-country group inequality	0.004	**−0.010**	−0.003	0.000	**−0.038**	**−0.093**	**−0.139**		
Total							**0.016**	0.008	0.009
1950–1992									
Difference in income growth from world average	**0.015**	**−0.064**	0.003	0.001	**0.011**	**0.072**	**0.038**		
Difference in population growth from world average	0.003	**0.009**	0.004	−0.003	**0.015**	−0.005	**0.023**		
Within-country group inequality	0.005	**0.010**	0.000	0.002	0.000	**−0.035**	**−0.018**		
Total							**0.043**	0.050	−0.007

Concept 3: Lakner & Milanovic (2013)

- The next figure will show that in 1988 there were two peaks, one around $PPP 400 and another around $PPP 10,000.
- In 2008 the second peak disappeared but there is more mass around $PPP 3,000
- There is clearly a rightward movement of the distribution over time
- Note in particular the important rise in the share of the population having an income between $PPP 750 and $PPP 6,000. This share rose from 23% in 1988 (1.16 billion people) to 40% in 2008 (2.7 billion people).

Lakner & Milanovic (2013)



WITHIN COUNTRIES INEQUALITY
The case of the OECD countries

Divided We Stand: Why Inequality Keeps Rising - © OECD 2011

Overview Figure 1.

Version 1 - Last updated: 23-Nov-2011

Figure 1. Income inequality increased in most, but not all OECD countries

Gini coefficients of income inequality, mid-1980s and late 2000s

Note: For data years see Table 1. "Little change" in inequality refers to changes of less than 2 percentage points.

* Information on data for Israel: *http://dx.doi.org/10.1787/888932315602.*

Source: OECD Database on Household Income Distribution and Poverty.

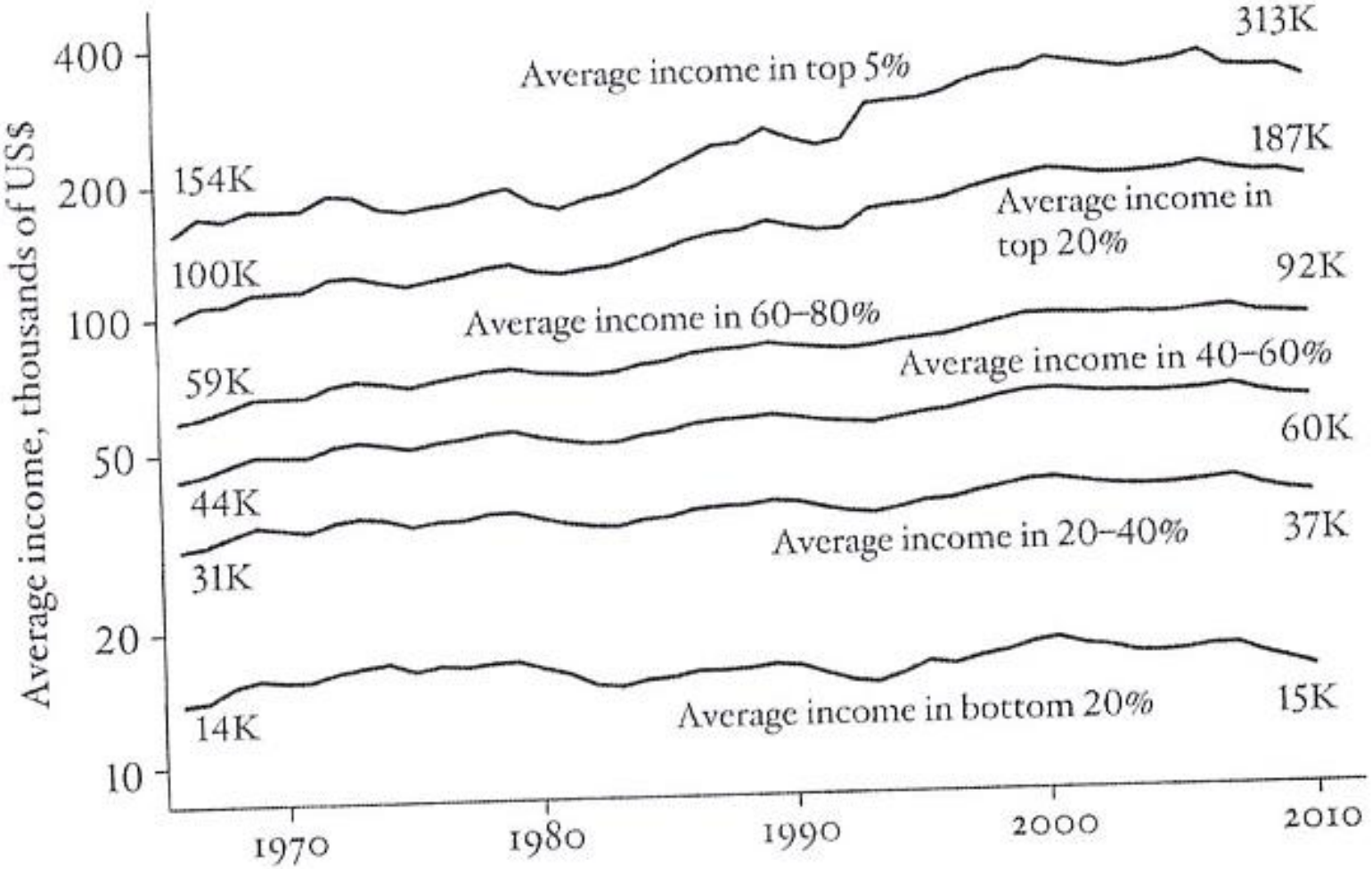
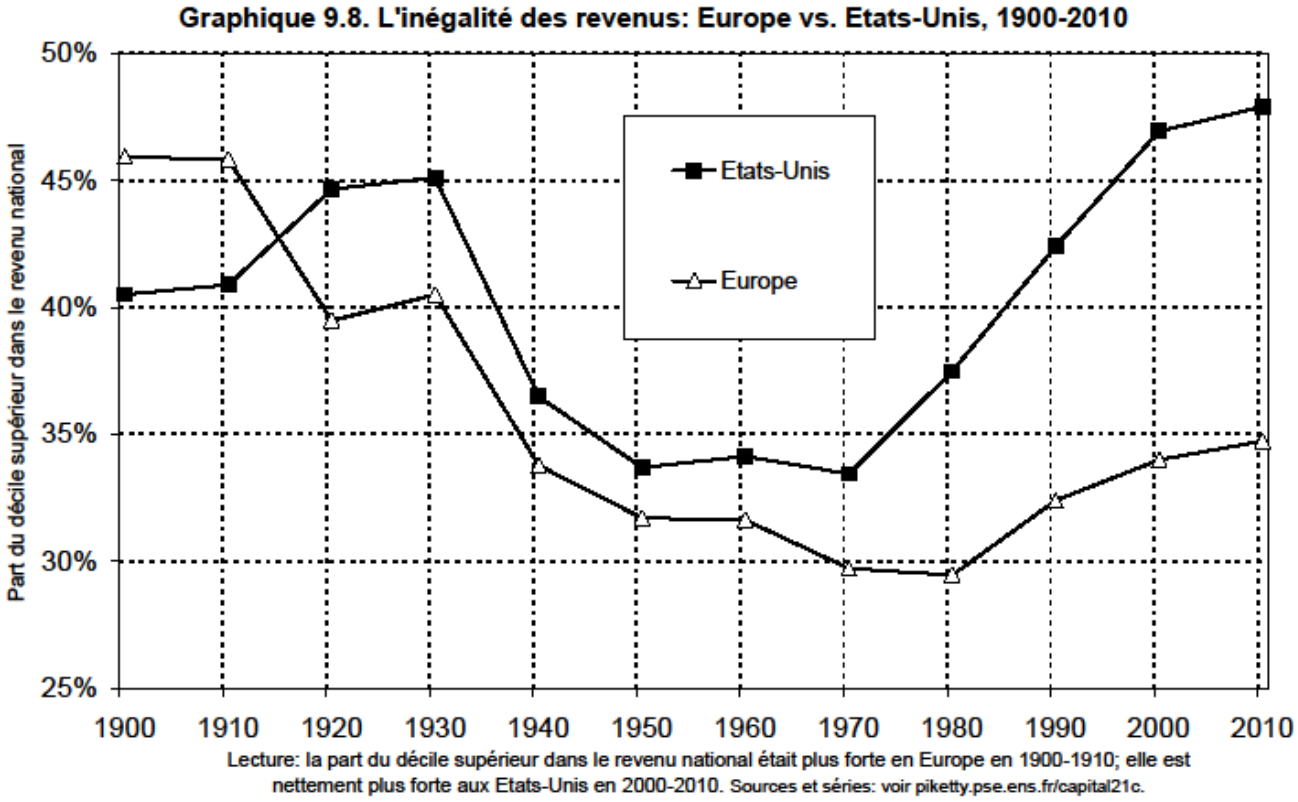


FIGURE 3 The distribution of family income in the United States.

Share of top incomes (top decile): Europe versus USA (Piketty, 2014)



Piketty's data: share of top decile is

45-50%in 1910-1920;

30-35% towards end of 1940s;

45-50% in 2000.

Piketty's explanation:

- Unprecedented explosion of very high labor incomes, that is, a separation of top managers of firms from the rest of the population.
- One reason could be that the productivity of top managers rose suddenly when compared to that of other workers. But unlikely.
- A better explanation: top managers set their own remuneration without much link to productivity and often without limits, especially in USA and to a lesser degree in UK.

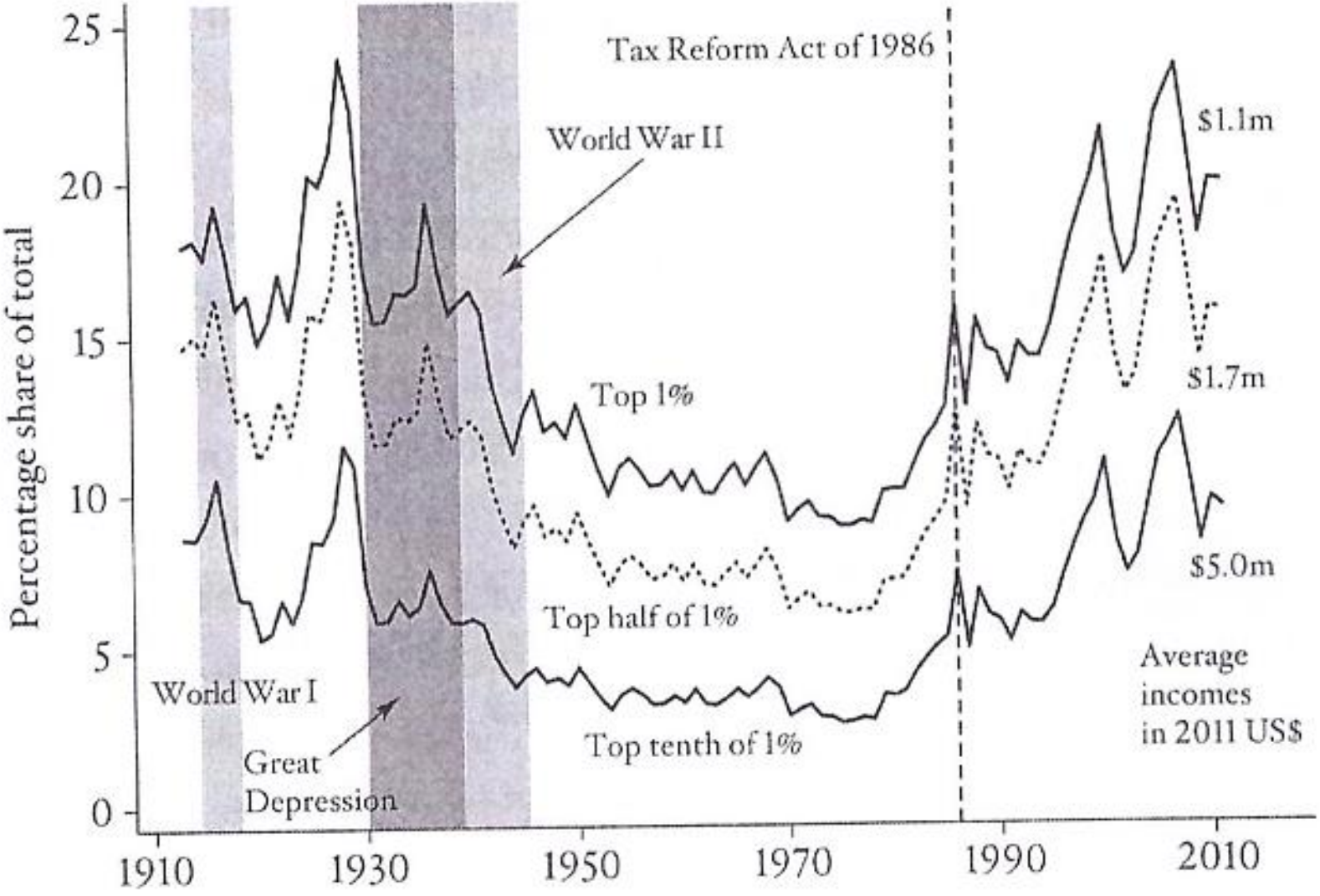


FIGURE 4 Top incomes, including capital gains, 1913–2011.

GLOBALIZATION

"The best measure of international commodity market integration remains international price convergence. Figure 1.2 plots markups for cloves, pepper, and coffee (O'Rourke and Williamson 2000, based on Bulbeck et al. 1998), where markups are defined as the ratio of European to Asian price. The figure shows price convergence for cloves from the 1590s to the 1640s, but it was short-lived…. Thus, there is absolutely no evidence of commodity price convergence for these important Dutch imports prior to the nineteenth century…"

"…Was English trade in Asia any different than Dutch trade? Apparently not…Again, there is no sign of declining markups (where markups include all trade costs, as well as any East India Company monopoly profits) over the century between 1664 and 1769…"

Conclusion:

"The range of goods that have been traded between continents since the Voyages of Discovery has steadily increased over time, and there has been substantial commodity market integration over the period, driven by technology in the nineteenth century and politics in the late twentieth century. However, this trend toward greater market integration was *not* monotonic; it was periodically interrupted by shocks such as wars and world depressions, or by endogenous political responses to the distributional effects of globalization…"

Commodity Market Integration: 1500–2000

(source: R. Findlay and K. H. O'Rourke, 2003)

Spice & coffee markups: Amsterdam vs Southeast Asia 1580-1939

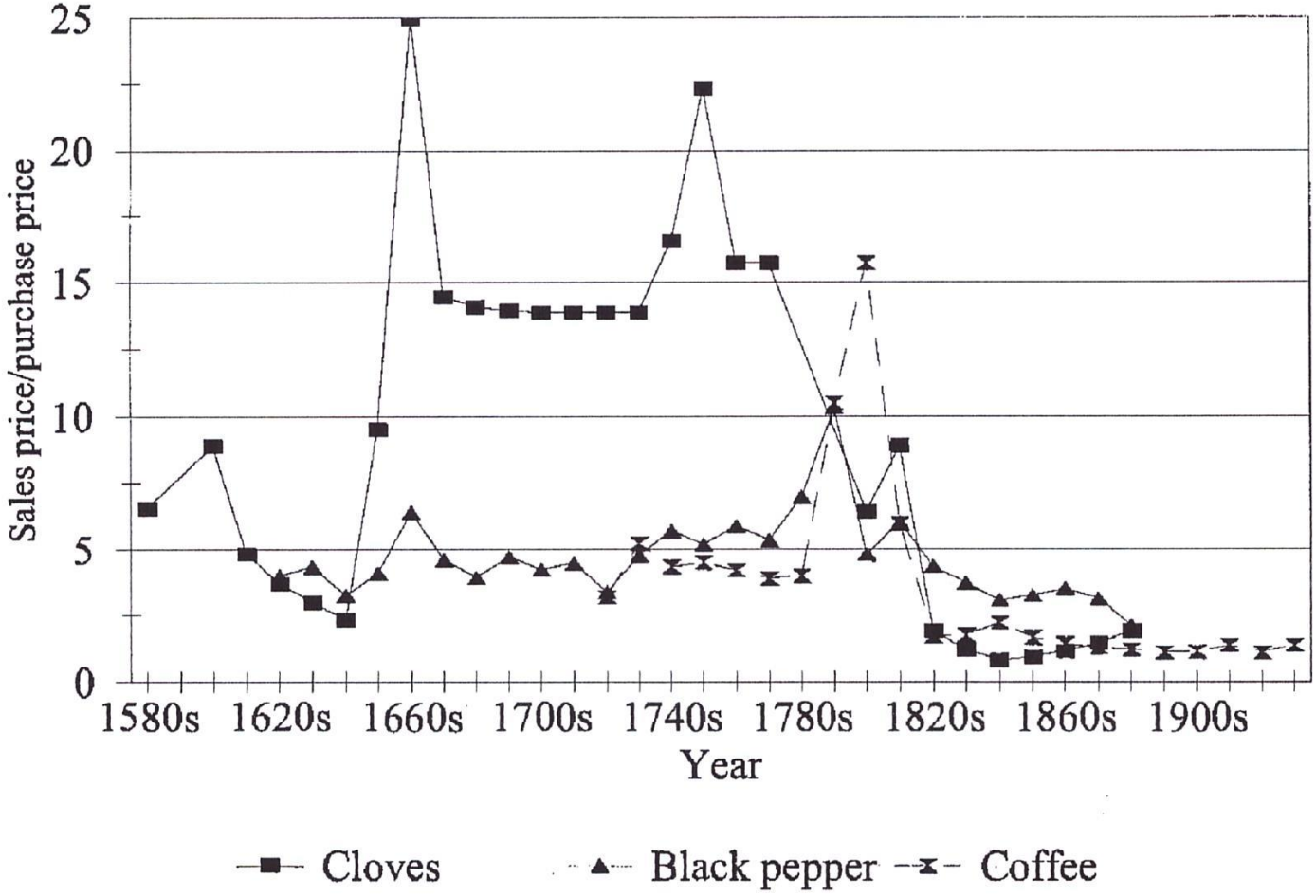


Fig. 1.2 Spice and coffee markups: Amsterdam versus Southeast Asia, 1580–1939

Asian textile trade markups 1664-1759

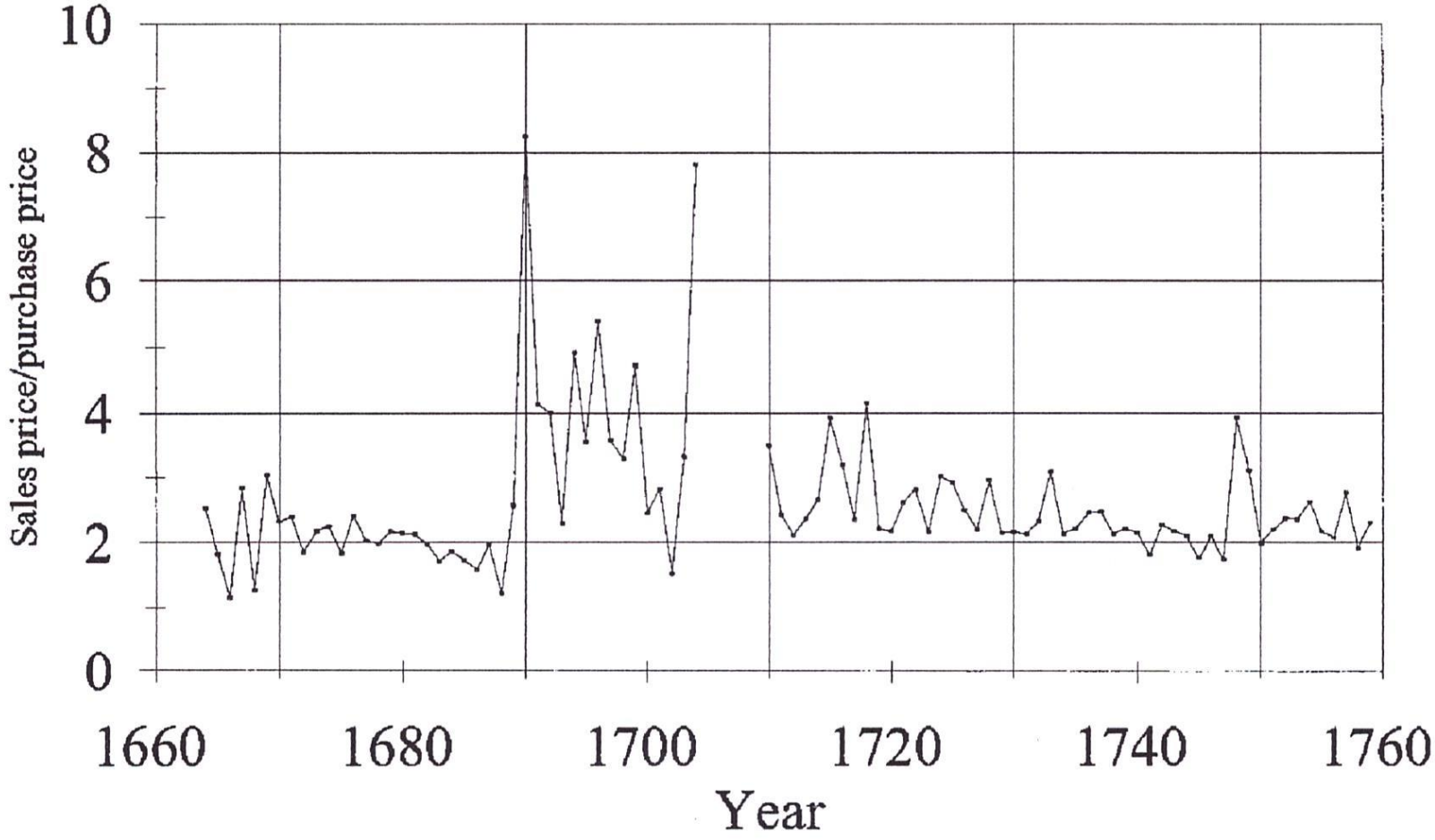


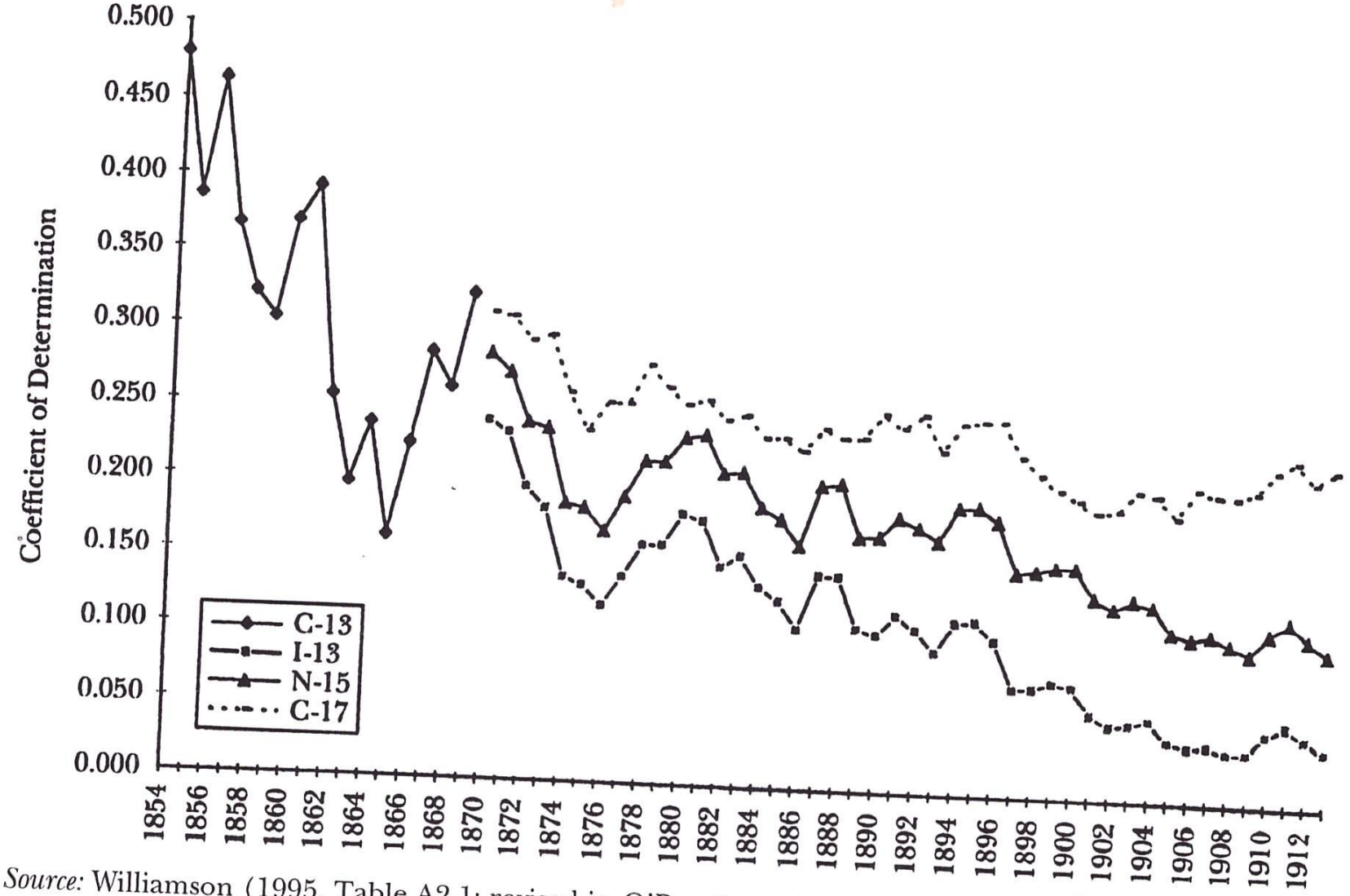
Fig. 1.3 Asian textile trade markups, 1664–1759

Williamson (1998) on Globalization & Labor Markets

Indicator: (Variance/ square of the mean)

Figure 2

International Real Wage Dispersion, 1854–1913



Source: Williamson (1995, Table A2.1; revised in O'Rourke and Williamson, 1997).

The 1870-1914 period: new and old world countries

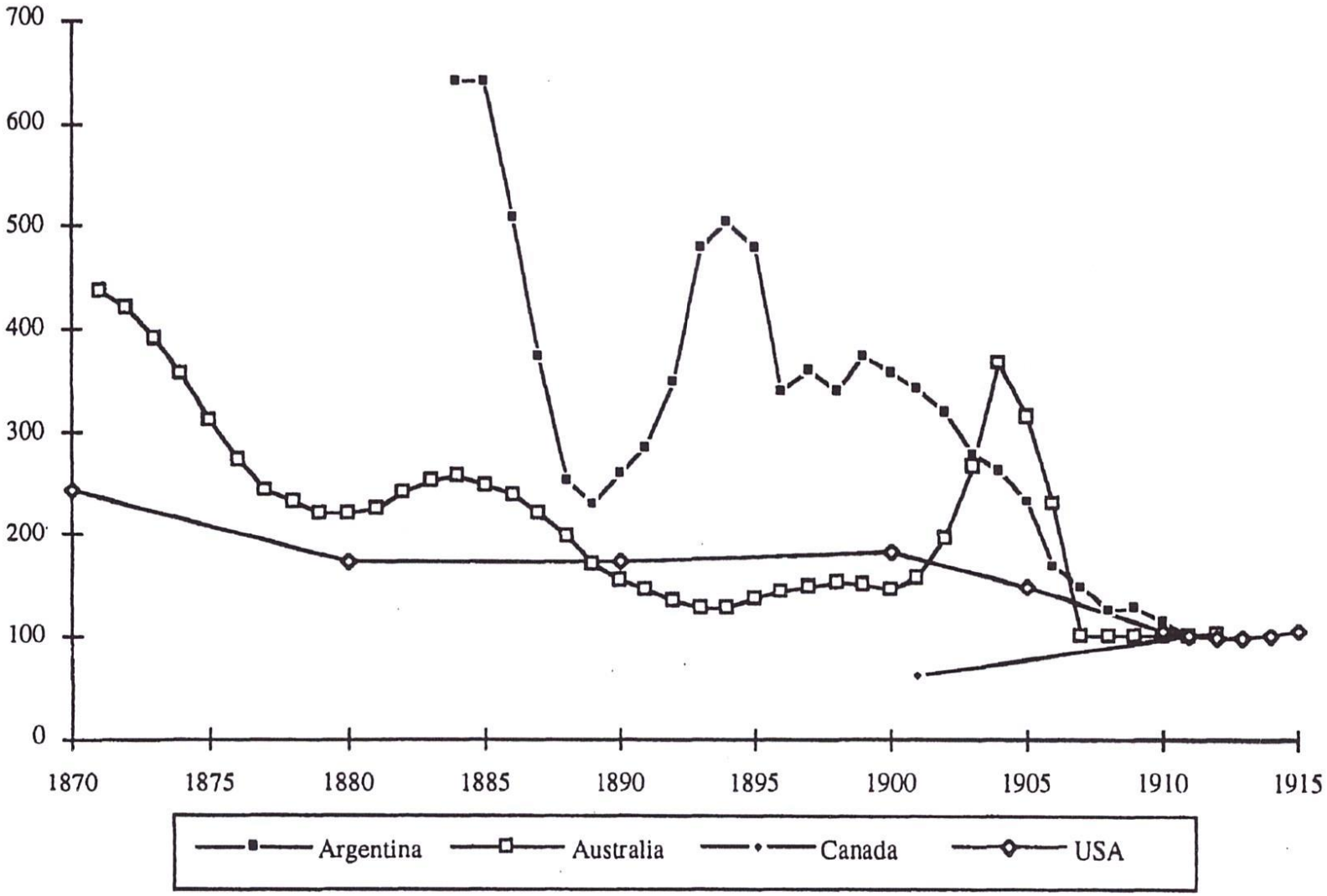


FIGURE 1

RATIO OF WAGES TO LAND VALUES 1870–1910, NEW WORLD COUNTRIES (1911 = 100)

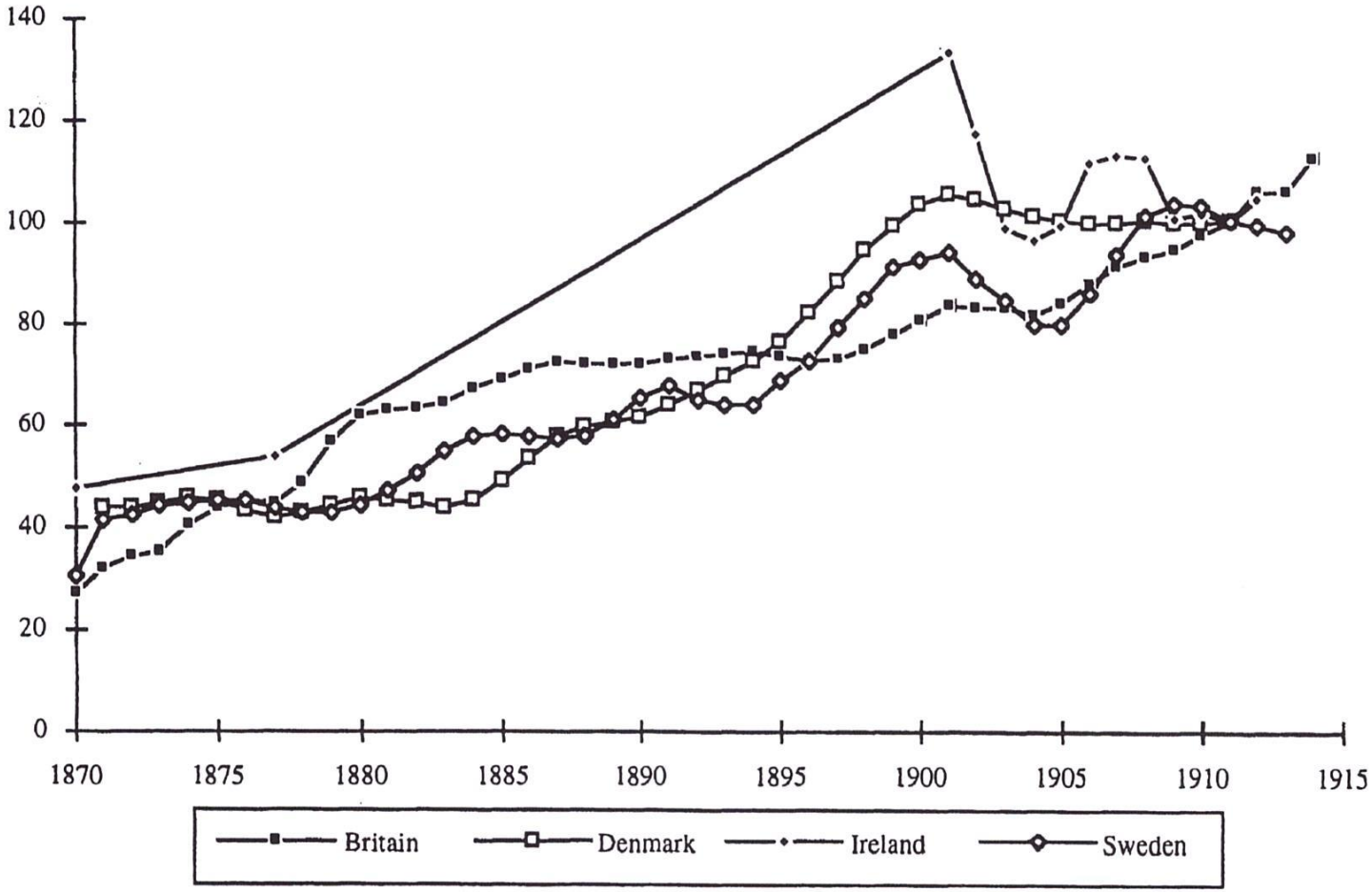


FIGURE 2

RATIO OF WAGES TO LAND VALUES 1870–1910, OLD WORLD "FREE TRADE" COUNTRIES (1911 = 100)

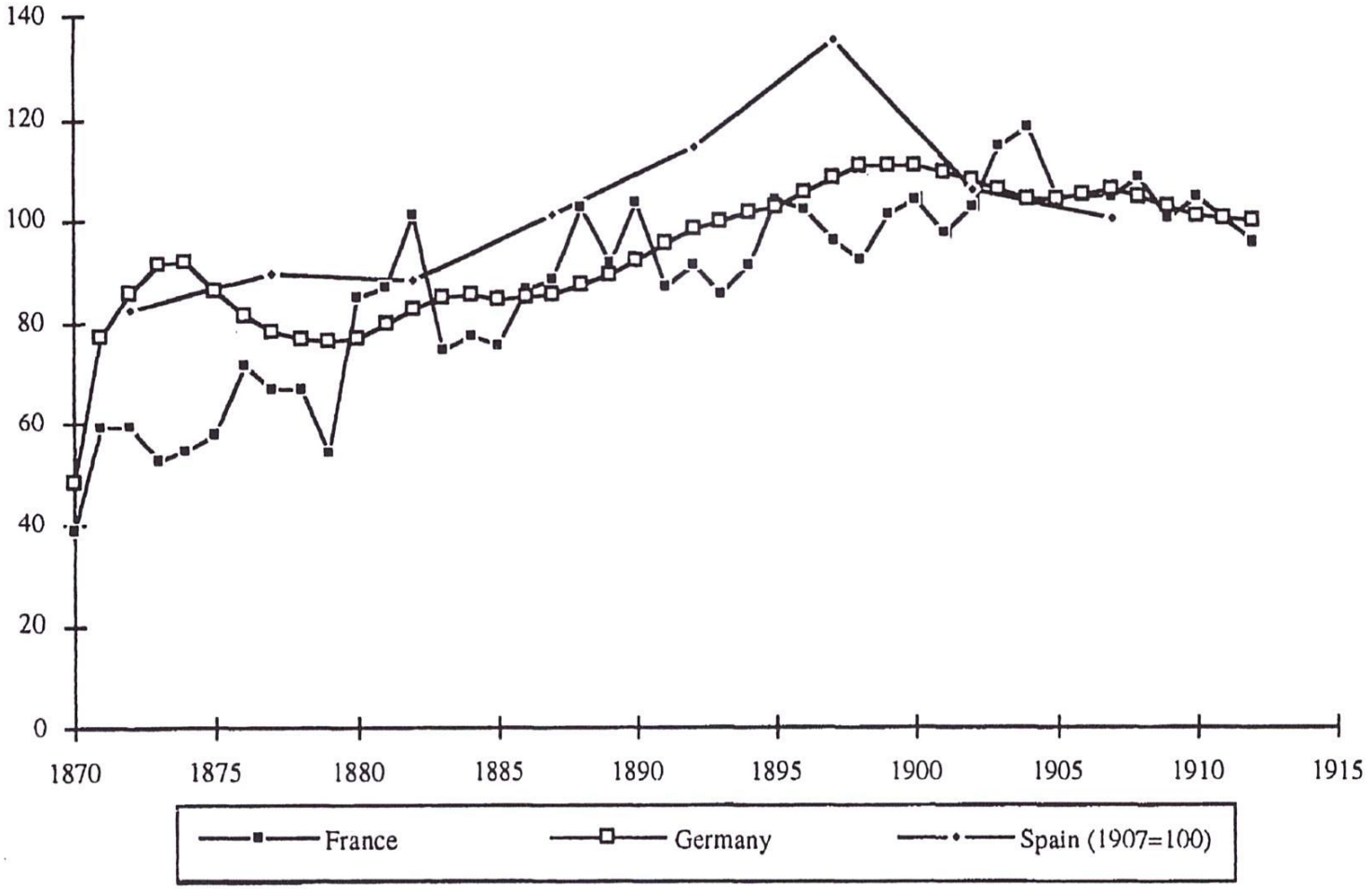


FIGURE 3

RATIO OF WAGES TO LAND VALUES 1870–1910, OLD WORLD "PROTECTED" COUNTRIES (1911 = 100)

European Real Trade 1870-1914

Table 1.1. European real trade 1870-1913

	1870 (million 1990 $)	Growth 1870-1913
Austria	467	+333%
Belgium	1,237	+492%
Denmark	314	+376%
Finland	310	+415%
France	3,512	+222%
Germany	6,761	+465%
Italy	1,788	+158%
Netherlands	1,727	+151%
Norway	223	+283%
Spain	850	+335%
Sweden	713	+274%
Switzerland	1,107	+418%
UK	12,237	+222%
Weighted average		+294%
Weighted average, rest of the world		+379%

Source: Maddison (2001)

Table 1.2. Exports plus imports as share of GDP

	1870	1880	1890	1900	1913
Austria	29.0%	25.5%	25.2%	26.8%	24.1%
Belgium	35.6%	53.2%	55.6%	65.4%	101.4%
Denmark	35.7%	45.8%	48.0%	52.8%	61.5%
Finland	31.7%	50.8%	39.3%	47.6%	56.2%
France	23.6%	33.5%	28.2%	26.8%	30.8%
Germany	36.8%	32.1%	30.1%	30.5%	37.2%
Greece	45.6%	42.3%	39.4%	42.3%	29.4%
Hungary	19.4%	23.7%	22.1%	22.3%	20.8%
Italy	18.3%	18.3%	15.9%	19.0%	23.9%
Netherlands	115.4%	100.5%	112.3%	124.1%	179.6%
Norway	33.9%	36.1%	43.6%	43.4%	50.9%
Portugal	33.7%	43.8%	45.3%	48.9%	57.4%
Russia		14.4%	15.0%	11.4%	13.8%
Spain	11.7%	13.9%	19.2%	21.9%	22.7%
Sweden	29.4%	37.3%	44.9%	39.4%	34.7%
Switzerland		78.2%	81.9%	67.2%	64.5%
UK	43.6%	46.0%	46.6%	42.4%	51.2%
Best guess, European trade to GDP ratio	29.9%	33.4%	32.6%	31.9%	36.9%
Idem, net of intra-European trade	9.2%	10.7%	10.8%	11.1%	13.5%

Notes: Ottoman Empire, Albania, Bulgaria, Romania and Serbia not included

Source: Bairoch (1976), and data graciously provided by Leandro Prados de la Escosura.

Global transport cost changes 1870 to 1990

Table 1

Global Transport Cost Changes and Commodity Price Convergence Indicators 1870-1990

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1. The Big Bang Era Before World War I

The Greater Atlantic Economy

A. Transport Declines

American export routes, deflated freight cost	1869/71-1908/10	100 to 55
American east coast routes, deflated freight cost	1869-71-1911/13	100 to 55
Addendum: freight cost/wheat price		41 to 22.6% or **4.6% pts per decade**
British tramp, deflated freight cost	1869/71-1911/13	100 to 78

B. Commodity Price Convergence

Liverpool vs Chicago, wheat price gap	1870-1912	58 to 16%
London vs Cincinnati, bacon price gap	1870-1913	93 to 18%
Philadelphia vs London, pig iron price gap	1870-1913	85 to 19%
London vs Boston, wool price gap	1870-1913	59 to 28%
London vs Buenos Aires, hides price gap	1870-1913	28 to 9%

The Third World

A. Transport Declines		
Rangoon to Europe, freight costs/rice price	1882-1914	74 to 18%
Addendum: freight cost/rice price		74 to 18% or **18.7% pts per decade**
Java to Amsterdam, freight costs on sugar	1870-1914	100 to 40 or 50
Nagasaki to Shanghai, freight costs on coal	1880-1910	100 to 24
B. Commodity Price Convergence		
Liverpool vs Odessa, wheat price gap	1870-1906	40 to 2%
Liverpool vs Bombay, cotton price gap	1873-1913	57 to 20%
London vs Calcutta, jute price gap	1873-1913	35 to 4%
London vs Rangoon, rice price gap	1873-1913	93 to 26%
Liverpool vs Alexandria, cotton price gap	1837/46-1890/99	63 to 5%

2. The Slow Down to Steady State Era 1920-1990

A. Transport Costs

World Bank deflated ocean freight cost index	1920-1940	100 to 68
Addendum: freight costs/wheat price		27.5 to 18.7% or **4.4% pts per decade**
World Bank deflated ocean freight cost index	1950-1990	100 to 76
Addendum: freight costs/wheat price		18.7 to 14.2% or **1.1% pts per decade**

Notes: In the addenda, the freight cost/wheat price bases, to which the changing freight cost index is applied. See Williamson (1999c, Table 1).

MEASURING GLOBALIZATION DURING THE PAST FORTY YEARS. THE KOF (Konjunkturforschungsstelle) INDEX.

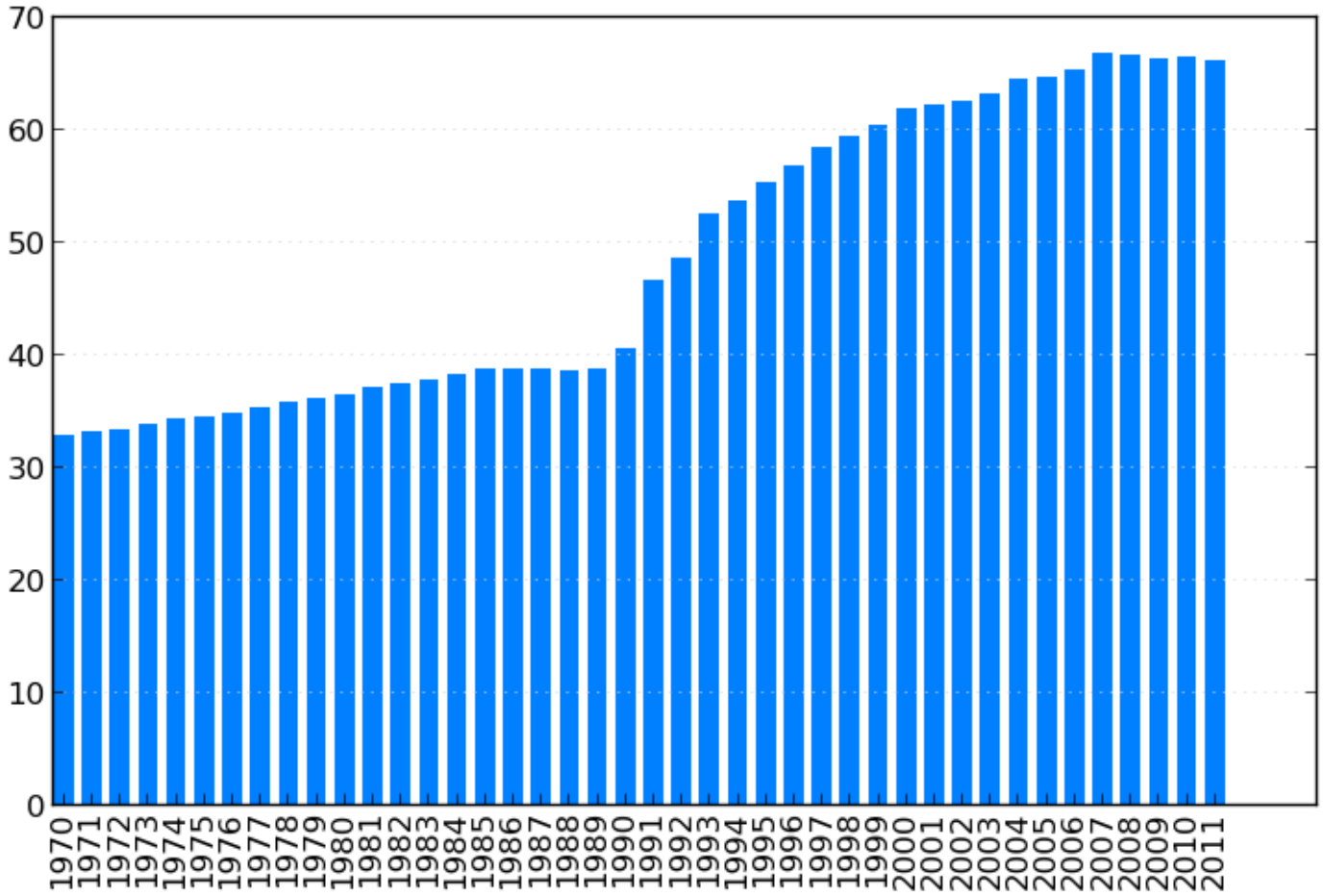
Appendix

Table A1. Components of the Index of Globalization

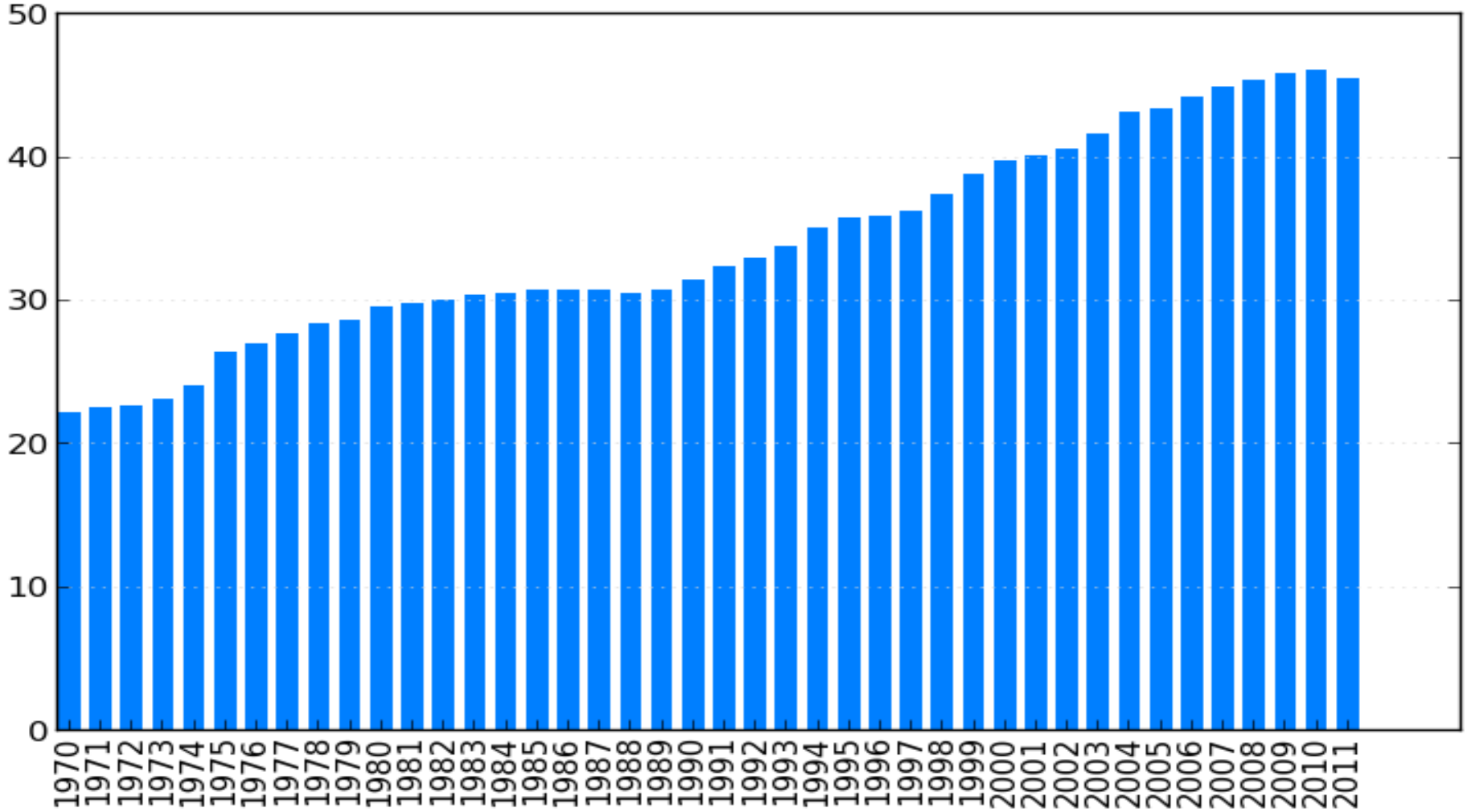
A. Data on economic integration	**[35%]**
(i) Actual flows	(50%)
Trade (percent of GDP)	(23%)
Foreign direct investment (percent of GDP)	(29%)
Portfolio investment (percent of GDP)	(27%)
Income payments to foreign nationals (percent of GDP)	(22%)
(ii) Restrictions	(50%)
Hidden import barriers	(20%)
Mean tariff rate	(30%)
Taxes on international trade (percent of current revenue)	(24%)
Capital account restrictions	(26%)
B. Data on political engagement	**[28%]**
Embassies in country	(34%)
Membership in international organizations	(34%)
Participation in UN Security Council missions	(32%)
C. Data on social globalization	**[38%]**
(i) Data on personal contact	(24%)
Outgoing telephone traffic	(31%)
Transfers (percent of GDP)	(9%)
International tourism	(1%)
Telephone average costs of call to USA	(33%)
Foreign population (percent of total population)	(26%)
(ii) Data on information flows	(39%)
Telephone mainlines (per 1000 people)	(18%)
Internet hosts (per capita)	(15%)
Internet users (share of population)	(18%)
Cable television (per 1000 people)	(16%)
Daily newspapers (per 1000 people)	(16%)
Radios (per 1000 people)	(17%)
(iii) Data on cultural proximity	(37%)
Number of McDonald's restaurants (per capita)	(100%)

Notes: The numbers in parentheses indicate the weight used to derive the indices. Weights may not sum to 100 due to rounding.
Source: Dreher et al. (2008).

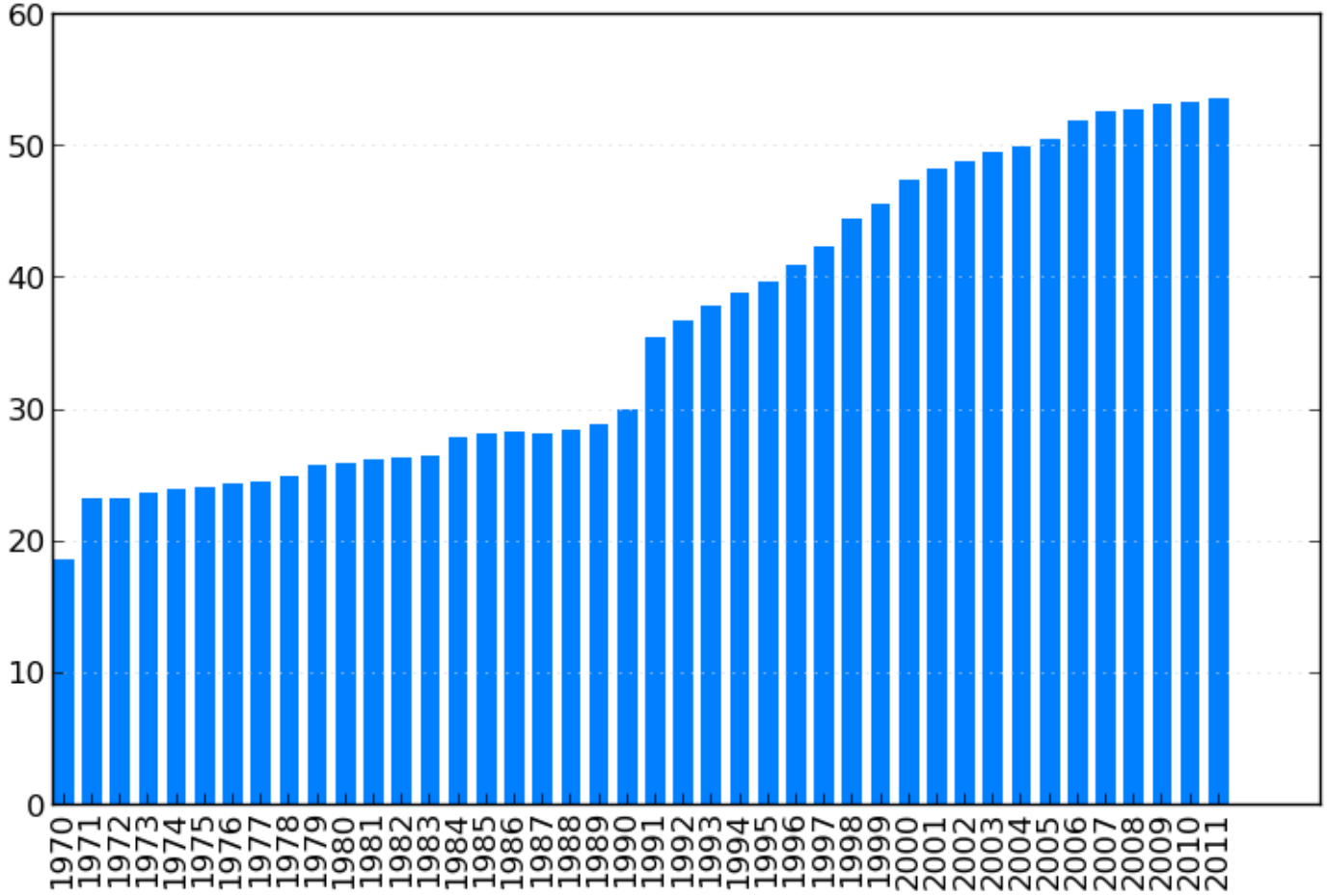
KOF Globalization Index: Europe



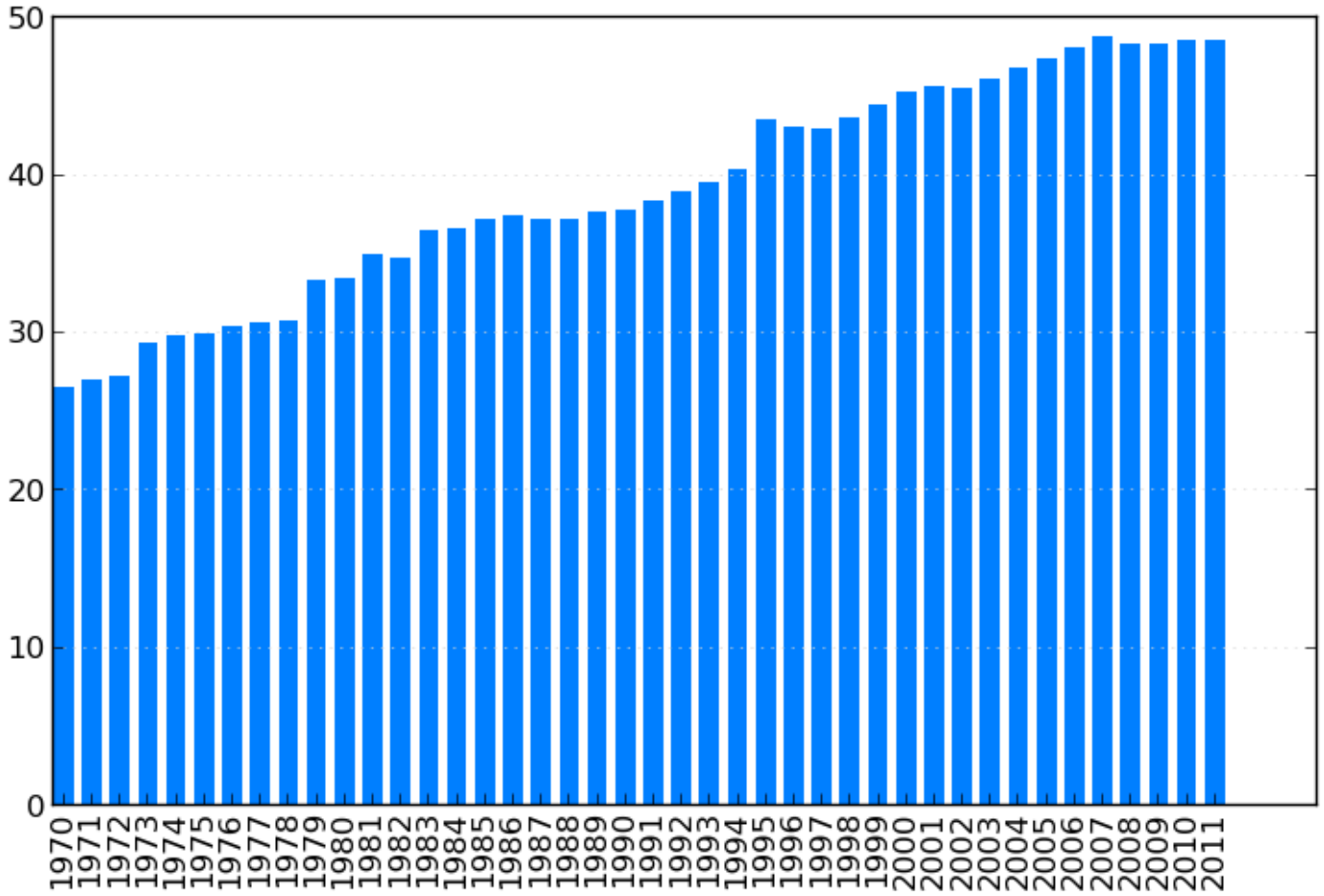
KOF Globalization Index Africa



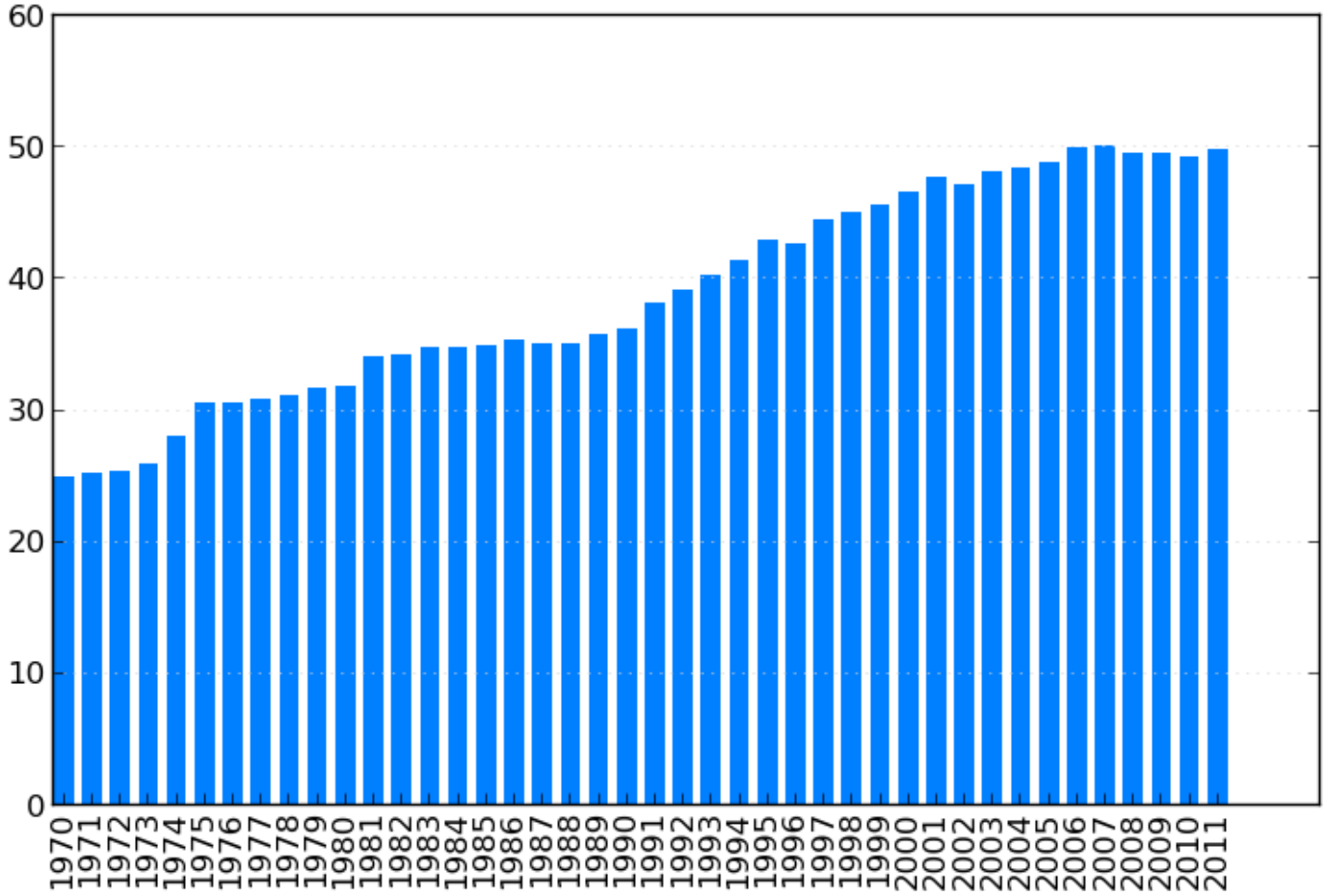
KOF Globalization Index Asia



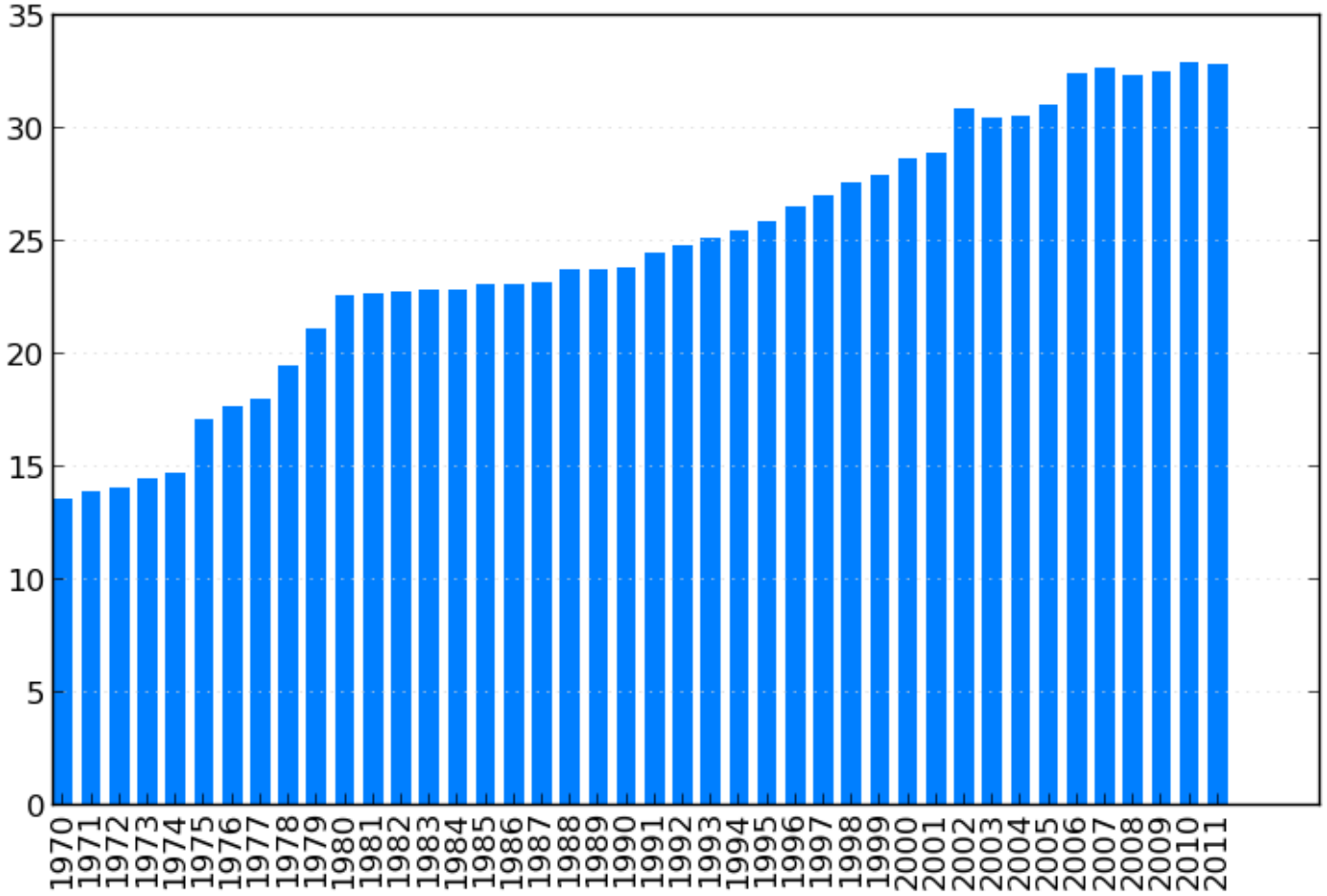
KOF Globalization Index North America



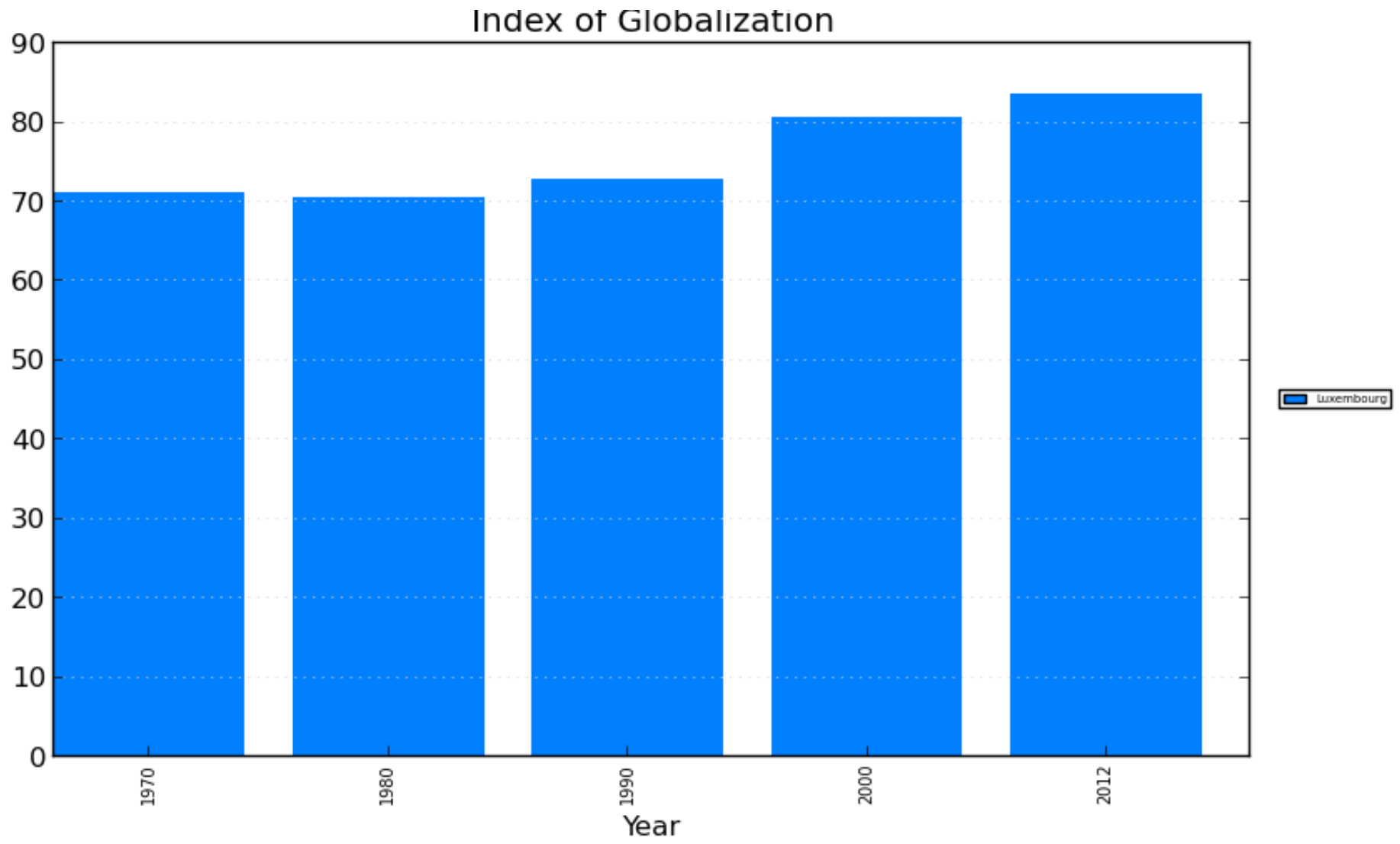
KOF Globalization Index South America



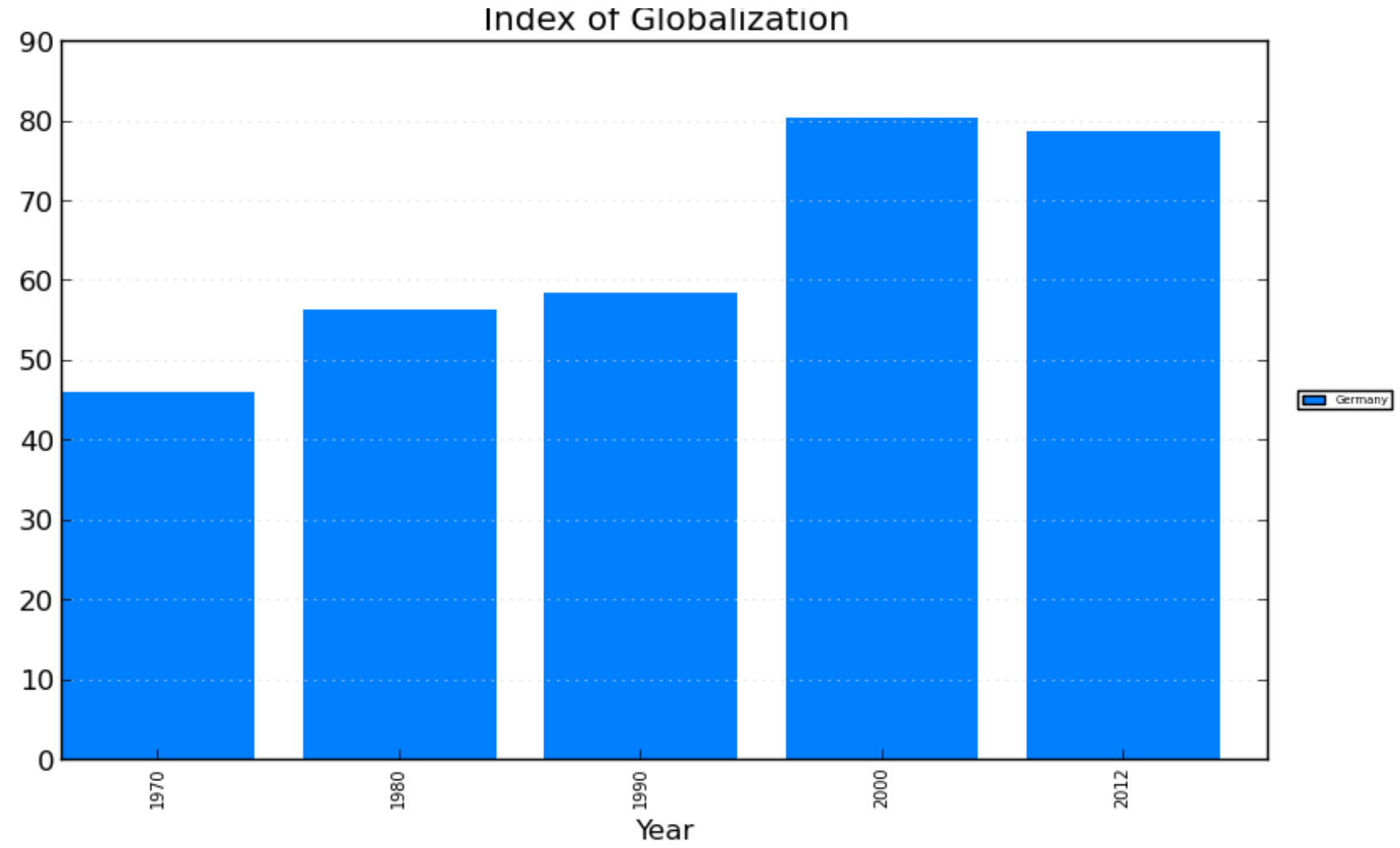
KOF Globalization Index Oceania



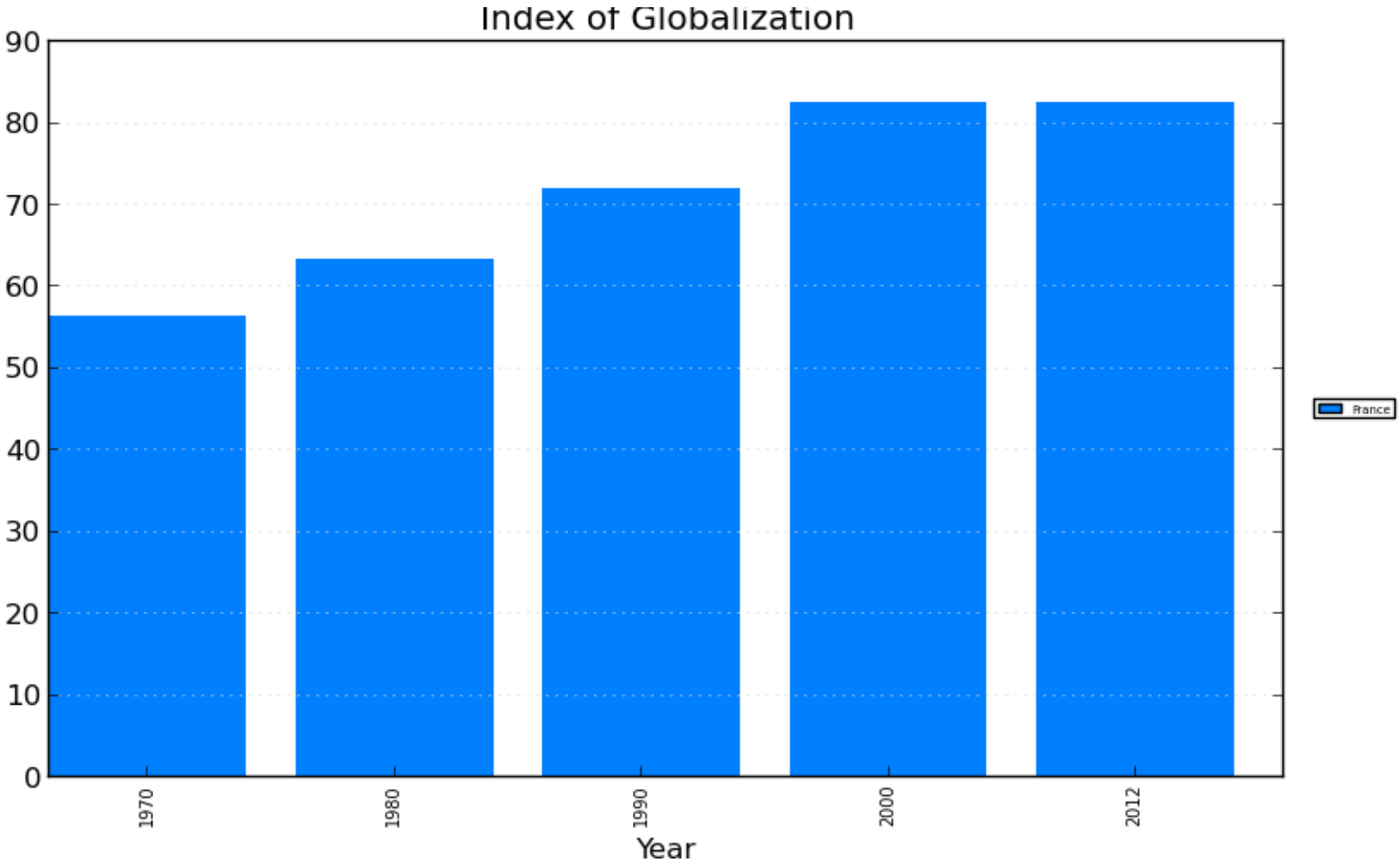
Luxembourg: KOF index of globalization



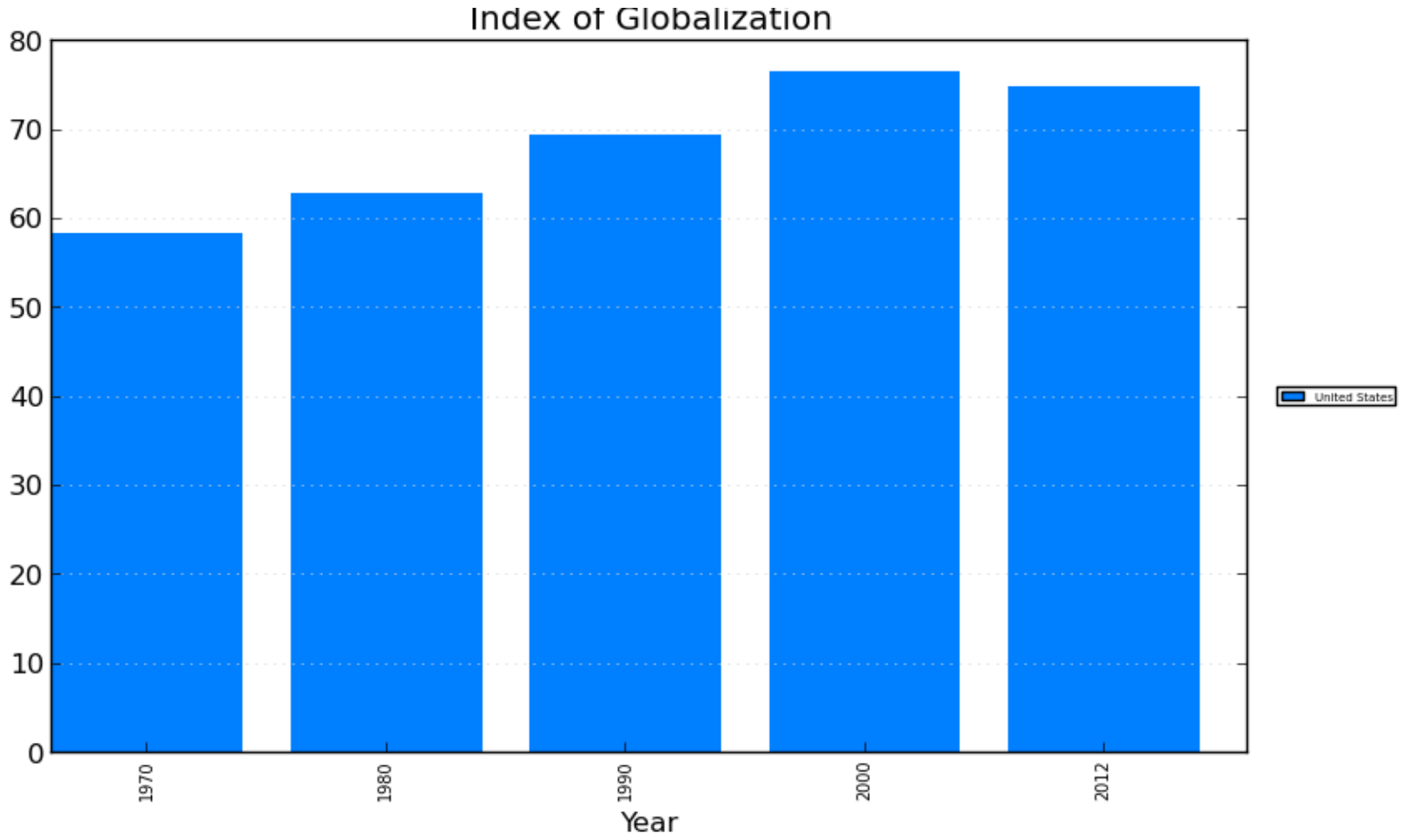
Germany: KOF index of globalization



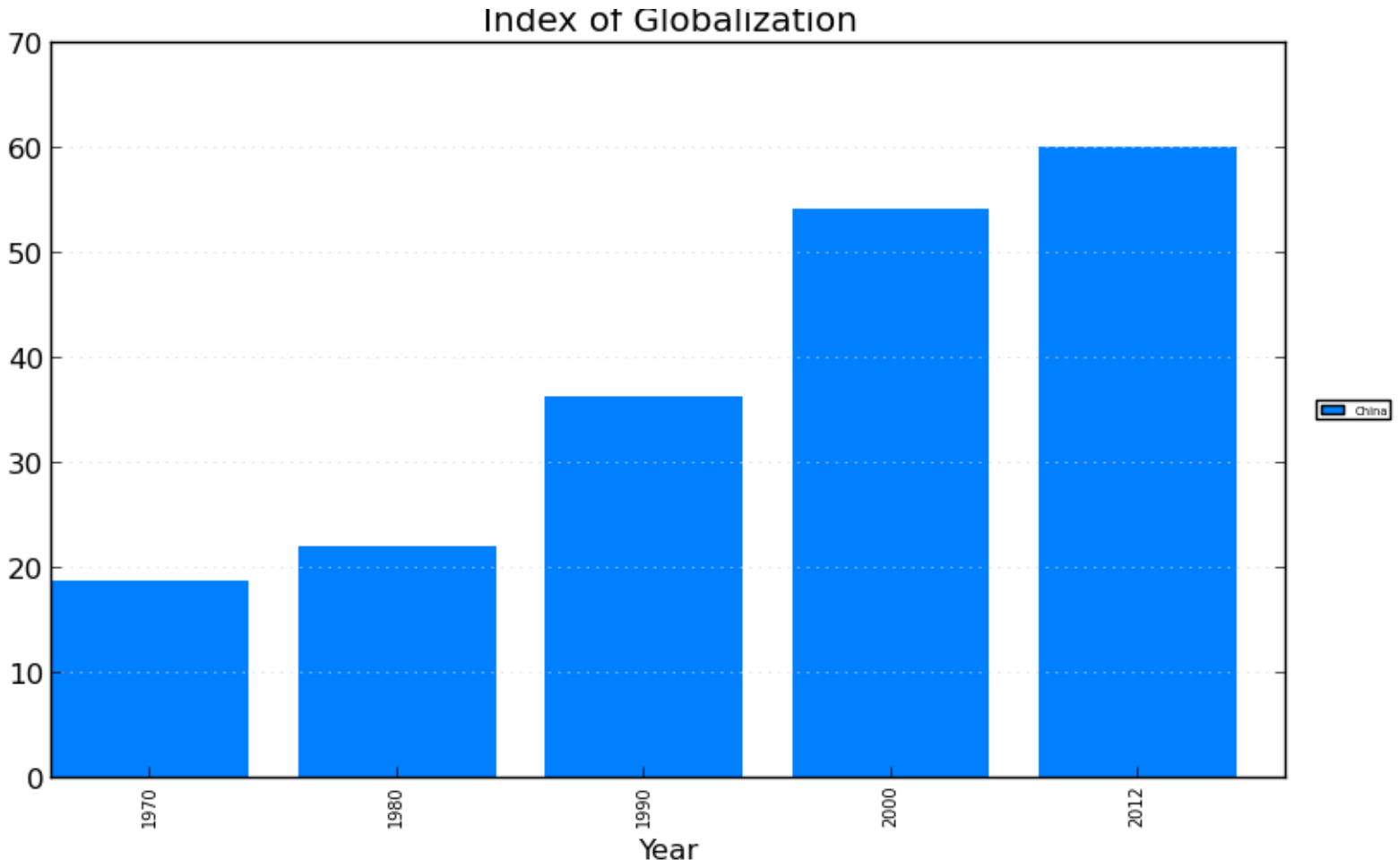
France: KOF index of globalization



United States: KOF index of globalization



China: KOF index of globalization



Index of Economic Globalization

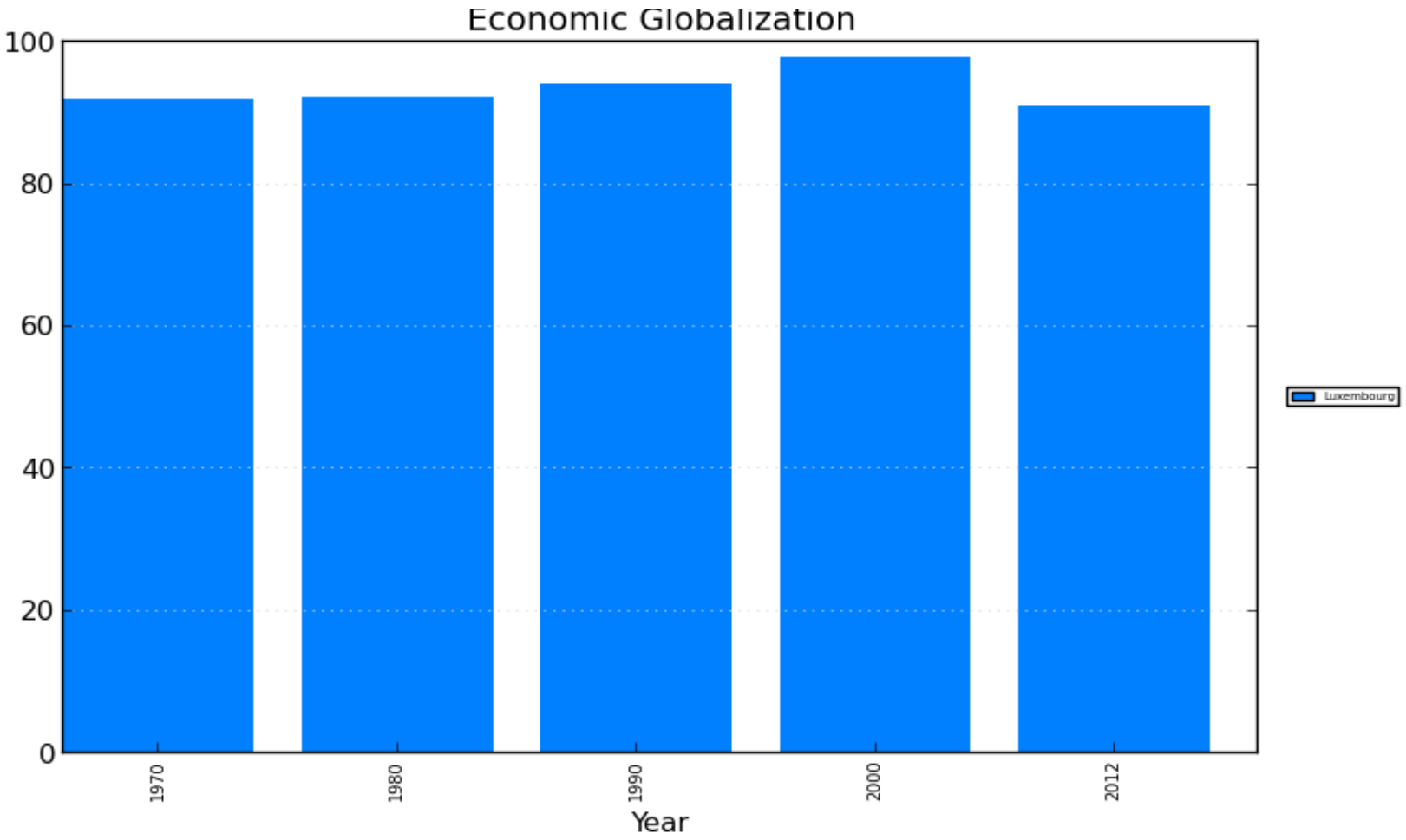
Appendix

Table A1. Components of the Index of Globalization

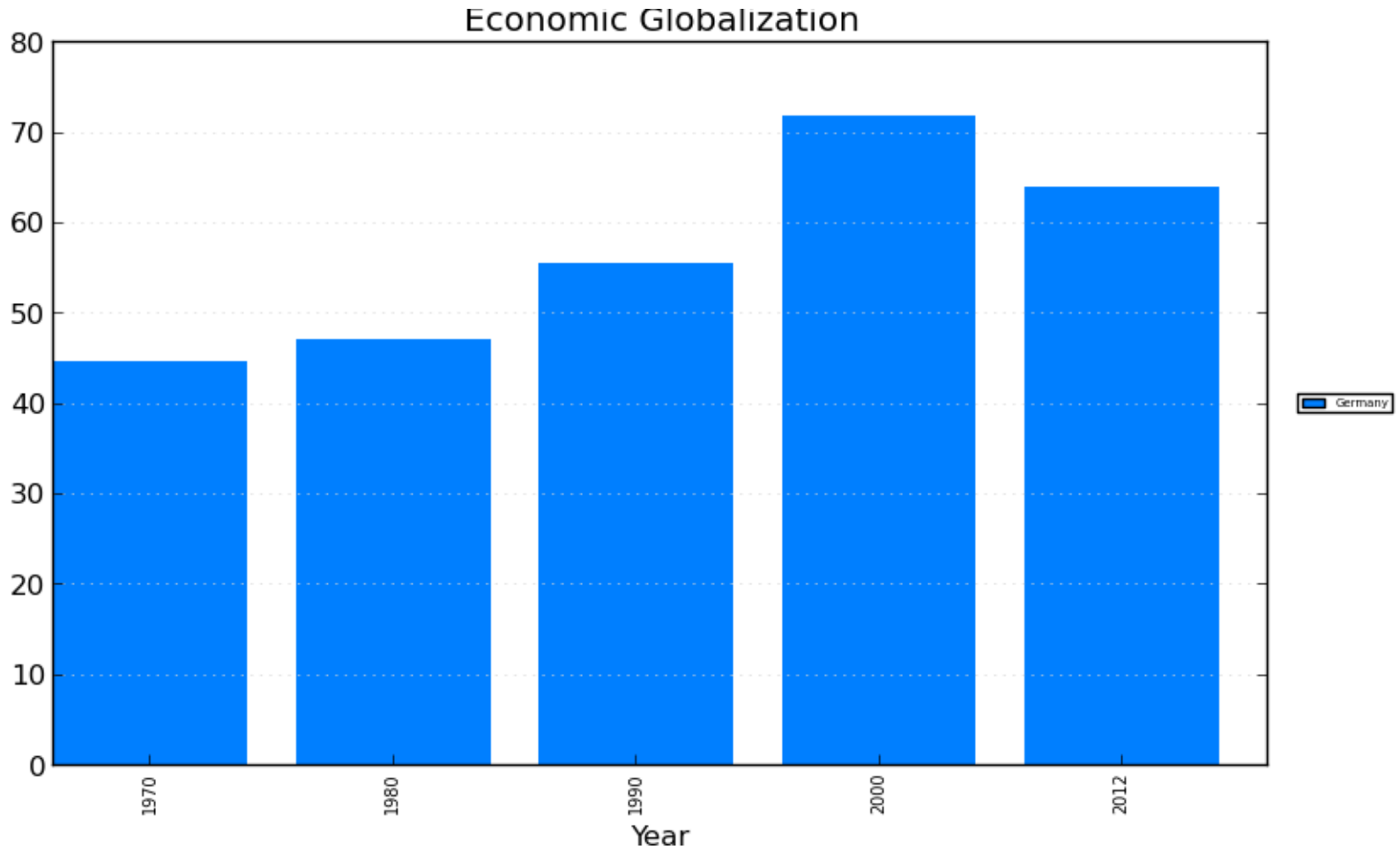
A. Data on economic integration	**[35%]**
(i) Actual flows	(50%)
Trade (percent of GDP)	(23%)
Foreign direct investment (percent of GDP)	(29%)
Portfolio investment (percent of GDP)	(27%)
Income payments to foreign nationals (percent of GDP)	(22%)
(ii) Restrictions	(50%)
Hidden import barriers	(20%)
Mean tariff rate	(30%)
Taxes on international trade (percent of current revenue)	(24%)
Capital account restrictions	(26%)
B. Data on political engagement	**[28%]**
Embassies in country	(34%)
Membership in international organizations	(34%)
Participation in UN Security Council missions	(32%)
C. Data on social globalization	**[38%]**
(i) Data on personal contact	(24%)
Outgoing telephone traffic	(31%)
Transfers (percent of GDP)	(9%)
International tourism	(1%)
Telephone average costs of call to USA	(33%)
Foreign population (percent of total population)	(26%)
(ii) Data on information flows	(39%)
Telephone mainlines (per 1000 people)	(18%)
Internet hosts (per capita)	(15%)
Internet users (share of population)	(18%)
Cable television (per 1000 people)	(16%)
Daily newspapers (per 1000 people)	(16%)
Radios (per 1000 people)	(17%)
(iii) Data on cultural proximity	(37%)
Number of McDonald's restaurants (per capita)	(100%)

Notes: The numbers in parentheses indicate the weight used to derive the indices. Weights may not sum to 100 due to rounding.
Source: Dreher et al. (2008).

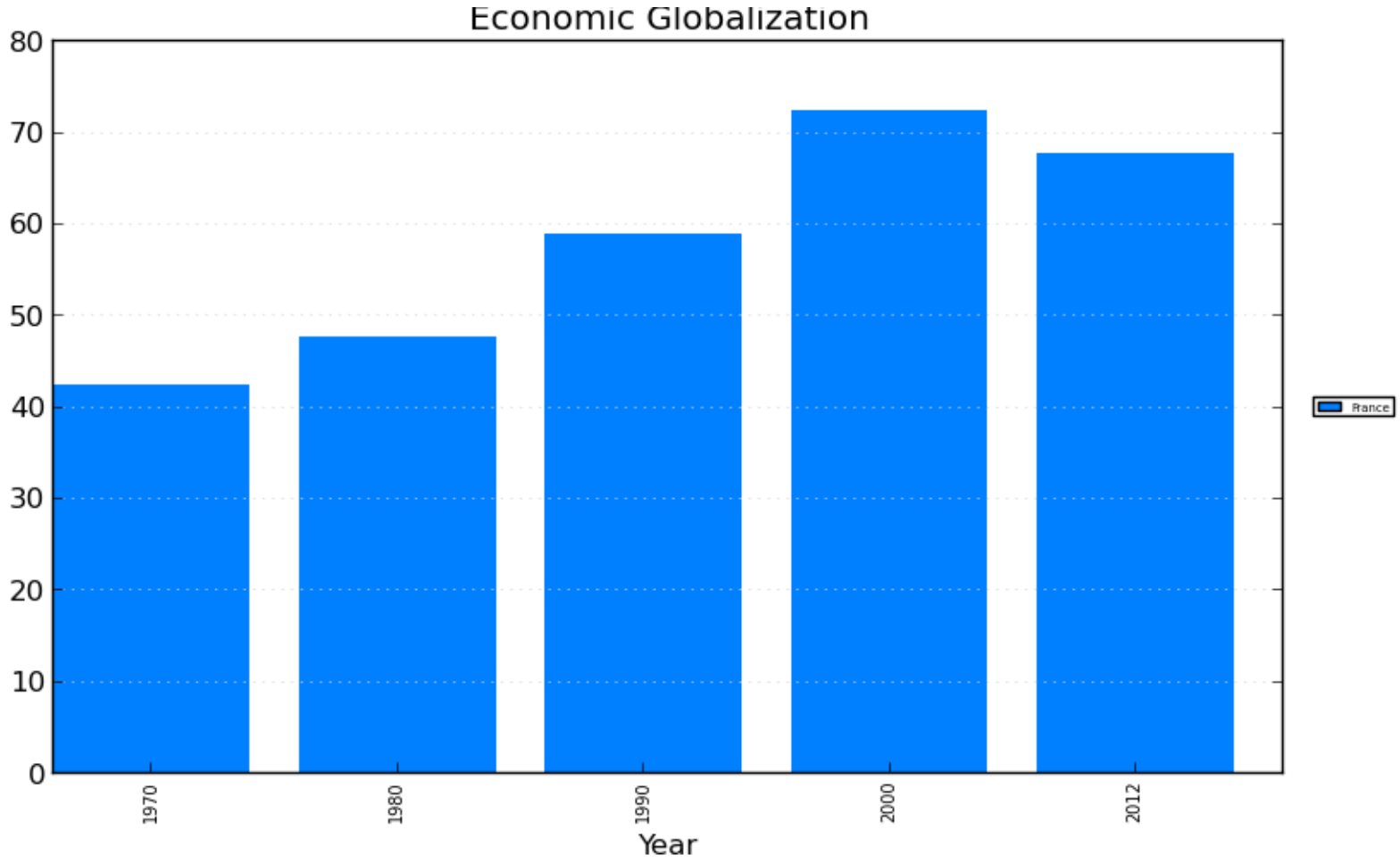
Luxembourg: Index of Economic Globalization



Germany: Index of Economic Globalization



France: Index of Economic Globalization



Index of Economic Globalization. Actual Flows.

Appendix

Table A1. Components of the Index of Globalization

A. Data on economic integration	**[35%]**
(i) Actual flows	(50%)
Trade (percent of GDP)	(23%)
Foreign direct investment (percent of GDP)	(29%)
Portfolio investment (percent of GDP)	(27%)
Income payments to foreign nationals (percent of GDP)	(22%)
(ii) Restrictions	(50%)
Hidden import barriers	(20%)
Mean tariff rate	(30%)
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Capital account restrictions	(26%)
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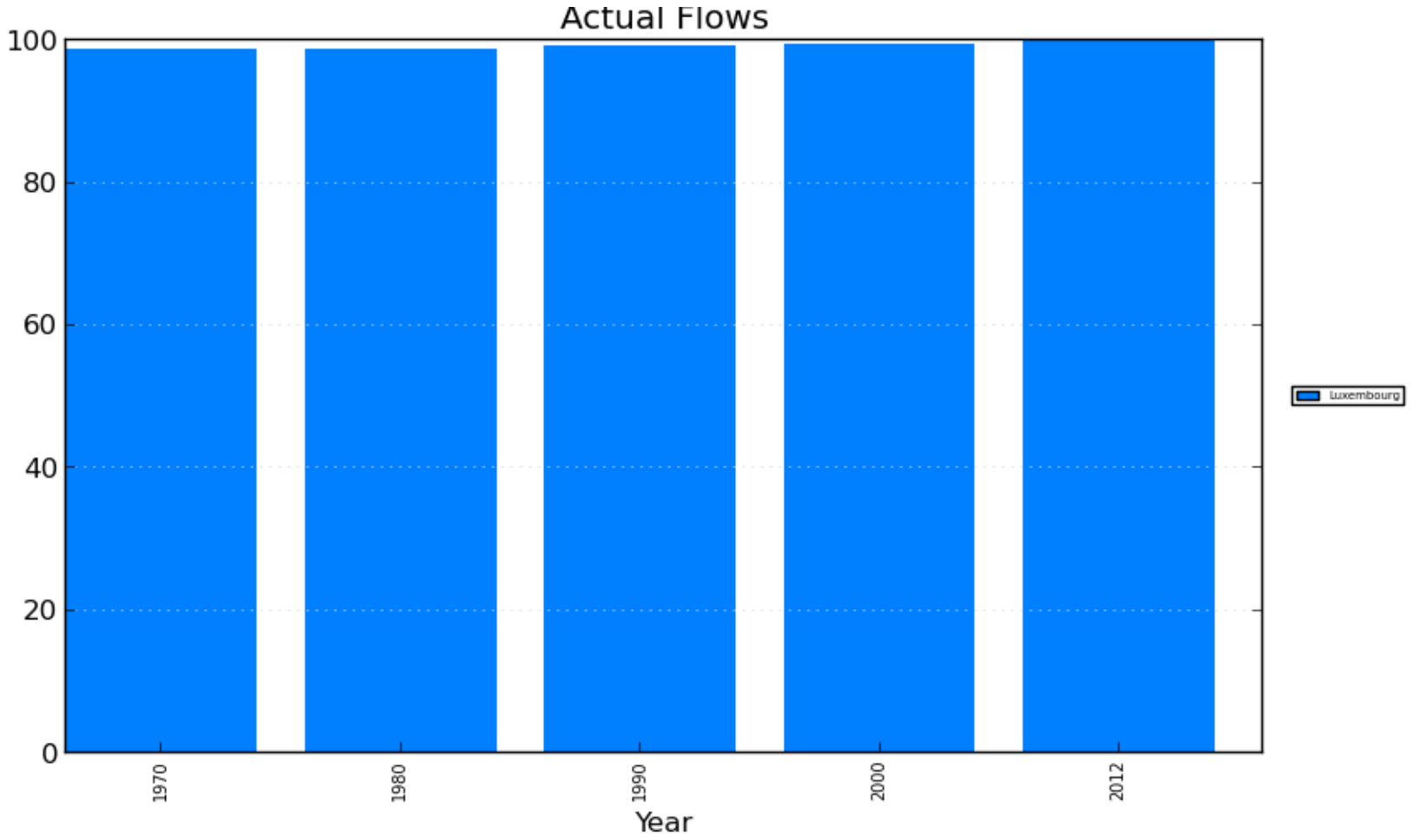
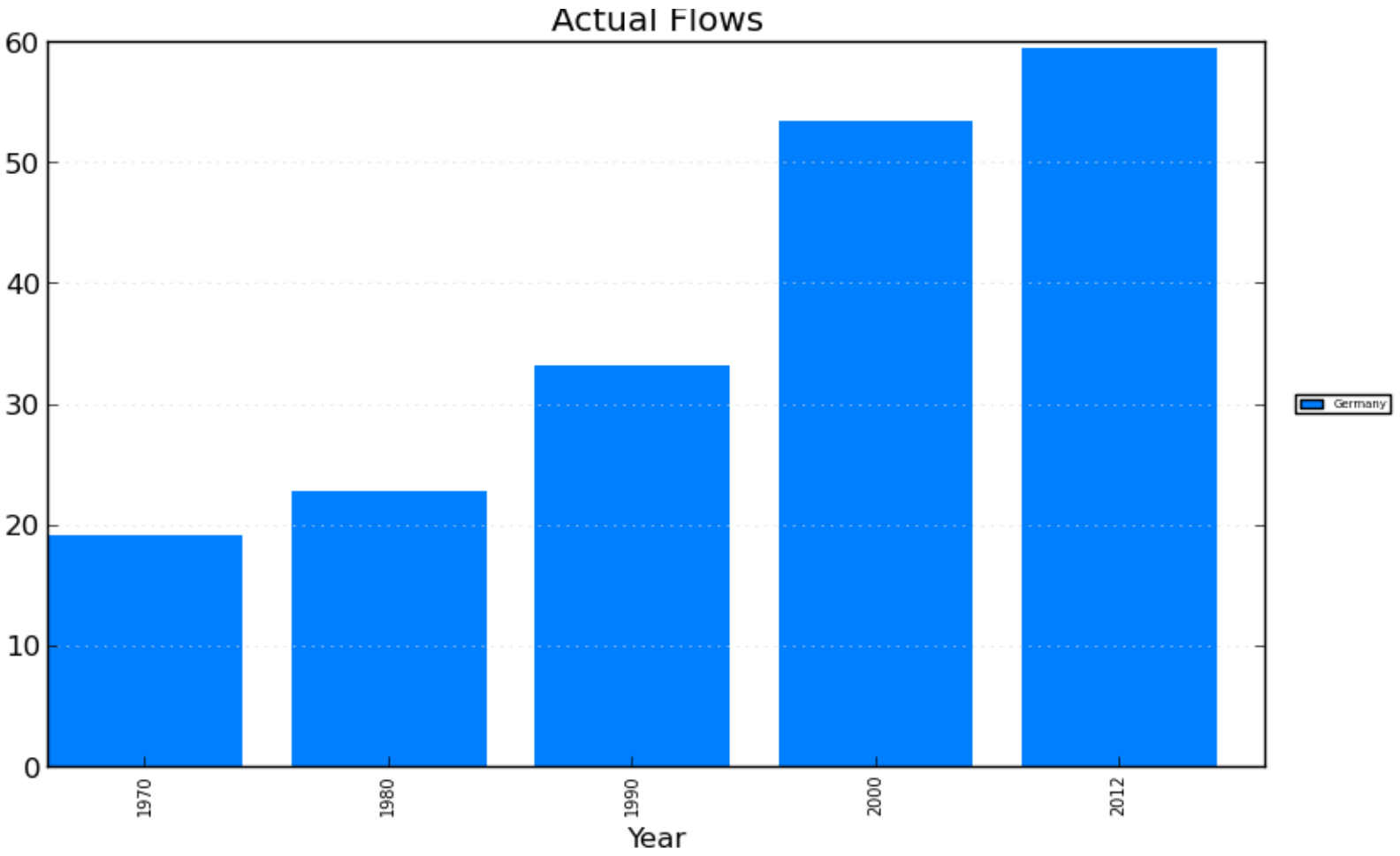
Embassies in country	(34%)
Membership in international organizations	(34%)
Participation in UN Security Council missions	(32%)
C. Data on social globalization	**[38%]**
(i) Data on personal contact	(24%)
Outgoing telephone traffic	(31%)
Transfers (percent of GDP)	(9%)
International tourism	(1%)
Telephone average costs of call to USA	(33%)
Foreign population (percent of total population)	(26%)
(ii) Data on information flows	(39%)
Telephone mainlines (per 1000 people)	(18%)
Internet hosts (per capita)	(15%)
Internet users (share of population)	(18%)
Cable television (per 1000 people)	(16%)
Daily newspapers (per 1000 people)	(16%)
Radios (per 1000 people)	(17%)
(iii) Data on cultural proximity	(37%)
Number of McDonald's restaurants (per capita)	(100%)

Notes: The numbers in parentheses indicate the weight used to derive the indices. Weights may not sum to 100 due to rounding.
Source: Dreher et al. (2008).

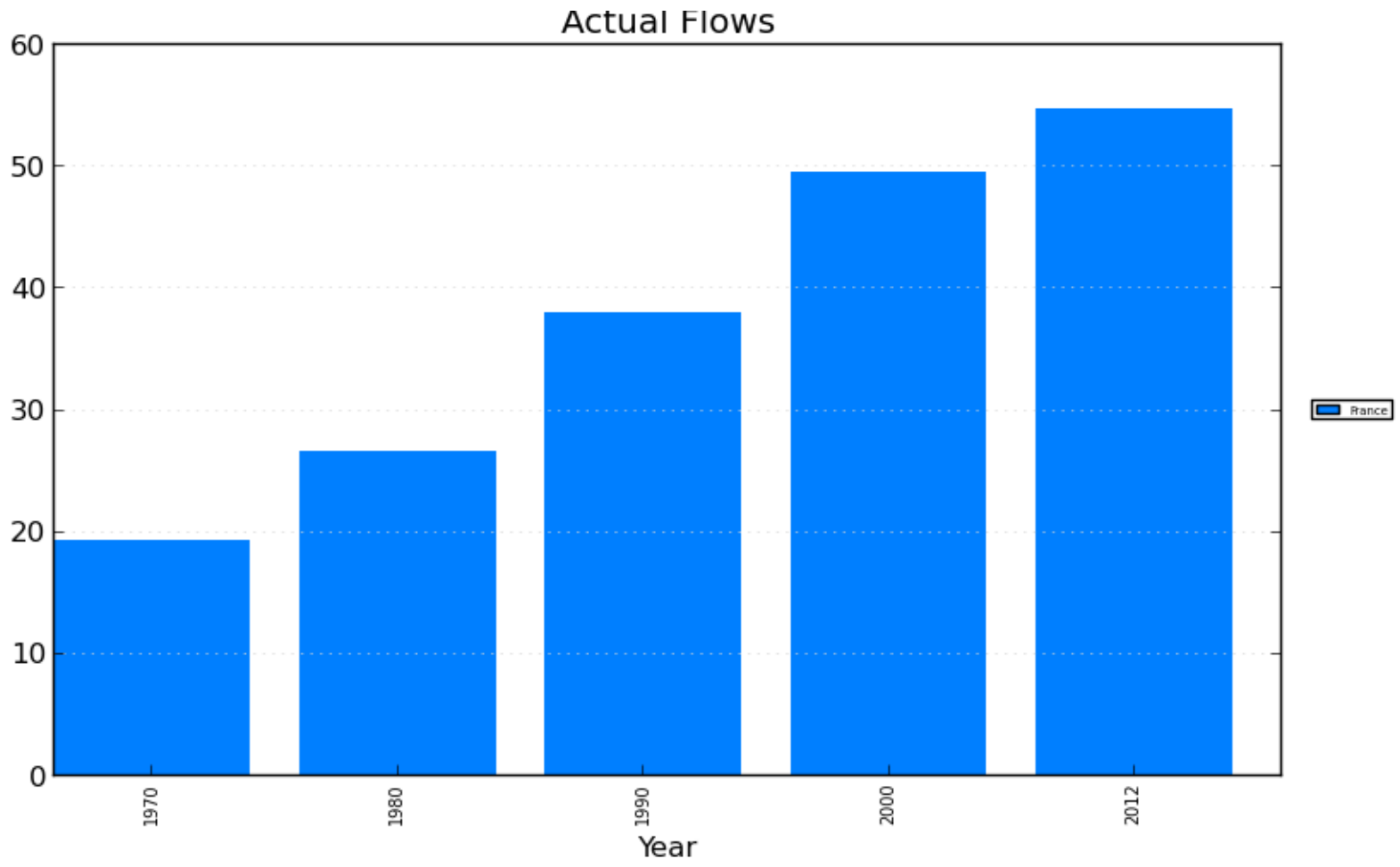
Luxembourg: Index of Economic Globalization. Actual Flows.



Germany: Index of Economic Globalization. Actual Flows



France: Index of Economic Globalization. Actual Flows



Index of Economic Globalization. Restrictions.

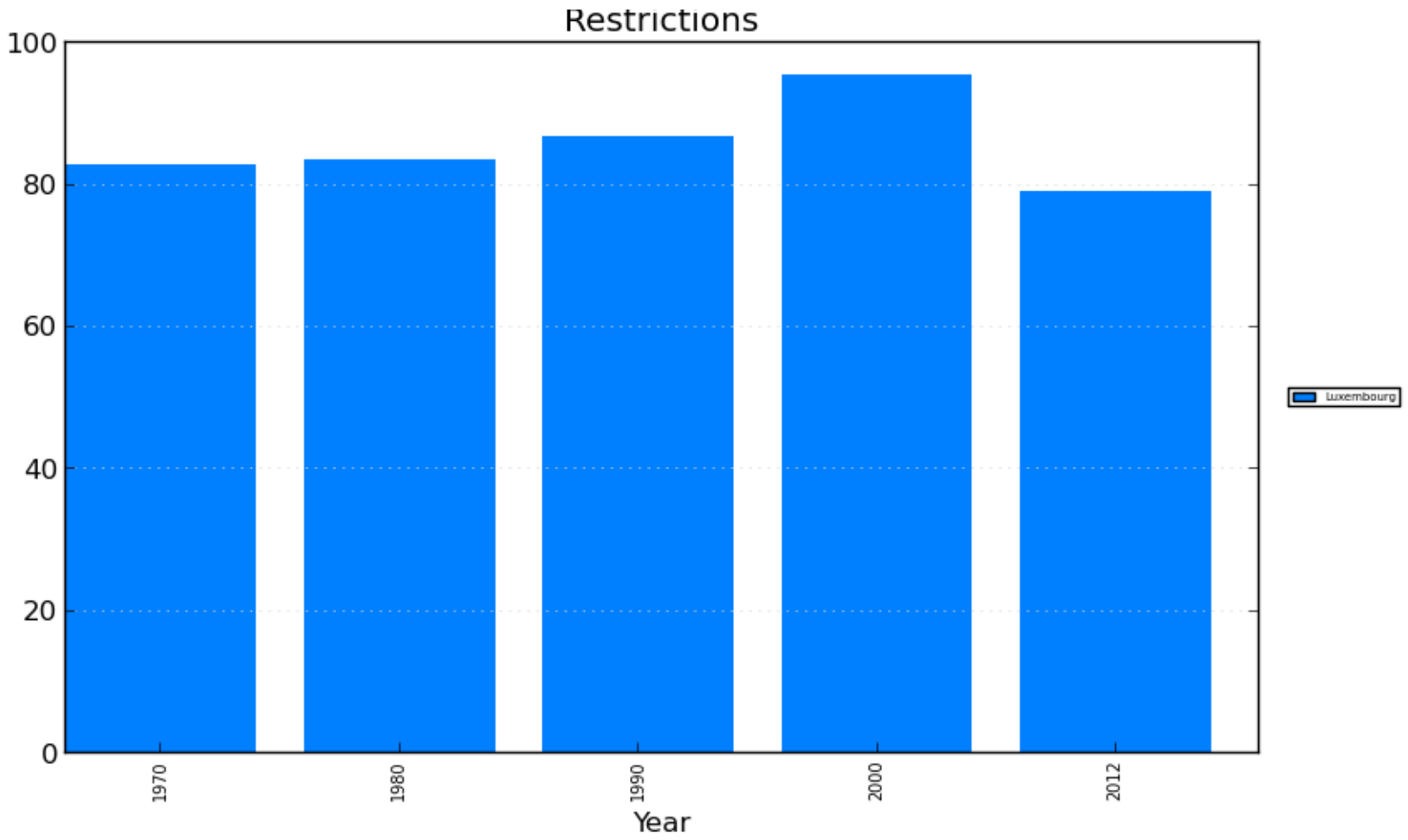
Appendix

Table A1. Components of the Index of Globalization

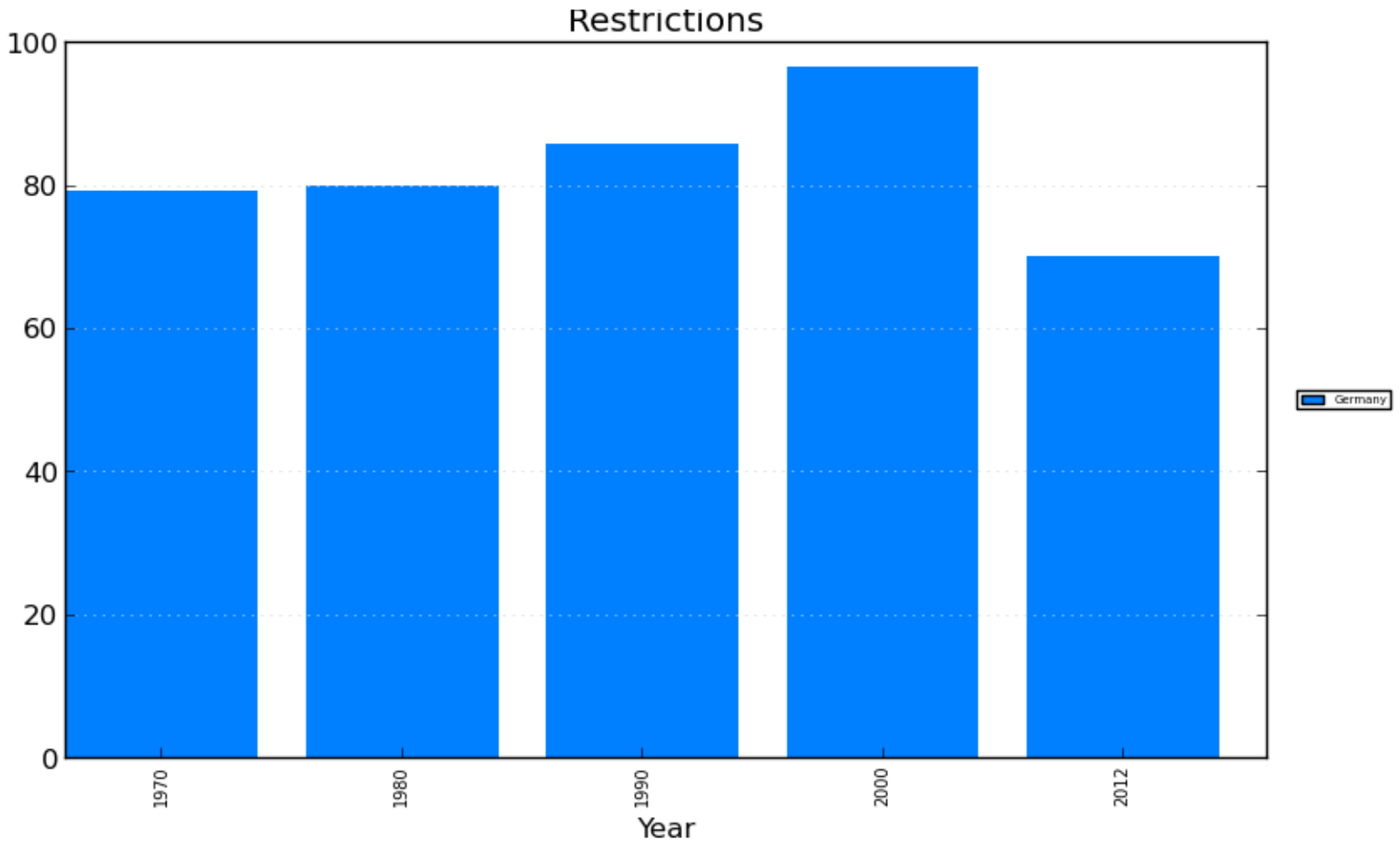
A. Data on economic integration	**[35%]**
(i) Actual flows	(50%)
Trade (percent of GDP)	(23%)
Foreign direct investment (percent of GDP)	(29%)
Portfolio investment (percent of GDP)	(27%)
Income payments to foreign nationals (percent of GDP)	(22%)
(ii) Restrictions	(50%)
Hidden import barriers	(20%)
Mean tariff rate	(30%)
Taxes on international trade (percent of current revenue)	(24%)
Capital account restrictions	(26%)
B. Data on political engagement	**[28%]**
Embassies in country	(34%)
Membership in international organizations	(34%)
Participation in UN Security Council missions	(32%)
C. Data on social globalization	**[38%]**
(i) Data on personal contact	(24%)
Outgoing telephone traffic	(31%)
Transfers (percent of GDP)	(9%)
International tourism	(1%)
Telephone average costs of call to USA	(33%)
Foreign population (percent of total population)	(26%)
(ii) Data on information flows	(39%)
Telephone mainlines (per 1000 people)	(18%)
Internet hosts (per capita)	(15%)
Internet users (share of population)	(18%)
Cable television (per 1000 people)	(16%)
Daily newspapers (per 1000 people)	(16%)
Radios (per 1000 people)	(17%)
(iii) Data on cultural proximity	(37%)
Number of McDonald's restaurants (per capita)	(100%)

Notes: The numbers in parentheses indicate the weight used to derive the indices. Weights may not sum to 100 due to rounding.
Source: Dreher et al. (2008).

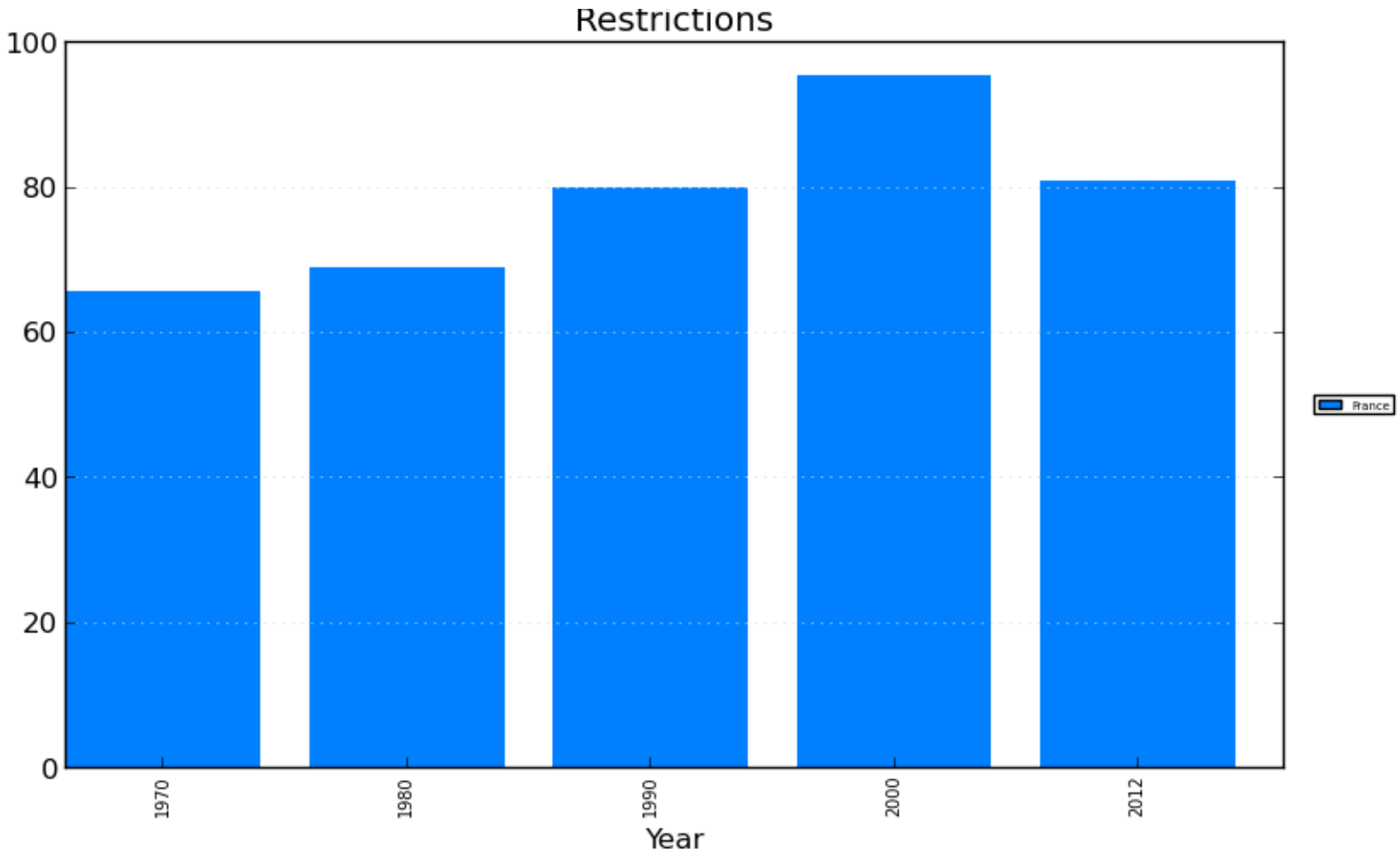
Luxembourg: Index of Economic Globalization. Restrictions.



Germany: Index of Economic Globalization. Restrictions.



France: Index of Economic Globalization. Restrictions.



Index of Social Globalization.

Appendix

Table A1. Components of the Index of Globalization

A. Data on economic integration	**[35%]**
(i) Actual flows	(50%)
Trade (percent of GDP)	(23%)
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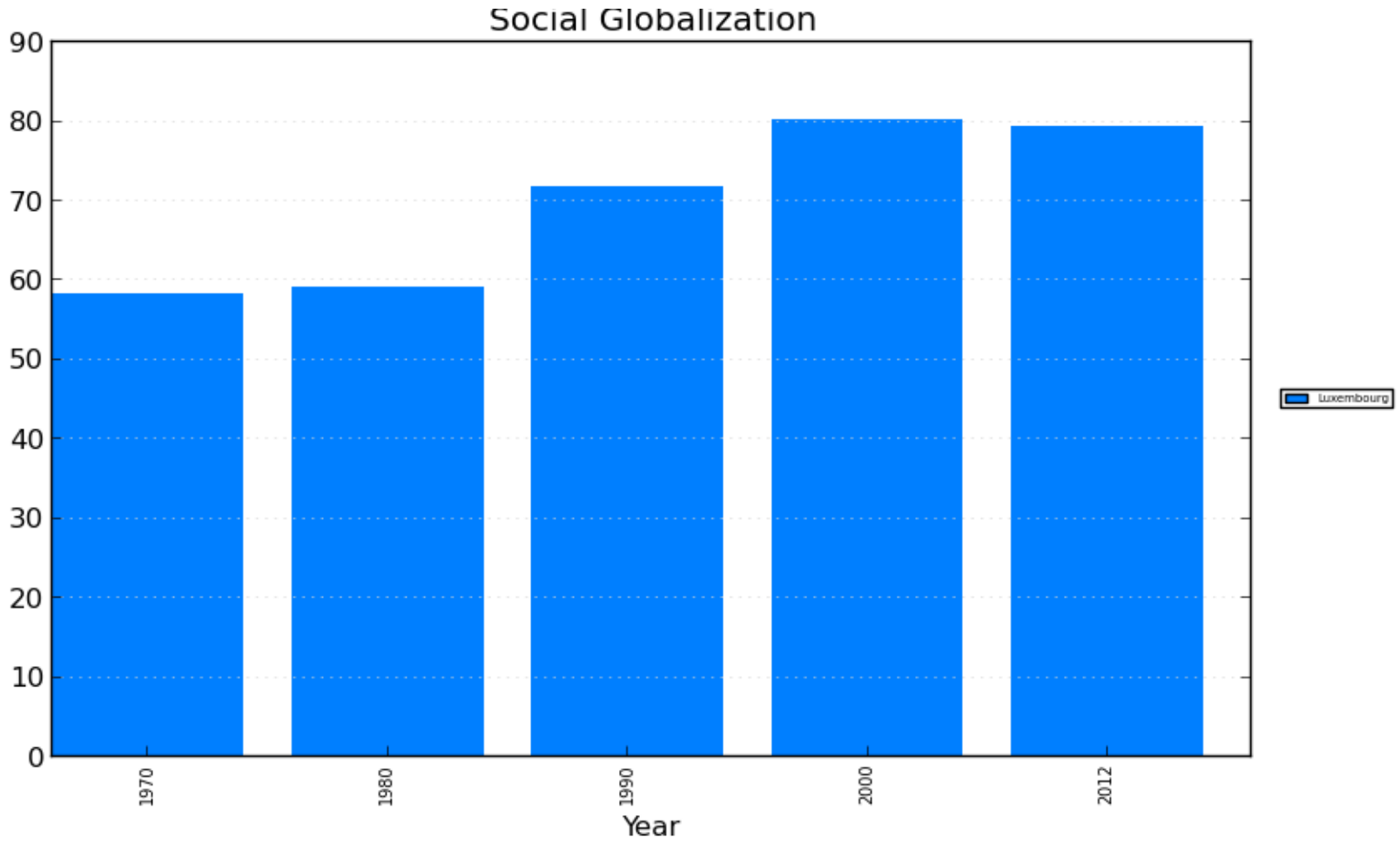
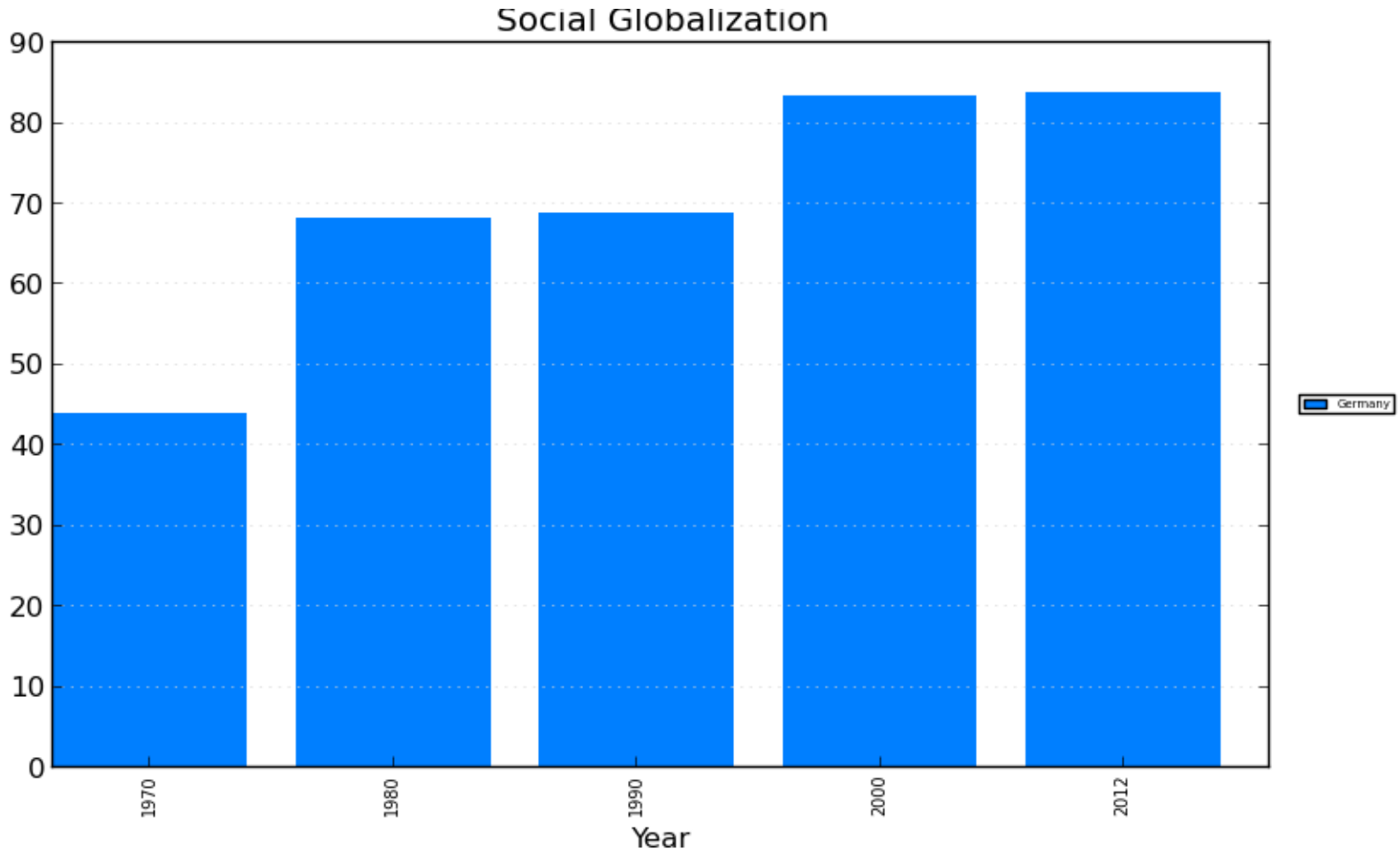
(iii) Data on cultural proximity	(37%)
Number of McDonald's restaurants (per capita)	(100%)

Notes: The numbers in parentheses indicate the weight used to derive the indices. Weights may not sum to 100 due to rounding.
Source: Dreher et al. (2008).

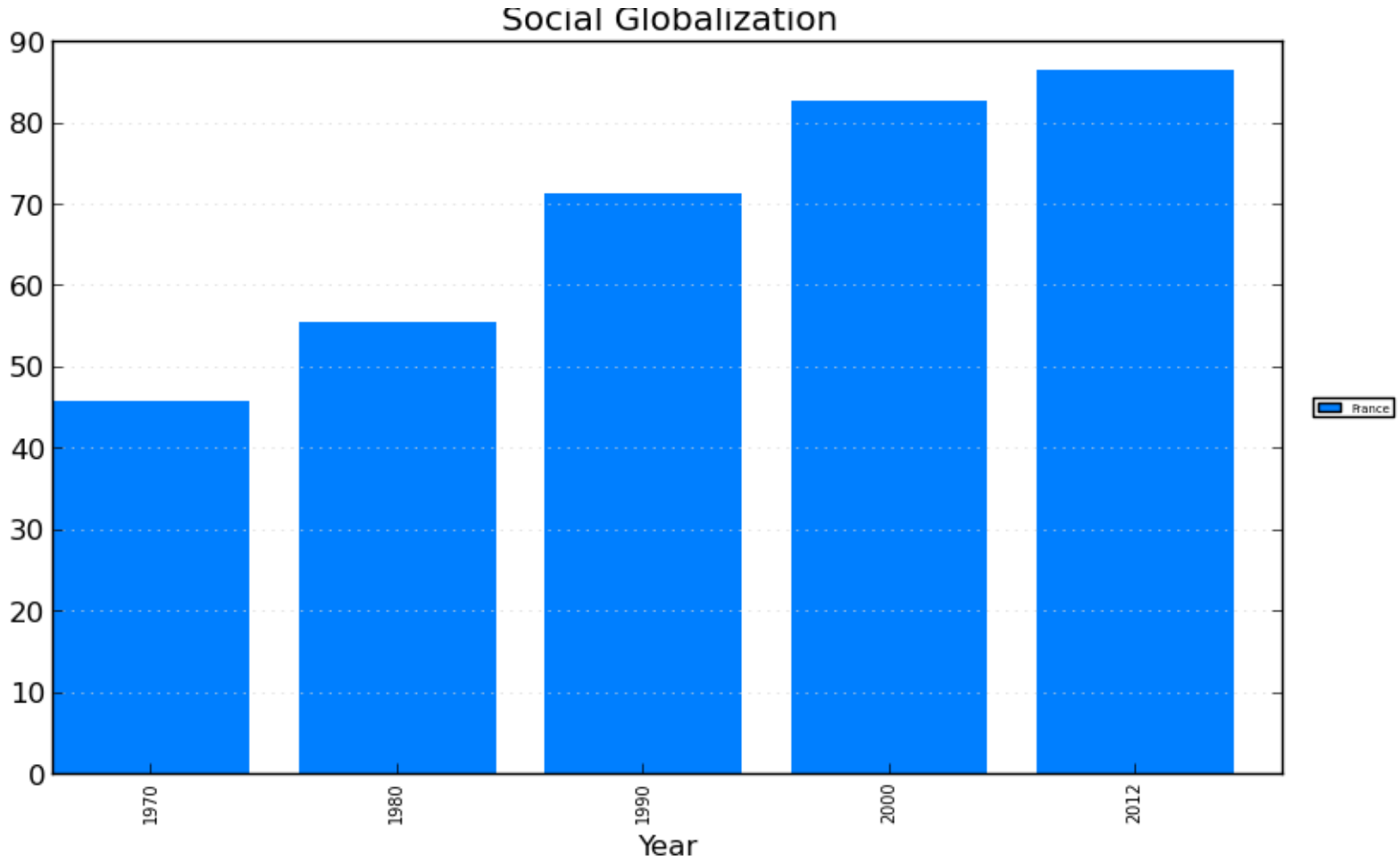
Luxembourg: Index of Social Globalization.



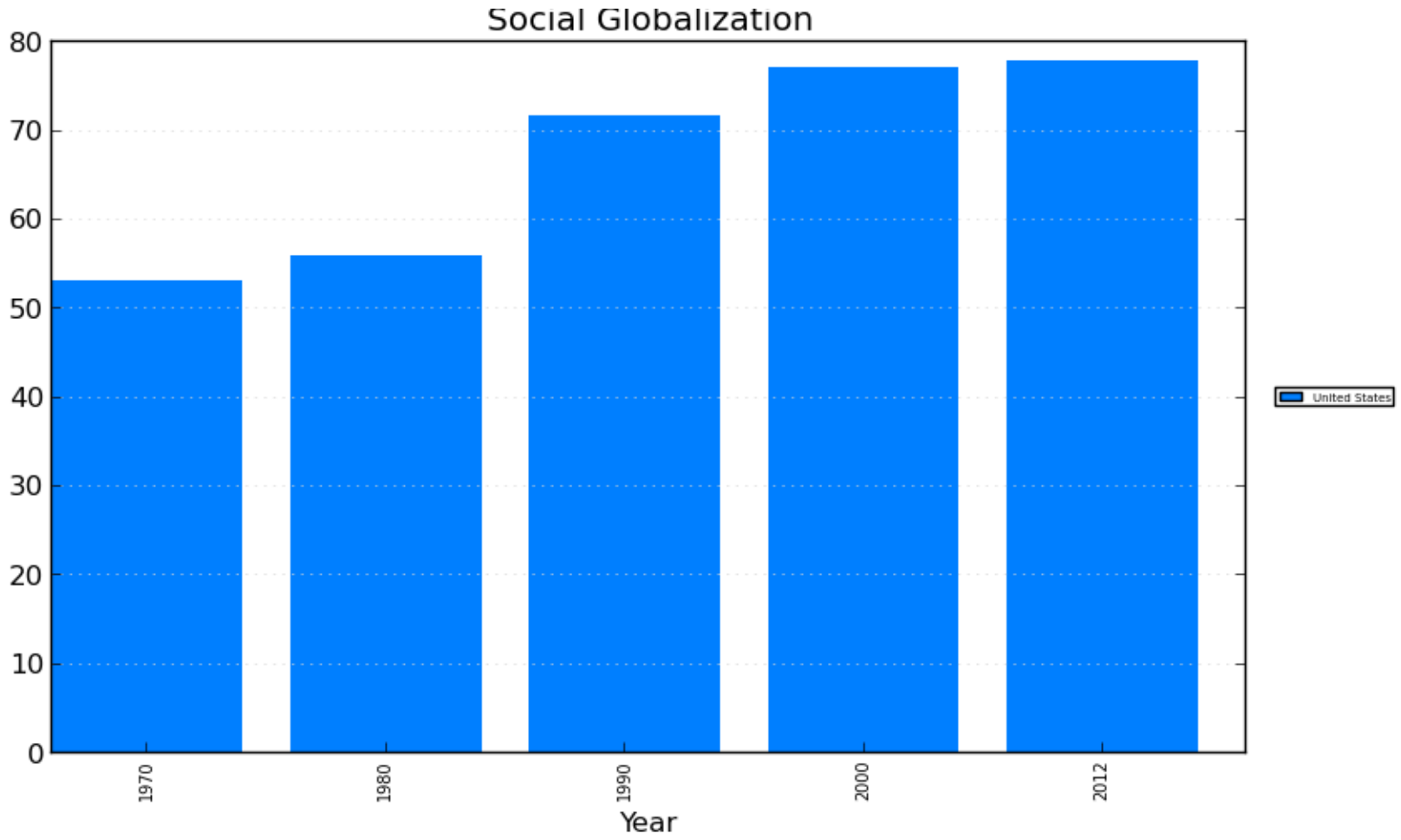
Germany. Index of Social Globalization.



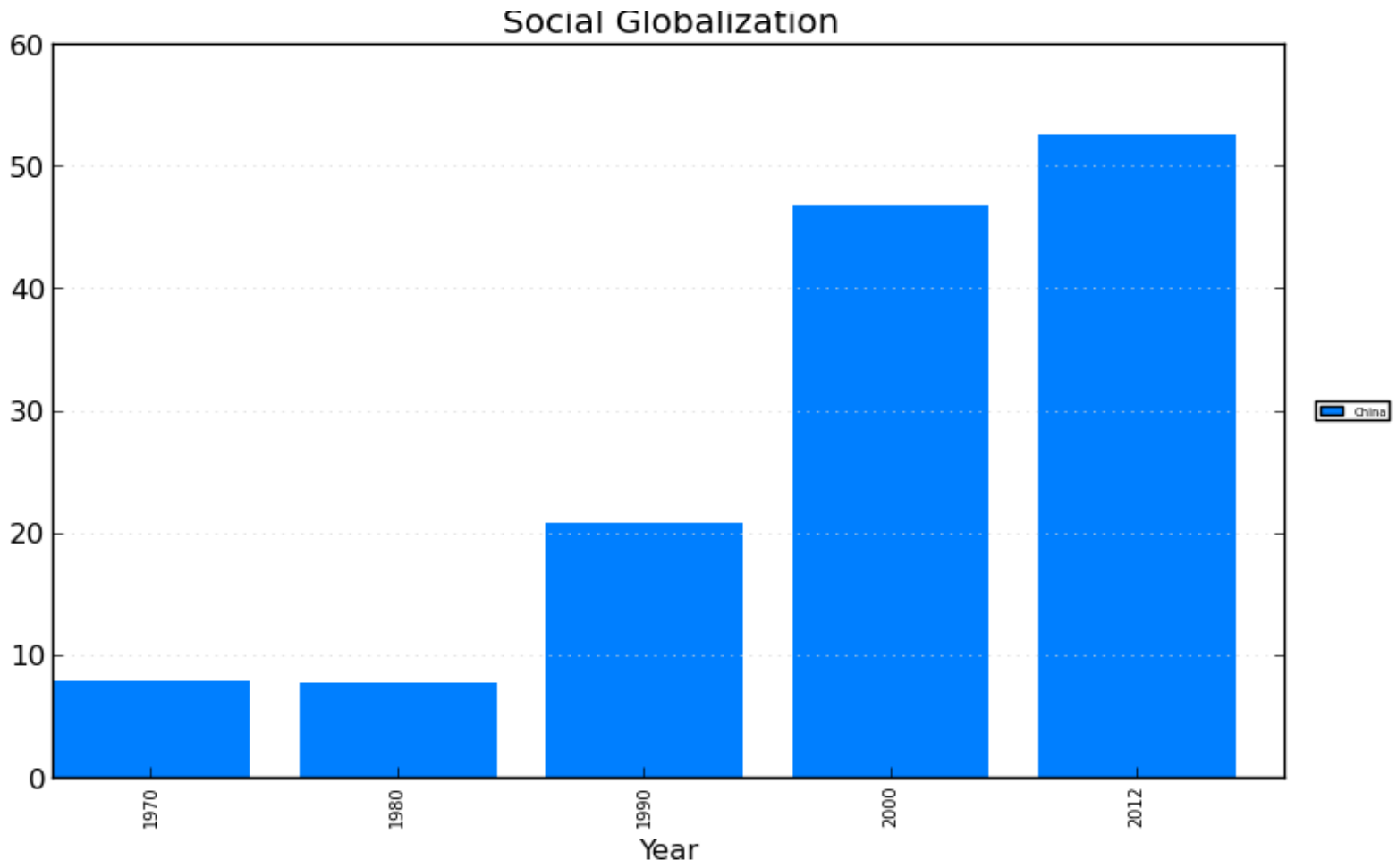
France. Index of Social Globalization.



United States. Index of Social Globalization.



China. Index of Social Globalization.



Index of Social Globalization.
Data on Personal Contacts.

Appendix

Table A1. Components of the Index of Globalization

A. Data on economic integration	**[35%]**
(i) Actual flows	(50%)
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(i) Data on personal contact	(24%)
Outgoing telephone traffic	(31%)
Transfers (percent of GDP)	(9%)
International tourism	(1%)
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(ii) Data on information flows	(39%)
Telephone mainlines (per 1000 people)	(18%)
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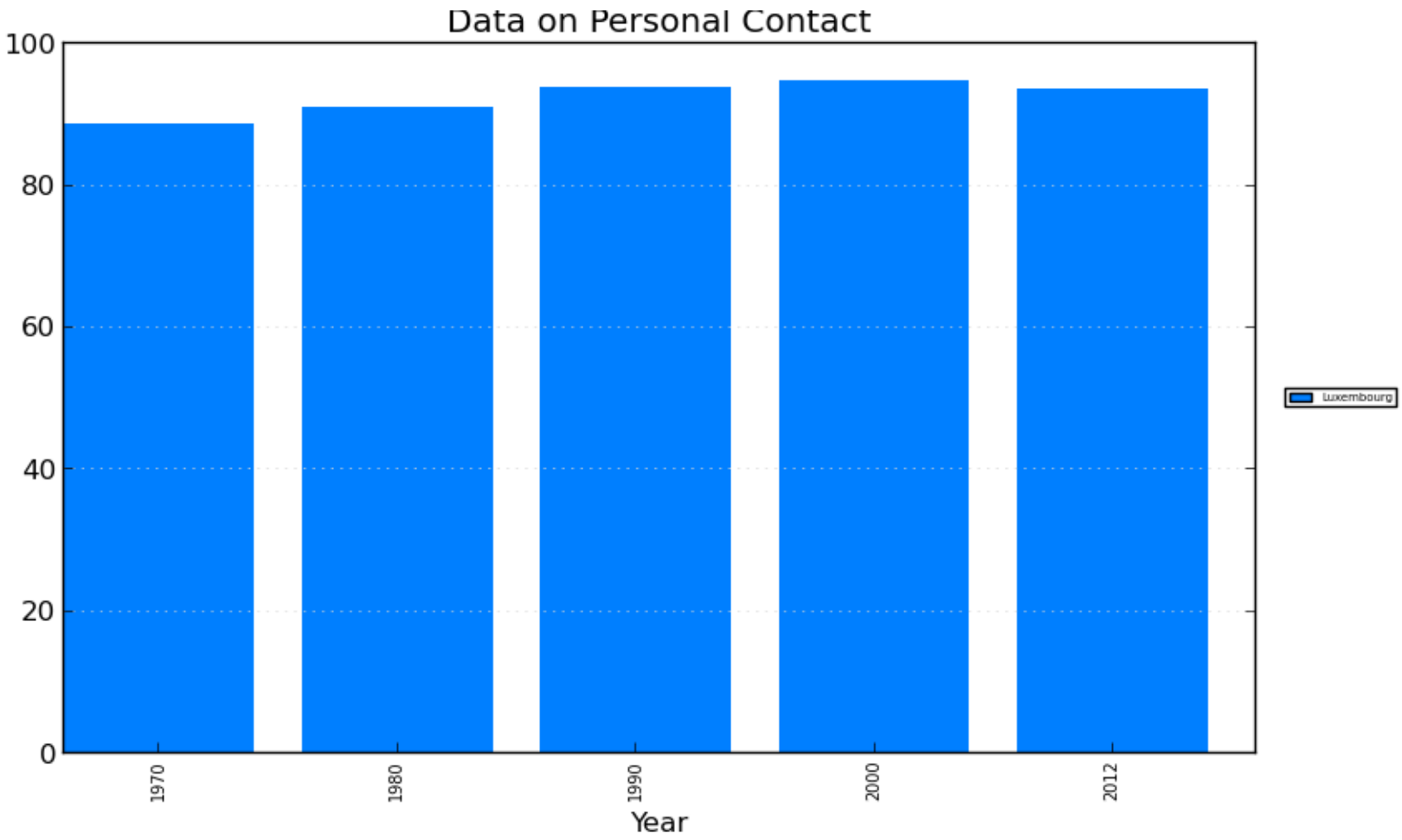
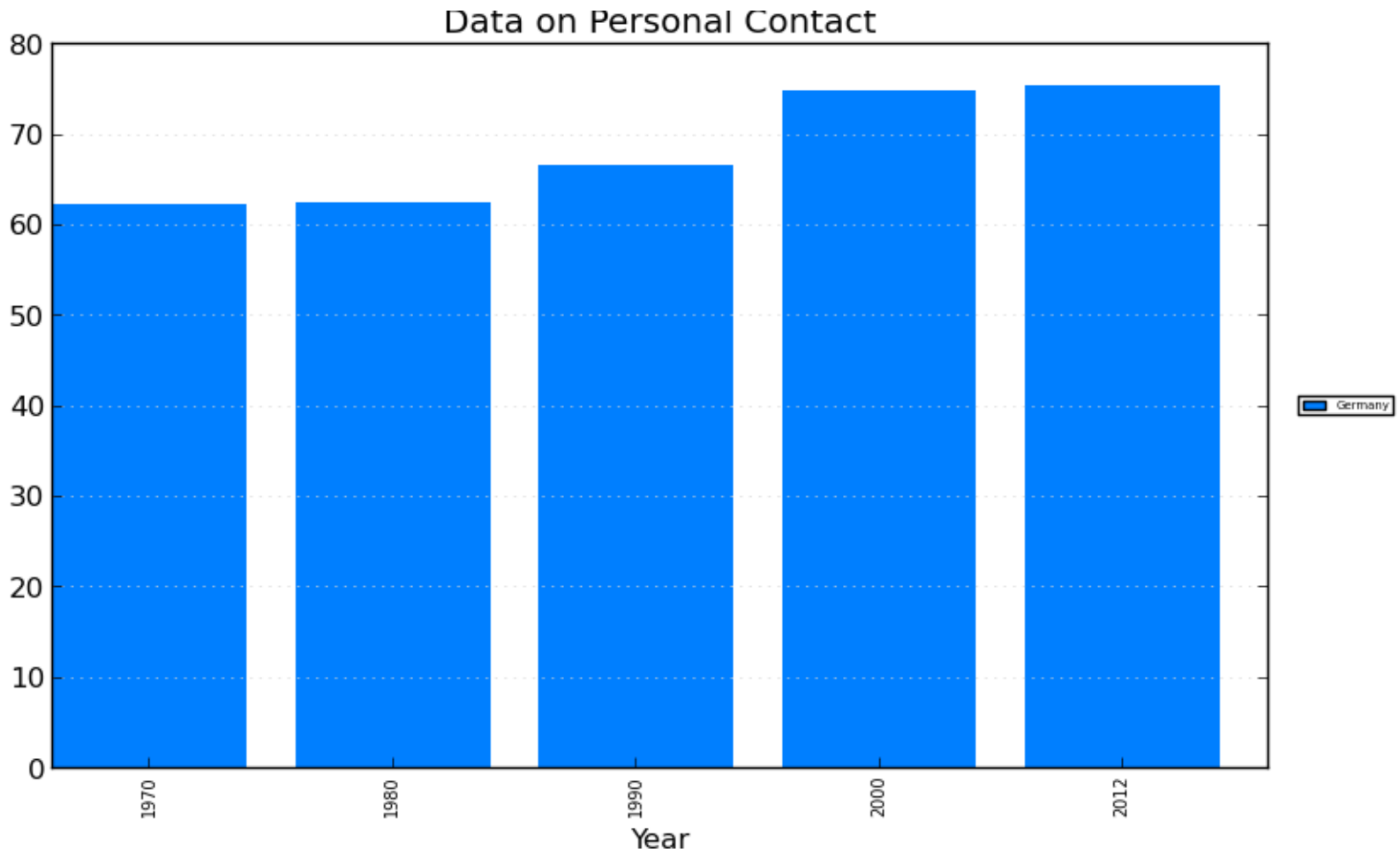
Number of McDonald's restaurants (per capita)	(100%)

Notes: The numbers in parentheses indicate the weight used to derive the indices. Weights may not sum to 100 due to rounding.
Source: Dreher et al. (2008).

Luxembourg. Index of Social Globalization.
Data on Personal Contacts.

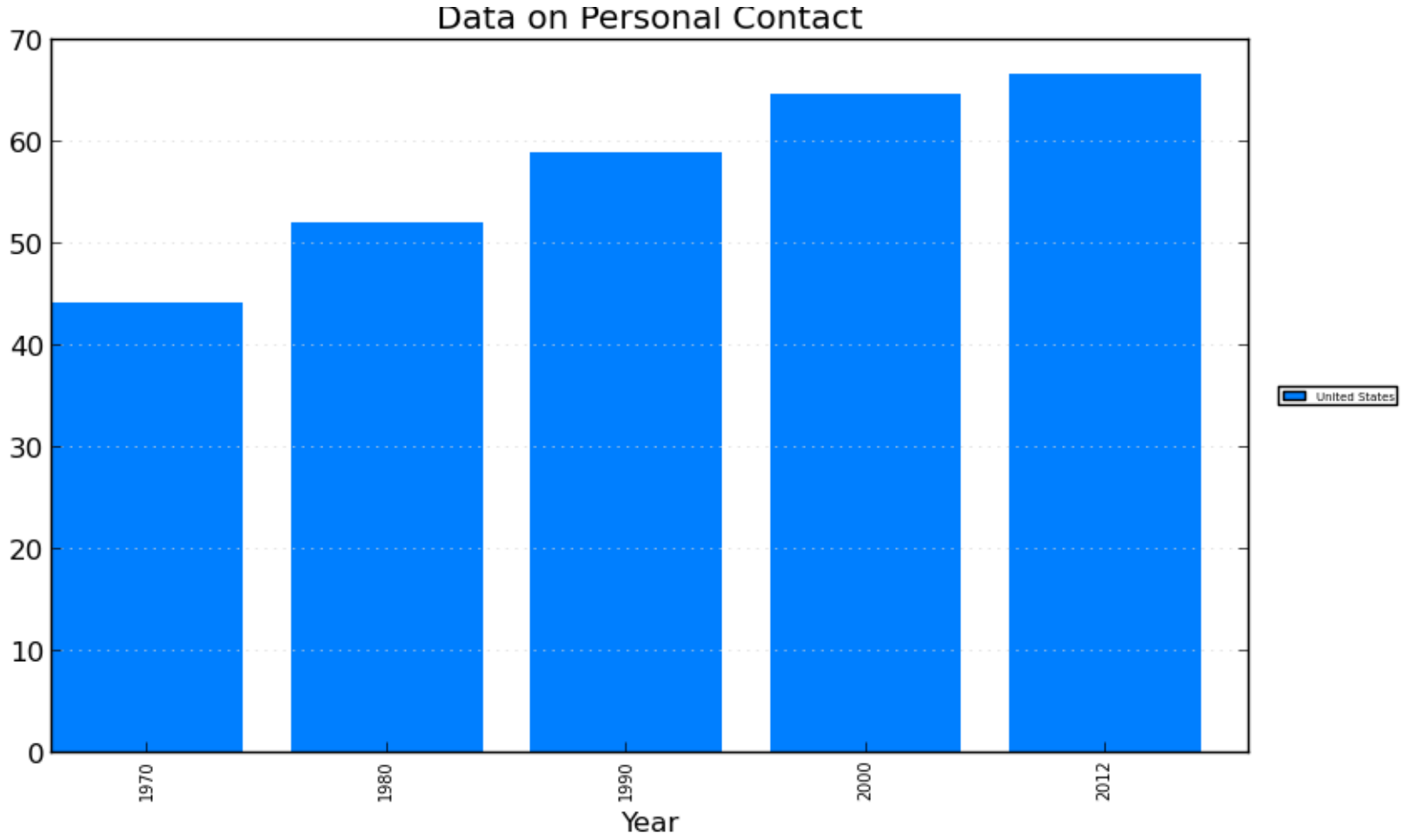


Germany. Index of Social Globalization.
Data on Personal Contacts.

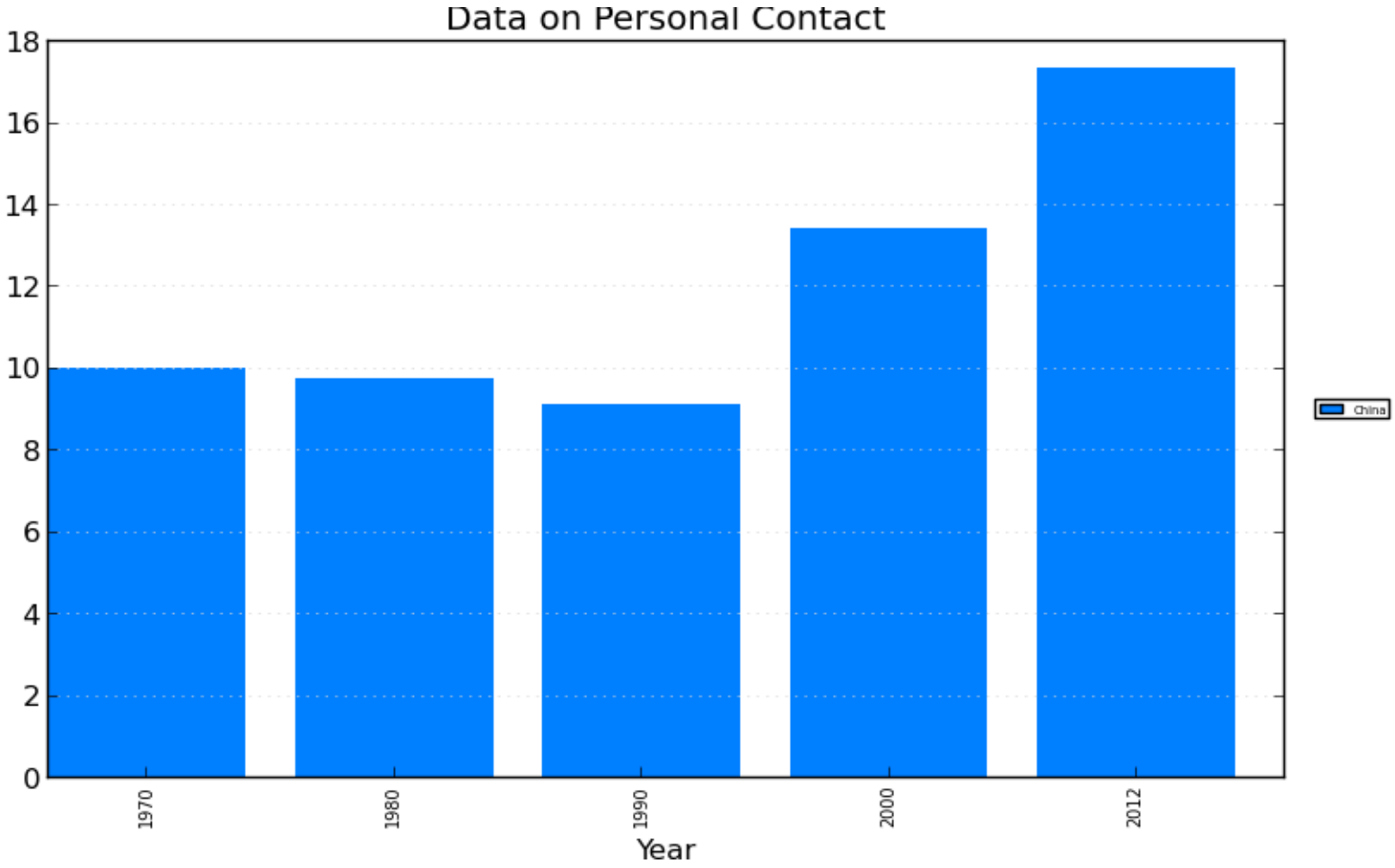


France. Index of Social Globalization.
Data on Personal Contacts.

United States. Index of Social Globalization. Data on Personal Contacts.



China. Index of Social Globalization.
Data on Personal Contacts.



Index of Social Globalization.
Data on Information Flows.

Appendix

Table A1. Components of the Index of Globalization

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(i) Actual flows	(50%)
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(iii) Data on cultural proximity	(37%)
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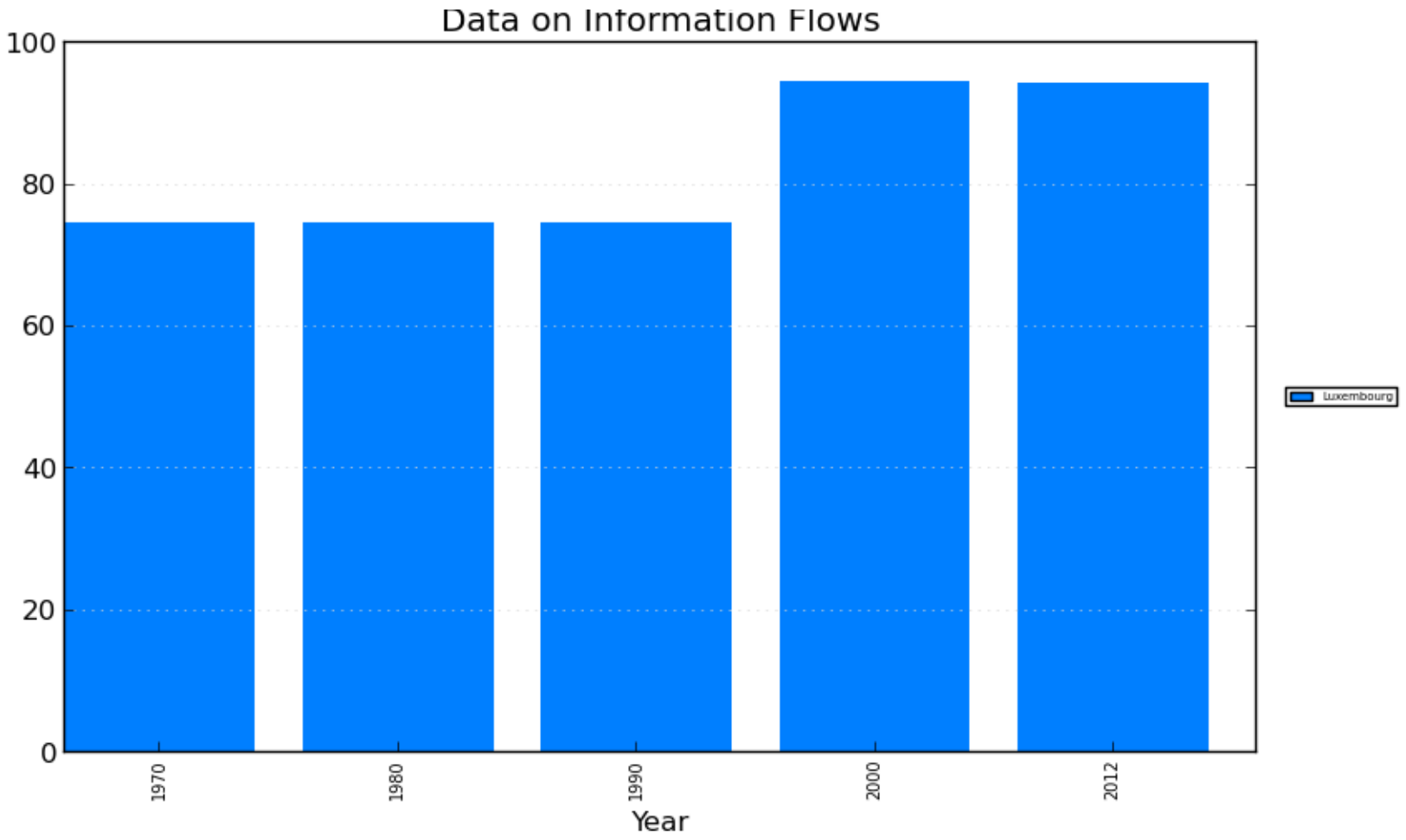
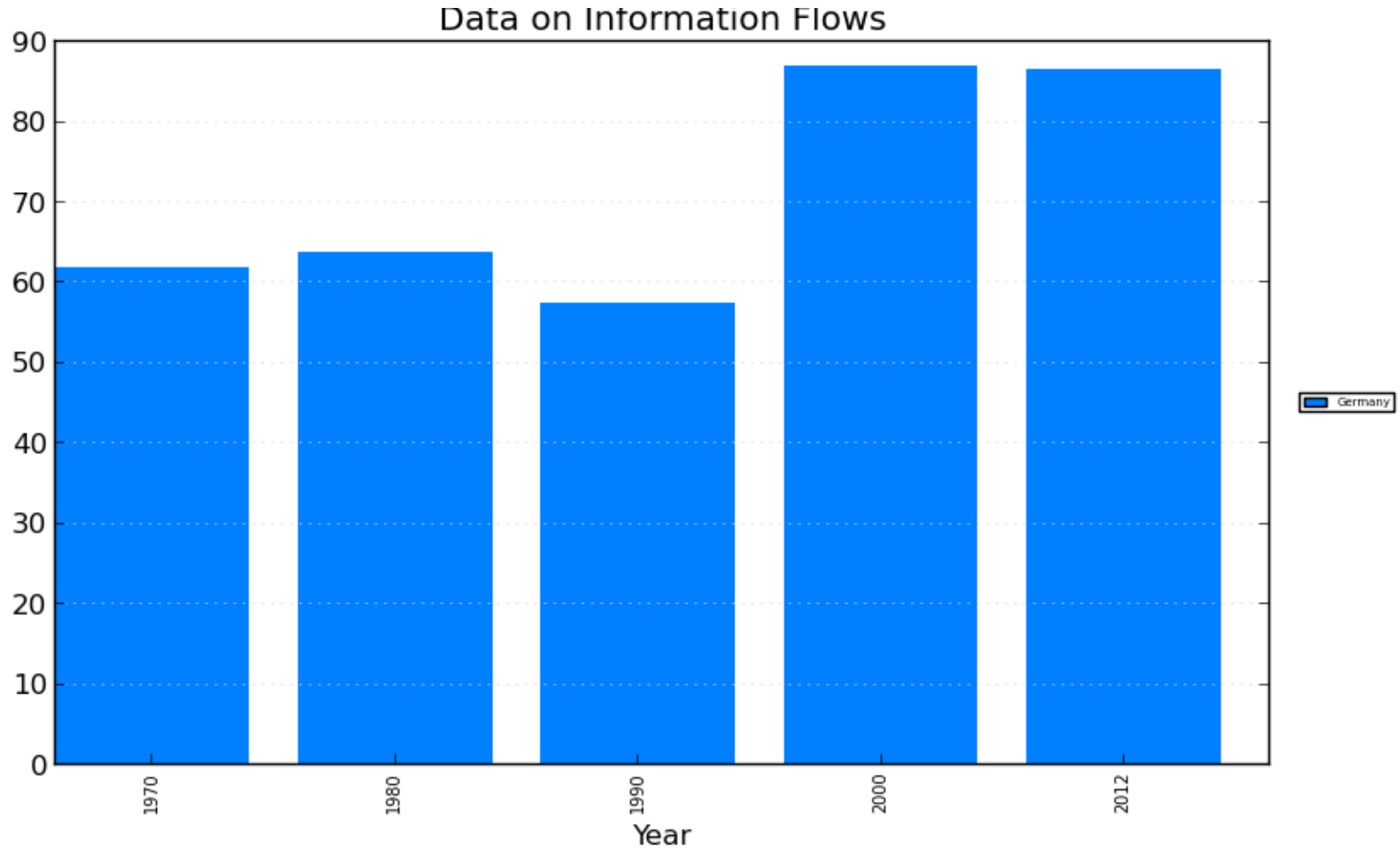
Notes: The numbers in parentheses indicate the weight used to derive the indices. Weights may not sum to 100 due to rounding.
Source: Dreher et al. (2008).

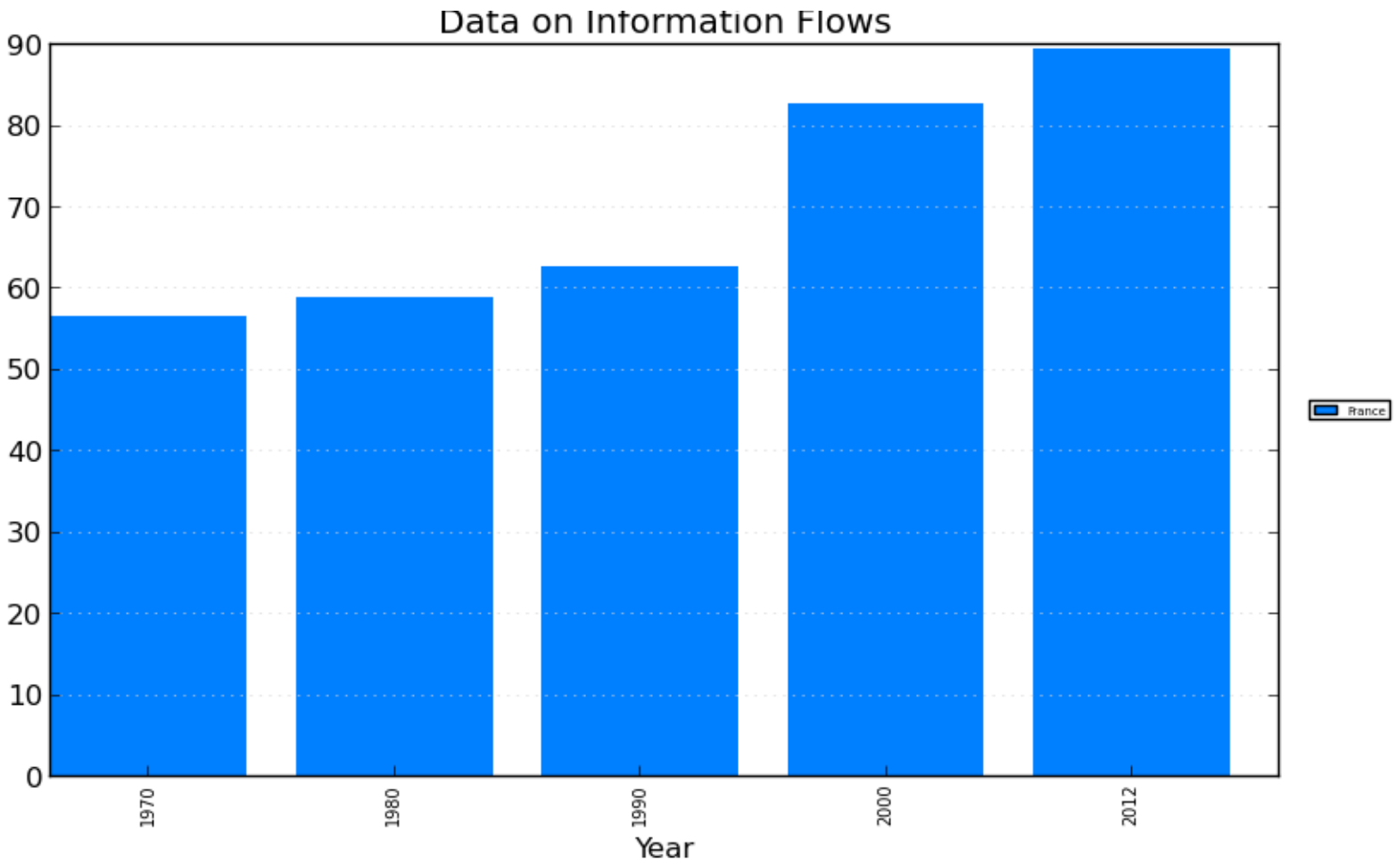
Luxembourg. Index of Social Globalization. Data on Information Flows.



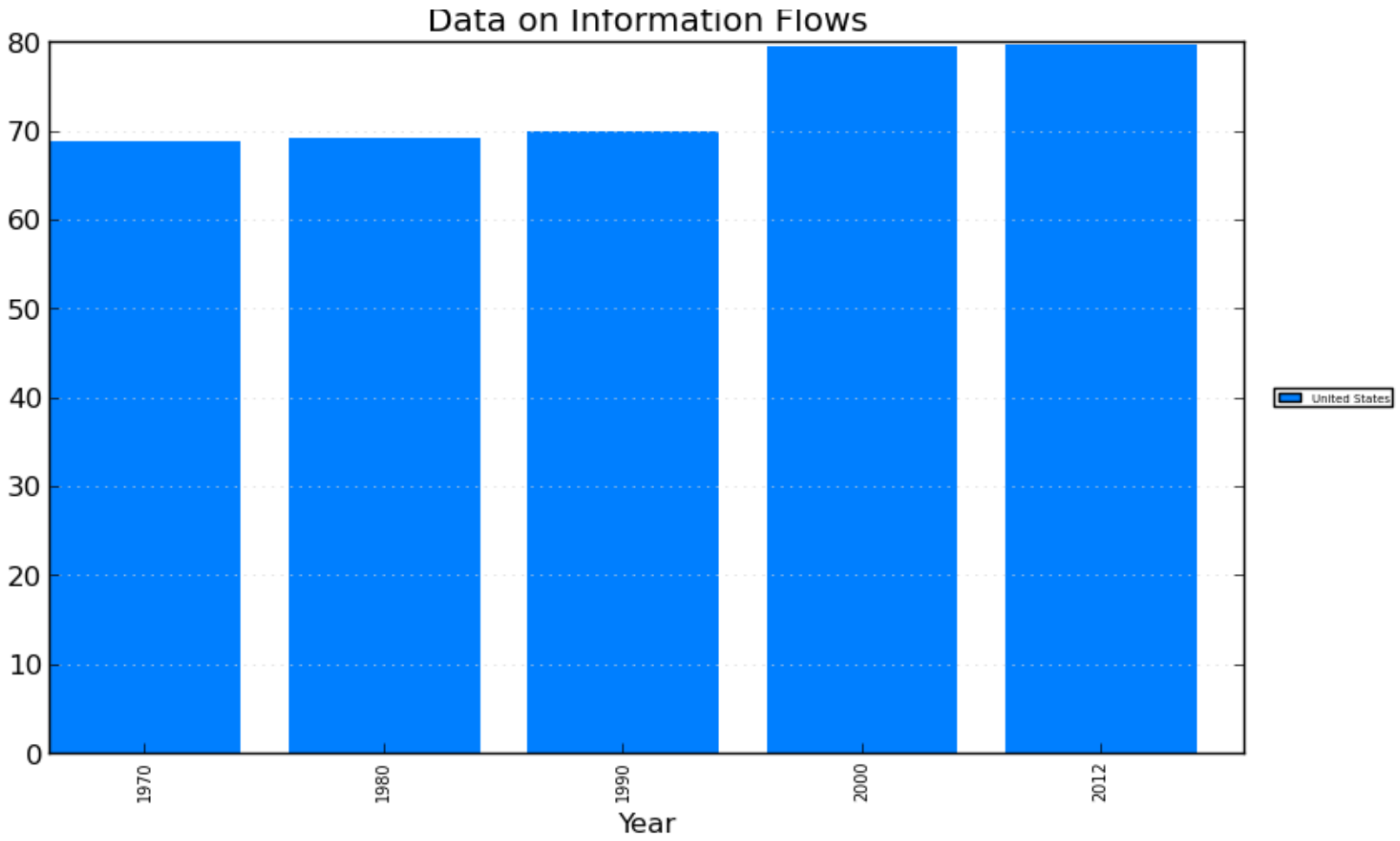
Germany. Index of Social Globalization.
Data on Information Flows.



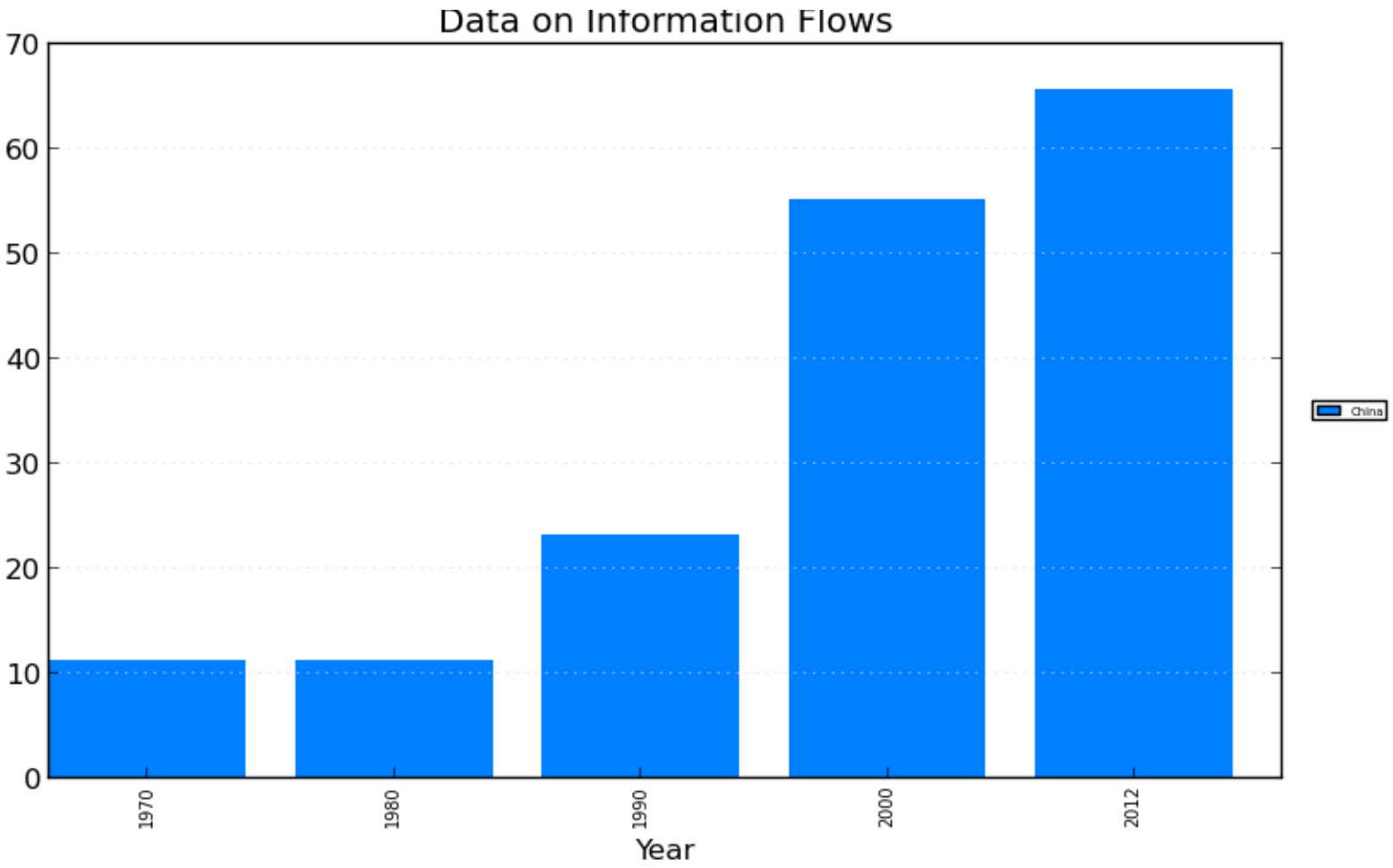
France. Index of Social Globalization.
Data on Information Flows.



United States. Index of Social Globalization. Data on Information Flows.



China. Index of Social Globalization.
Data on Information Flows.



Implications of increased information flows for health (Angus Deaton)

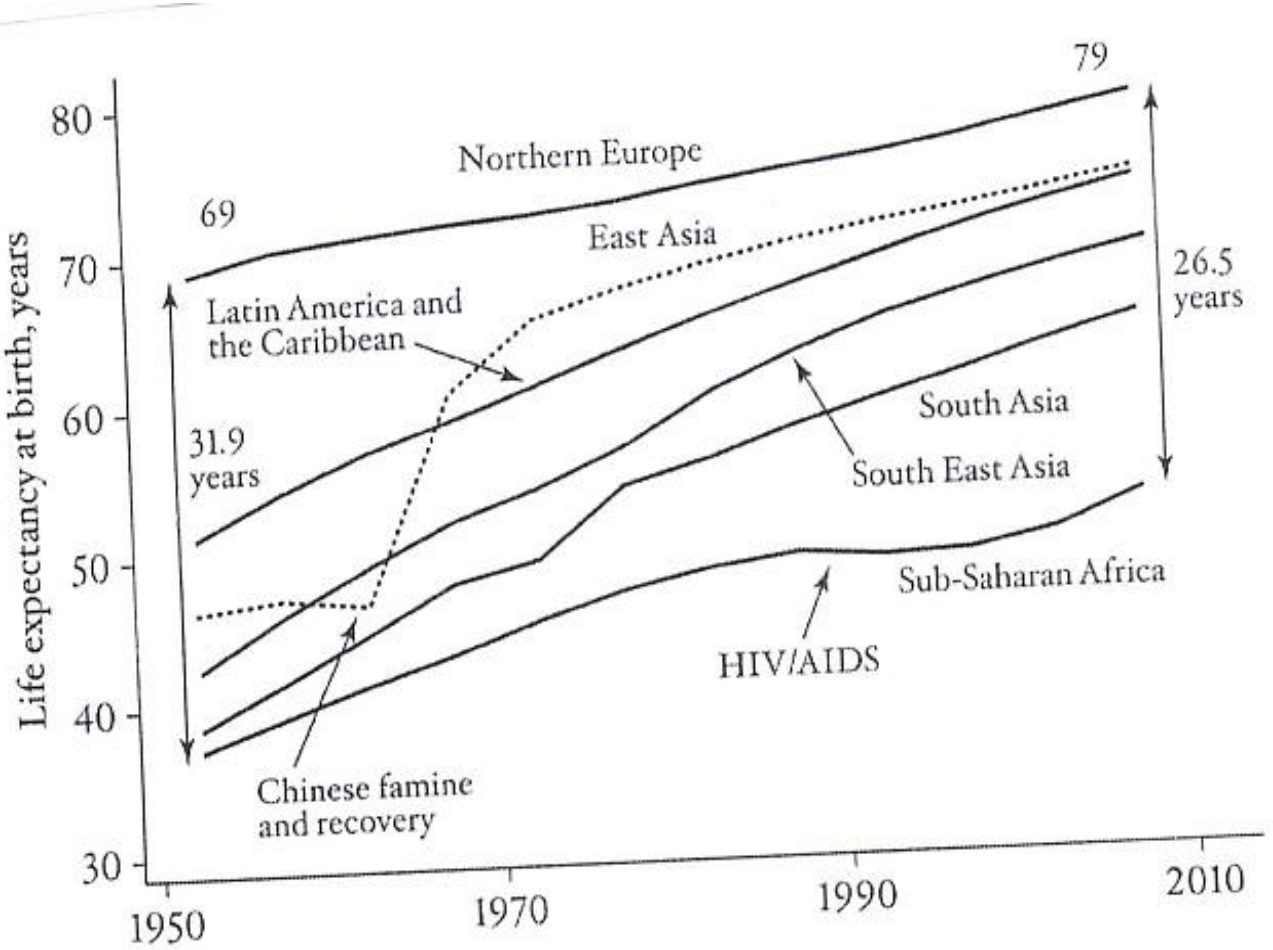


FIGURE 1 Life expectancy in regions of the world since 1950.

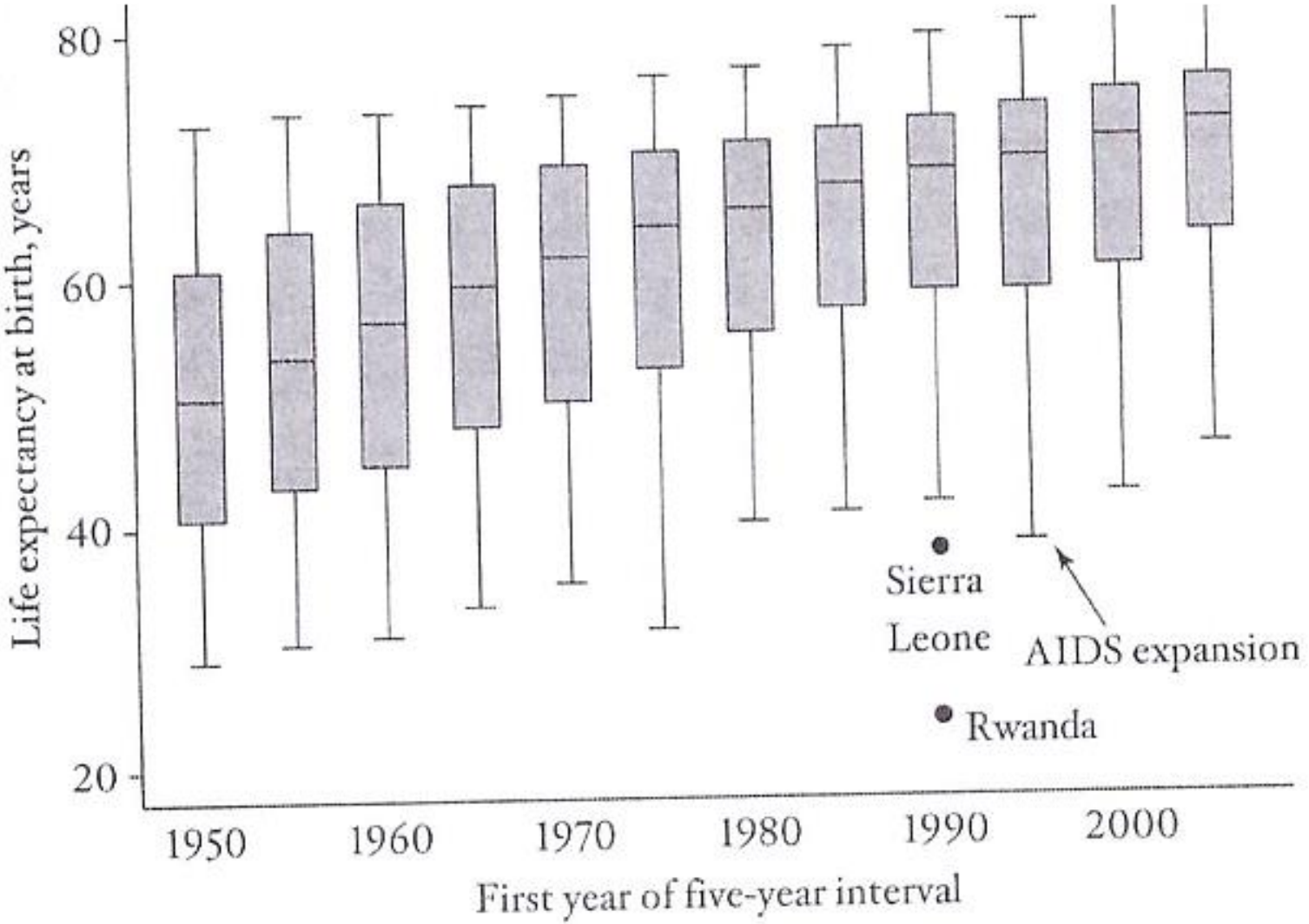


FIGURE 4 Life expectancy and its dispersion around the world.

Technological progress (Nordhaus on computing)

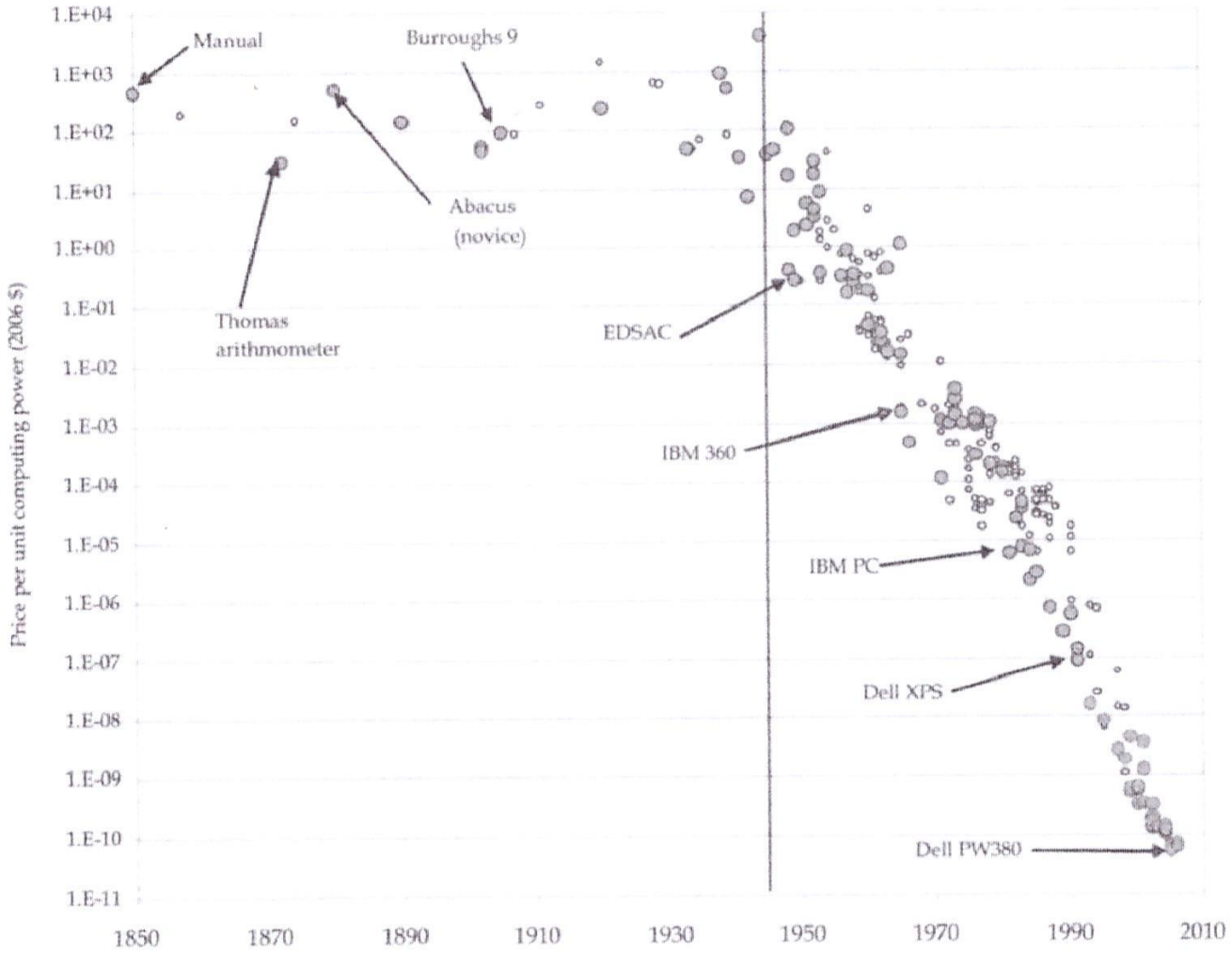


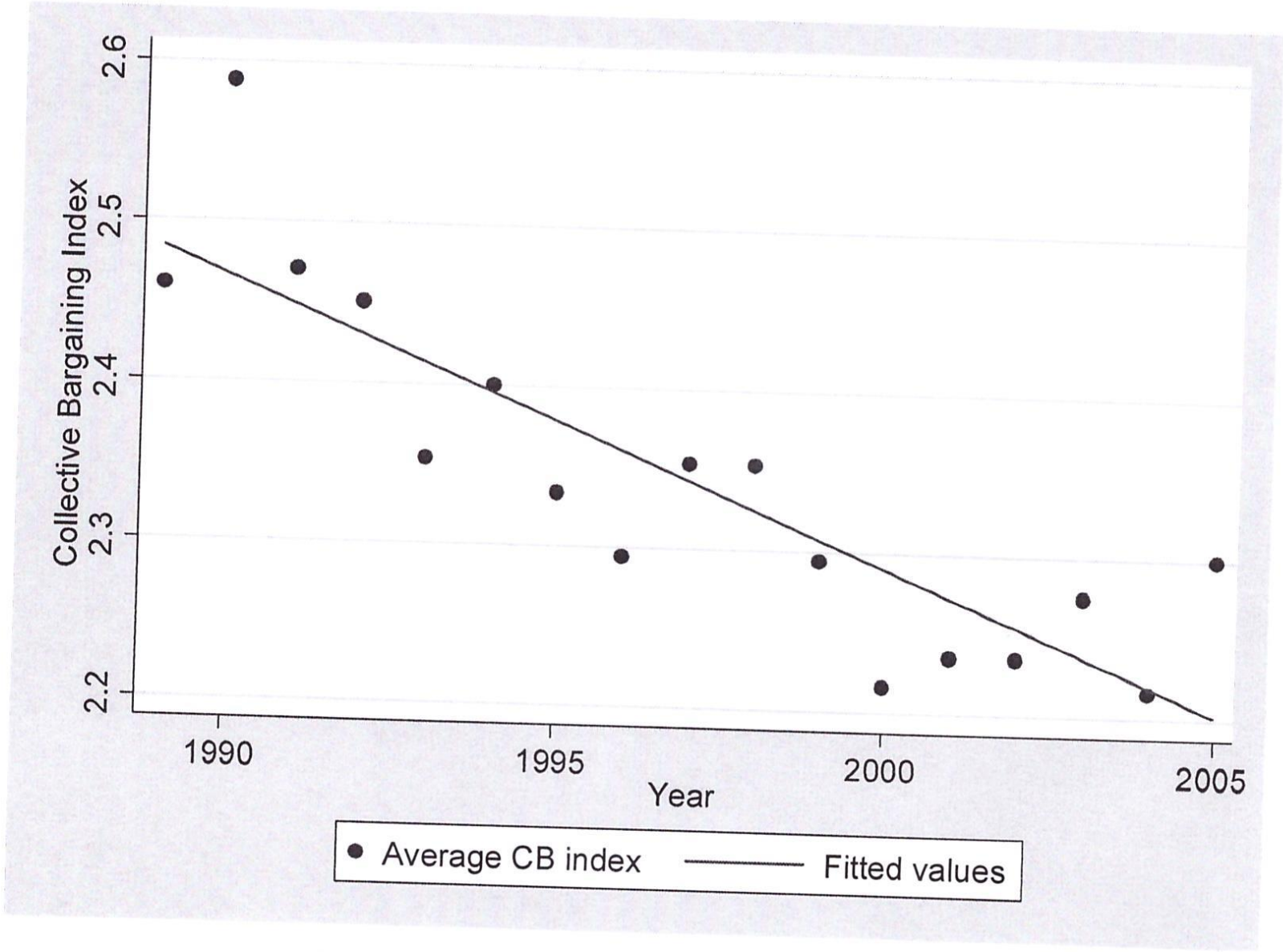
FIGURE 3
THE PROGRESS OF COMPUTING MEASURED IN COST PER COMPUTATION PER SECOND DEFLATED BY THE PRICE INDEX FOR GDP IN 2006 PRICES

BUT TECHNOLOGICAL CHANGE IS NOT RECENT.

http://www.chonday.com/Videos/the-writer-automaton

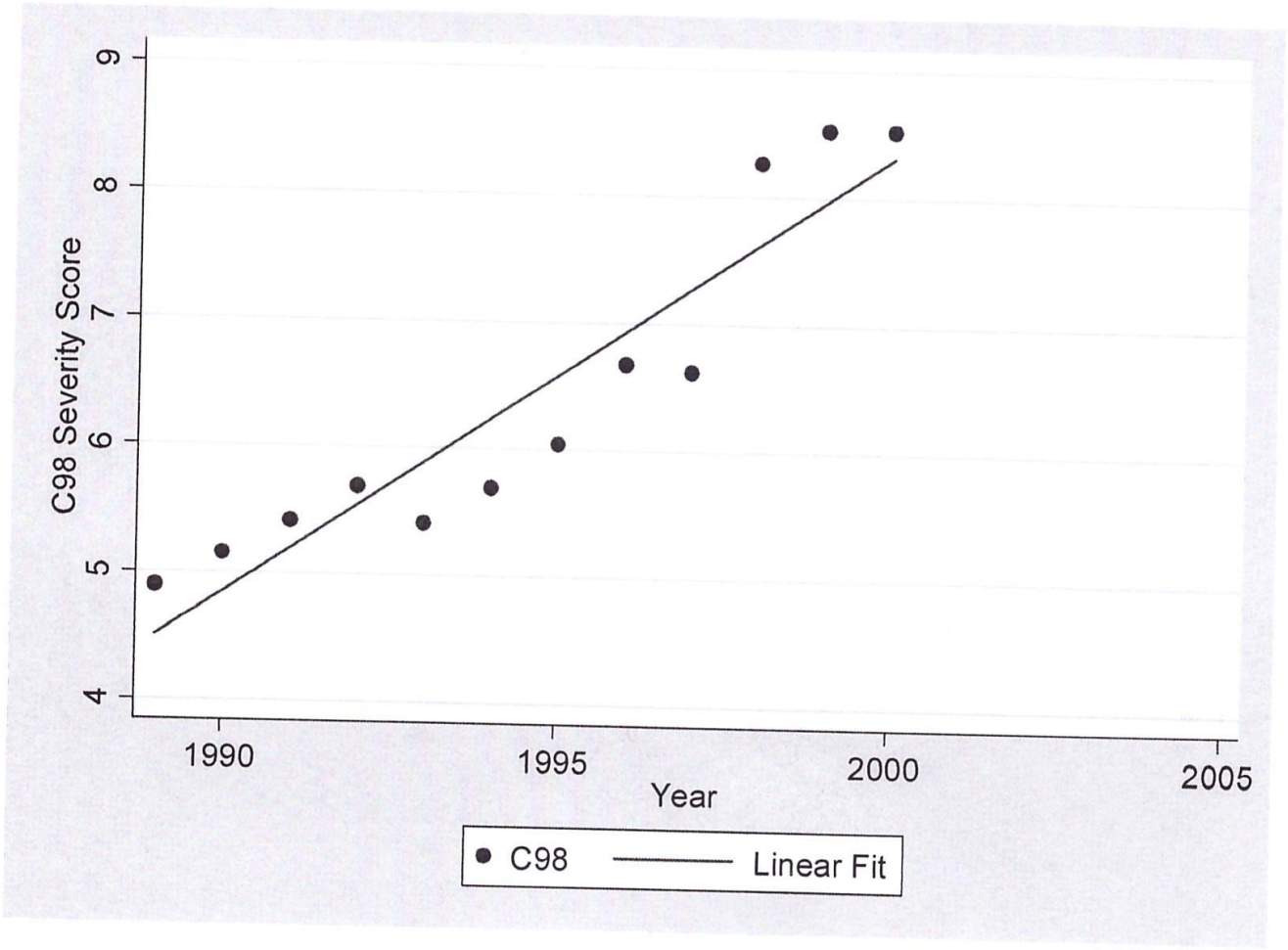
LABOR MARKET INSTITUTIONS

Figure 3: Average Collective Bargaining Structure Index over Time



ILO Convention concerning the Application of the Principles of the Right to Organize and to Bargain Collectively (Convention C98): Severity of Violations

Figure 5: Average C98 Severity Index over Time

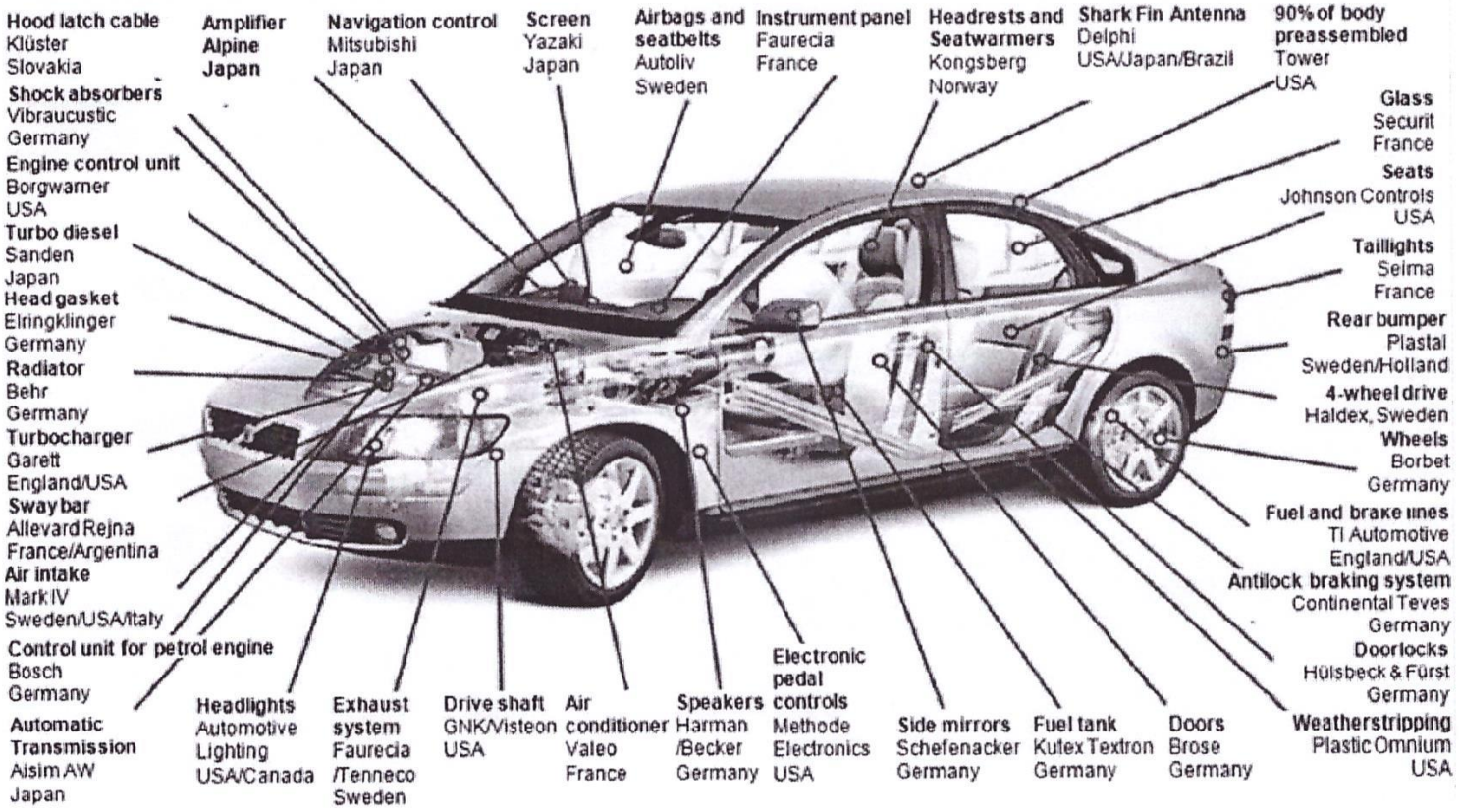


THE THEORY

Stylized facts concerning the globalization process and the dynamics of inequality since the 1980s (Hellier, 2013):

1. *A critical increase in the weight of emerging countries (the South) in the production and exports of manufacturing, and thereby a significant decrease in the weight of advanced countries (the North).*
2. *The South is specialized in the production and exports of unskilled- intensive goods and the North in skill-intensive goods, and the skill level of the working population is substantially higher in the North compared to the South.*
3. *The development of international outsourcing, i.e., a situation in which the different segments of production processes are located in different countries. In particular, the skill intensive segments remain in the North whereas the unskilled intensive segments are relocated to the South.*

Figure 6: Where are the components of the Volvo S40 made?



Source: Baldwin and Thornton (2008), taken from a presentation by Ericsson Chairman Michael Treschow.
Note: Thanks to Shon Ferguson for translation from Swedish.

4. *In terms of production and specialization, the South did not produce skill-intensive goods at the outset of globalization and the North stopped producing unskilled intensive tradable goods from the late 2000s.*

5. *An increase in the skill intensity (ratio of the utilization of skilled on the utilization of unskilled labor in production) in almost all industries in both the North and the South.*

6. *A critical increase in foreign direct investments (FDIs) from the North to the South.*

7. *In most northern countries, an increase in unemployment compared to the pre-globalization period, and particularly in unemployment of unskilled workers.*

8. *A significant increase in the skill level of the working population in all northern countries over the last forty years.*

9. *The wage gap between the North and the South remains substantial for unskilled workers as well as for skilled workers.*

10. *No tendency towards international skill premium equalization, neither between northern countries, nor between southern countries, nor between the North and the South.*

11. *Inequality (the skill premium) remains higher in southern countries than in northern countries.*

12. *An increase in the skill premium (inequality) in almost all northern countries over the last thirty years, but with substantial differences across countries.*

13. *Miscellaneous variations in the skill premium and inequality in southern countries . More precisely, inequality decreased in East Asia from the early 1980s to the mid-1990s, but increased afterwards. Inequality seems to have increased in most of the Latin American countries, as well as in China and India since the early 1990s, but it regressed in China and certain Latin American countries since the mid-2000s. Nevertheless, the general diagnosis is that of an increase in inequality.*

14. *No increase in the prices of the skill-intensive goods in relation to those of unskilled intensive goods in the North.*

Suitability of the stylized facts to the North-South Heckscher-Ohlin Model

1. *The South is specialized in the production and export of unskilled intensive goods and the North in skill-intensive goods:* Yes

2. *Development of international outsourcing:* Irrelevant

3. *An increase in the skill intensity in all industries in both the North and the South:* No

4. *A critical increase in FDIs from the North to the South:* Irrelevant

5. *An increase in unemployment of unskilled workers in the North:* No

6. *The wage gap between the North and the South remains substantial for unskilled workers as well as for skilled workers:*

No

7. *Increase in the skill premium (inequality) in the North:* Yes

8. *The skill premium remains higher in the South than in the North:* No

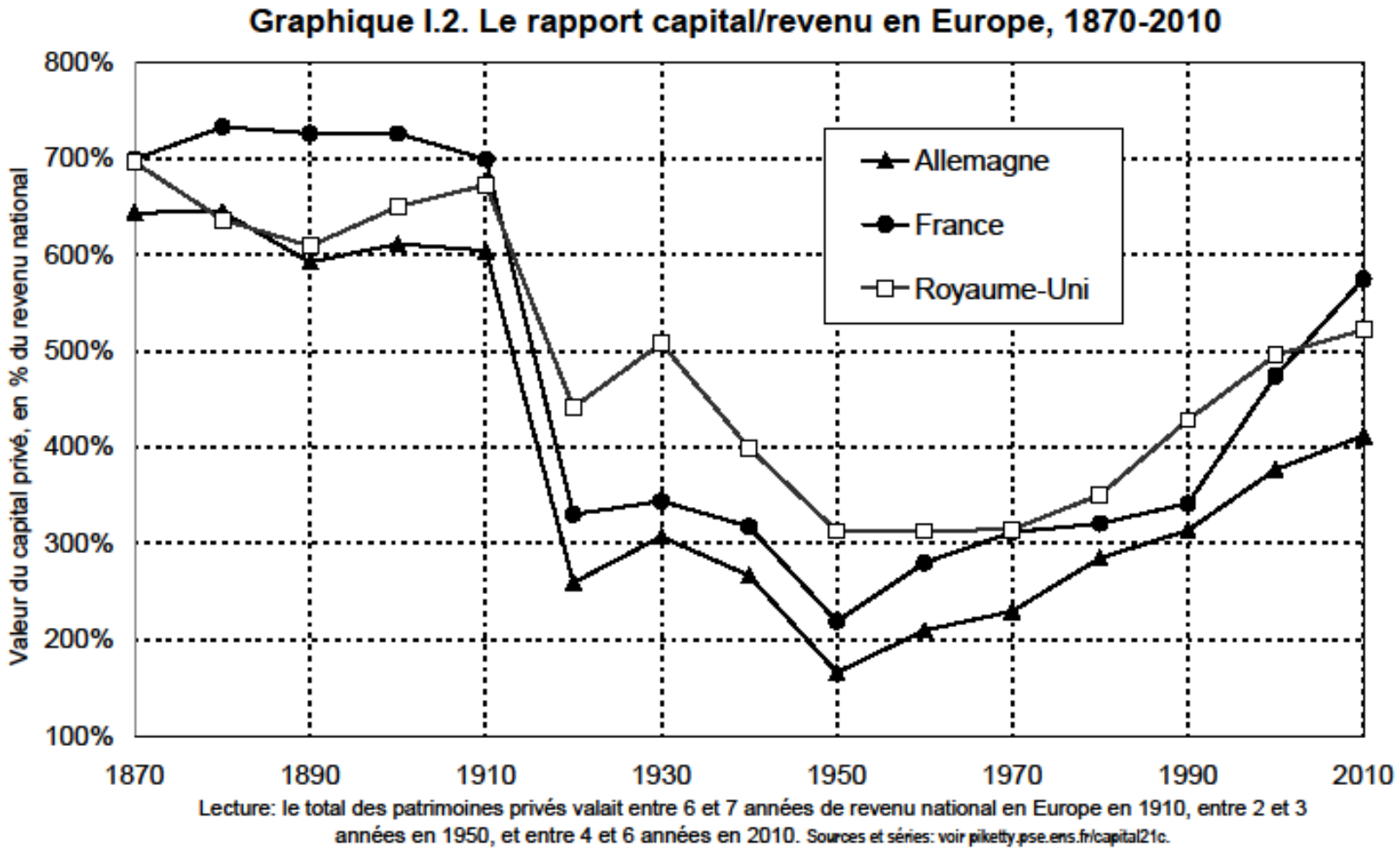
9. *No tendency towards international skill premium equalization:* No

10. *No decrease in the skill premium in the South:* No

11. *No increase in the prices of skill-intensive goods in relation to unskilled intensive ones in the North:* No

LABOR SHARE

Piketty on capital/income ratio in Europe (1870-2010)



Piketty's data:

- Late 19th century: private wealth = 6 to 7 years of national income
- In period 1914-1945: private wealth = 2 to 3 years of national income
- In 2010: private wealth – again 5 to 6 years of national income

Piketty's explanations:

- When rate of return on capital (r) significantly exceeds growth rate of the economy, then inherited wealth grows faster than output and income (growth rate $\mathrm{g} < r$). In other words inherited wealth will dominate wealth accumulated from a lifetime 's labor by a wide margin.

- Moreover phenomenon aggravated if savings rate increases with wealth
- Also likely that average rate of return on capital is higher when an individual's initial capital endowment is higher
- Since rates of growth of both population and the economy are likely to decrease in coming decades, the trend is worrisome.

EMPIRICAL STUDIES (ECONOMETRIC ANALYSIS)

Globalization and Inequality

Dreher & Gaston (2008):

"Has globalization increased inequality?"

$$I_{it} = \alpha + \beta I_{i,t-1} + \gamma G_{it} + \eta X_{it} + u_i + v_t + \varepsilon_{it}$$

where I is an inequality index, G a measure of globalization, X refers to control variables, i is the country and t the time, u_i is a country fixed effect, v_t a period fixed effect and ε_{it} a random disturbance.

Globalization is measured via one of the KOF indices.

In a simple OLS model as well as with GMM, the results show that industrial wage as well as income inequality rise with globalization.

However when the overall globalization index is replaced by three different indices measuring respectively economic, social and political globalization, *economic globalization has no significant impact when GMM is used*, while political globalization is significant in the full sample as well as in the non-OECD sample. *When adding explanatory variables like age dependency ratio, population growth), overall globalization has a significant impact on wage inequality.*

Note that in all the regressions no Kuznets effect (inverted U-shape impact of per capita GDP on inequality was found).

Baccaro (2008): "Labour, globalization and inequality: are trade unions still redistributive?"

Within countries regression analysis:

$\ln(Gini_{it}) = \alpha + \beta X_{i,t} + \gamma Z_{it} + \delta_i + \tau_t + \varepsilon_{it}$

with ε_{it}=$\varepsilon_{i,t-1} + \nu_{it}$ (first order serial correlation in the errors)

where *X* is a vector of labor institutions variables and *Z* a vector of economic & social controls. Database covers 42 countries and the period 1989-2003.

Conclusions:

Within countries inequality:

- *no impact change in union density on income inequality*
- *no impact of collective bargaining and of ratification of core labor conventions*
- Increase in FDI/GDP increases inequality
- Trade liberalization measured via tariff reductions increases inequality
- Capital and trade openness have no effects
- Technology-induced shifts in the demand for skilled labor increase inequality

Between countries regression analysis:

- *Trade union density has a negative impact on inequality*
- *Collective bargaining has a much weaker effect* (if any)

Chen, Förster and Llena-Nozal, 2013

Globalization, technological progress & changes in regulations & institutions. Which impact on the rise of earnings inequality in OECD countries?

Type of equation estimated:

$$\ln(Wage\ dispersion_{it}) = \alpha + \beta lnGLOB_{it} + \lambda \ln(Tech_{it}) + \theta \ln(Inst_{it}) + \gamma X_{it} + C_i + \eta_t + \varepsilon_{it}$$

where $Inst_{it}$ may refer to

- *PMR*: Product Market regulations
- *EPL*: Employment Protection Legislation
- *Tax wedges*: [(sum of income tax and employees and employers payroll taxes)/total labor cost] for average worker.

Main conclusions of the study of Chen, Förster and Llena-Nozal (2013)

- During the past 3 years wage inequality increased in OECD countries, especially in the upper half of the distribution
- Trade integration spread substantially as well as the transfer of finance across national borders
- There was also a rapid advance of technology
- There was a decline in many product and labor market institutions and regulations

Conclusions of econometric analysis:

- Trends in trade exposure had no distributional impact
- Financial deepening had no impact on within countries wage inequality
- Technological progress had a positive impact on wage dispersion
- The rise in the supply of skilled labor and the increase in female labor force participation were counterweights to the increase in wage inequality
- Weakening of product and labor market institutions (unions regulations) had positive impact on wage inequality
- Important impact of technological progress on rise in earnings inequality
- Up-skilling of labor force seems to be the best tool to reduce wage dispersion and increase employment rates

Kauder & Potrafke "Globalization & Social Justice in OECD countries (2015)

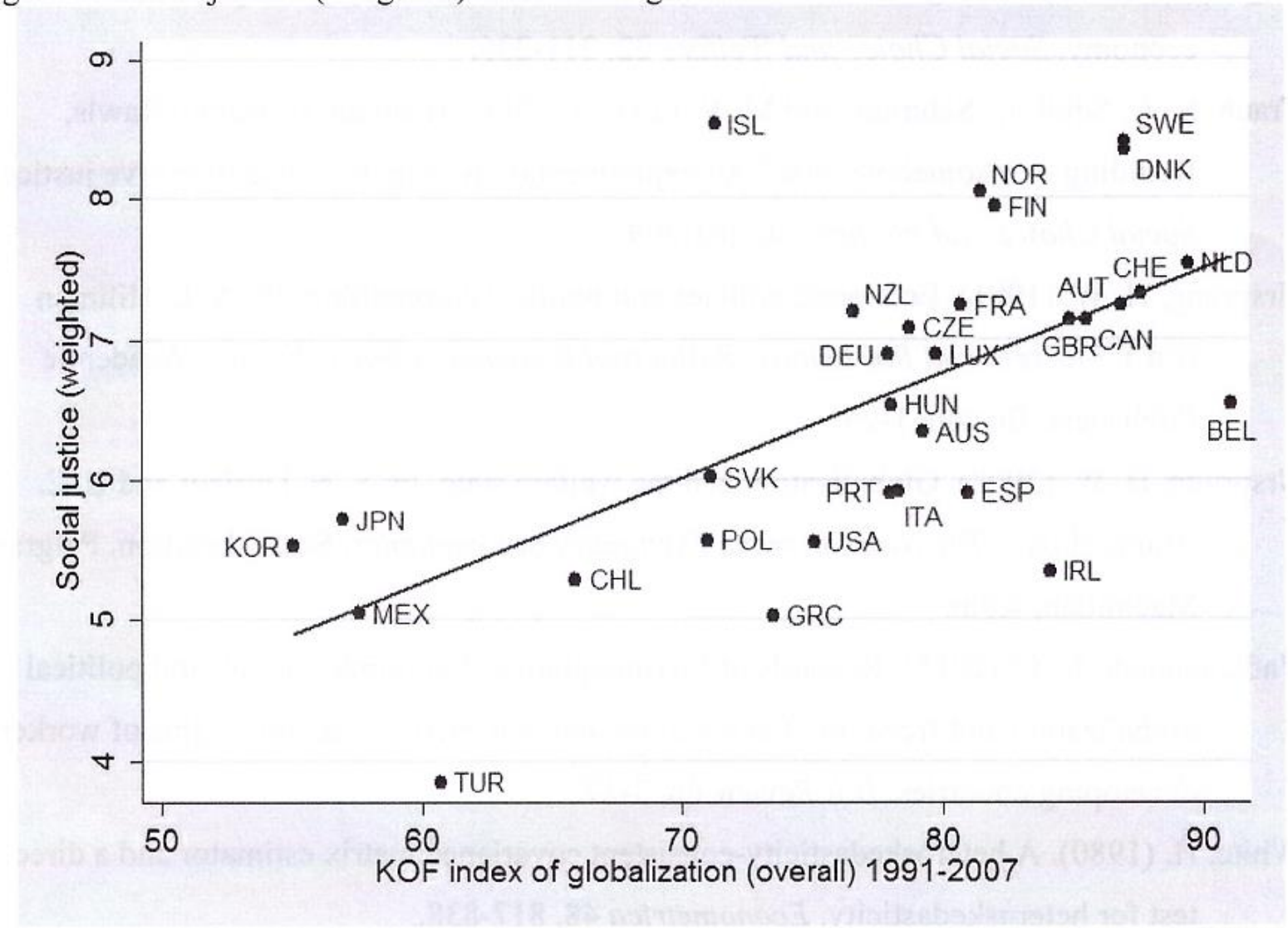
Table A1: Social justice sub-indicators consist of quantitative measures and expert opinions

Indicator	Description
Poverty prevention	
Poverty rate	Share of population with less than 50% of the average national net household income
Child poverty	Share of population below 18 with less than 50% of the average national net household income
Old-age poverty	Share of population above 65 with less than 50% of the average national net household income
Equitable access to education	
Education policy	Political performance in providing valuable, efficient, and just education
Socioeconomic background	Product of strength and slope of the socioeconomic gradient
Early childhood education	Public expenditures for pre-school education in percent of GDP
Labor market inclusiveness	
Employment rate	Employed population relative to population of working age (15-64)
Employment rate (older people)	Employed population 55-64 relative to total population 55-64
Employment relation (immigrants/natives)	Employment rate of migrants relative to employment rate of native population
Employment relation (sex)	Employment rate of women relative to employment rate of men
Unemployment	Number of unemployed relative to dependent civil labor force
Long-term unemployment	Long-term unemployed (above 12 months) relative to labor force 15-64
Youth unemployment	Unemployment rate 15-24 relative to unemployment rate of total population
Unemployment (low-skilled)	Unemployment rate without higher school or university degree relative to total unemployment rate

Social cohesion and equality	
Social inclusion	Assessment of social policy regarding strengthening social cohesion
Gini coefficient	Income distribution
Non-discrimination	Assessment of public measures for avoiding discrimination
Income differences (women/men)	Incomes of women relative to incomes of men
Integration policy	Assessment of political performance regarding the integration of migrants
Intergenerational justice	
Family policy	Political performance regarding compatibility of family and work
Pension policy	Political perf. reg. poverty avoiding, generationally just, and fiscally sustainable pensions
Environmental policy	Political performance regarding sustainable dealing with resources and the environment
CO_2 emissions	CO_2 emissions per unit of GDP
Expenditures for research and development	Public expenditures for research and development in percent of GDP
Debt level	Debt of public households in percent of nominal GDP

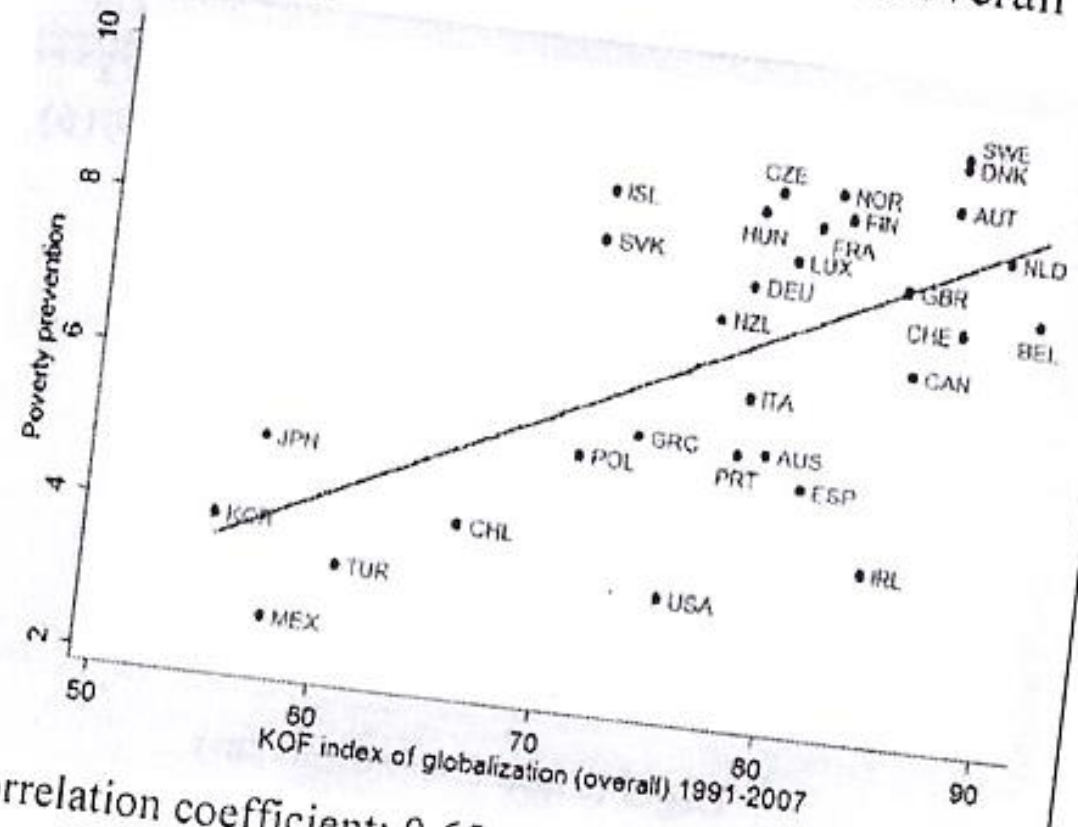
Source: Bertelsmann Stiftung (2010)

Figure 1: Social justice (weighted) and overall globalization. 31 OECD countries



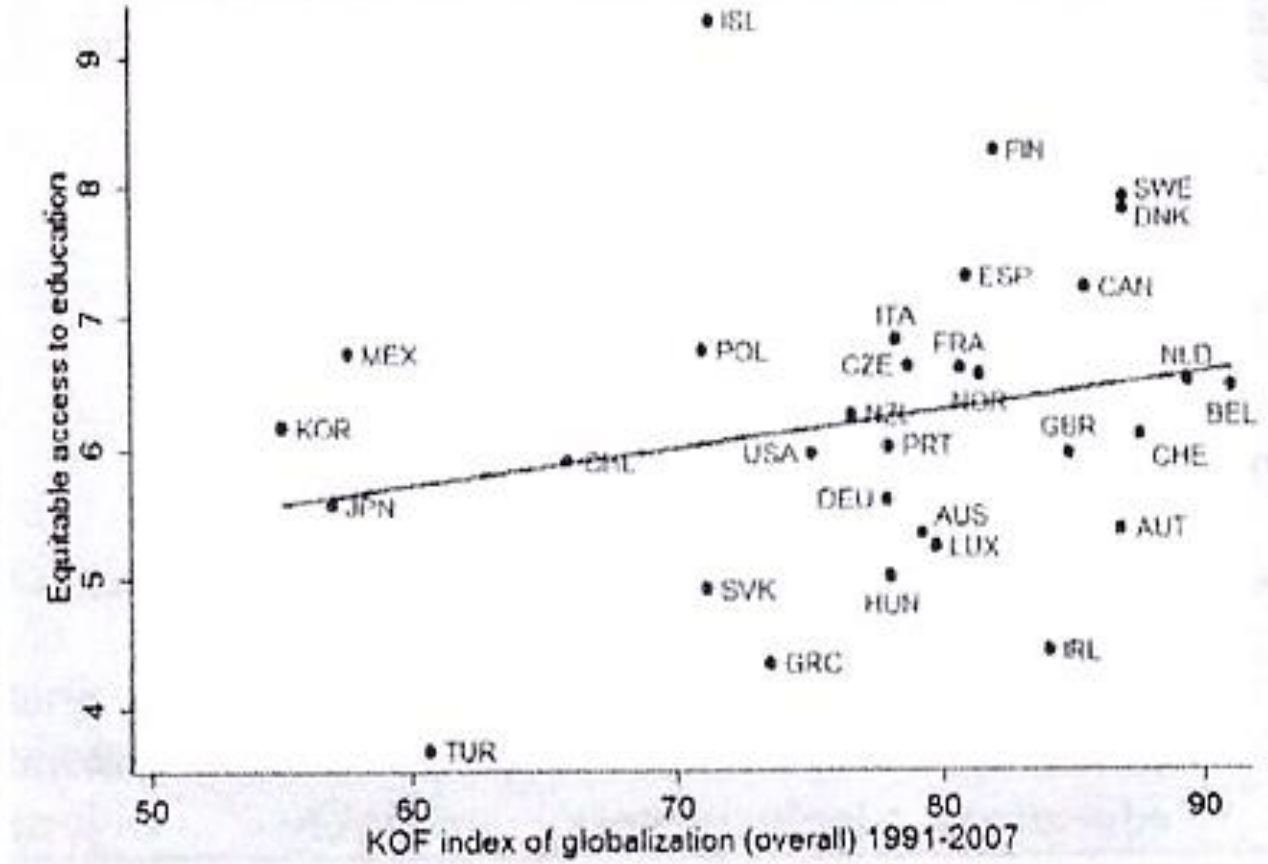
Correlation coefficient: 0.63. Source: Bertelsmann Stiftung (2010), Dreher (2006b), and Dreher et al. (2008a)

Poverty prevention sub-indicator and overall globalization



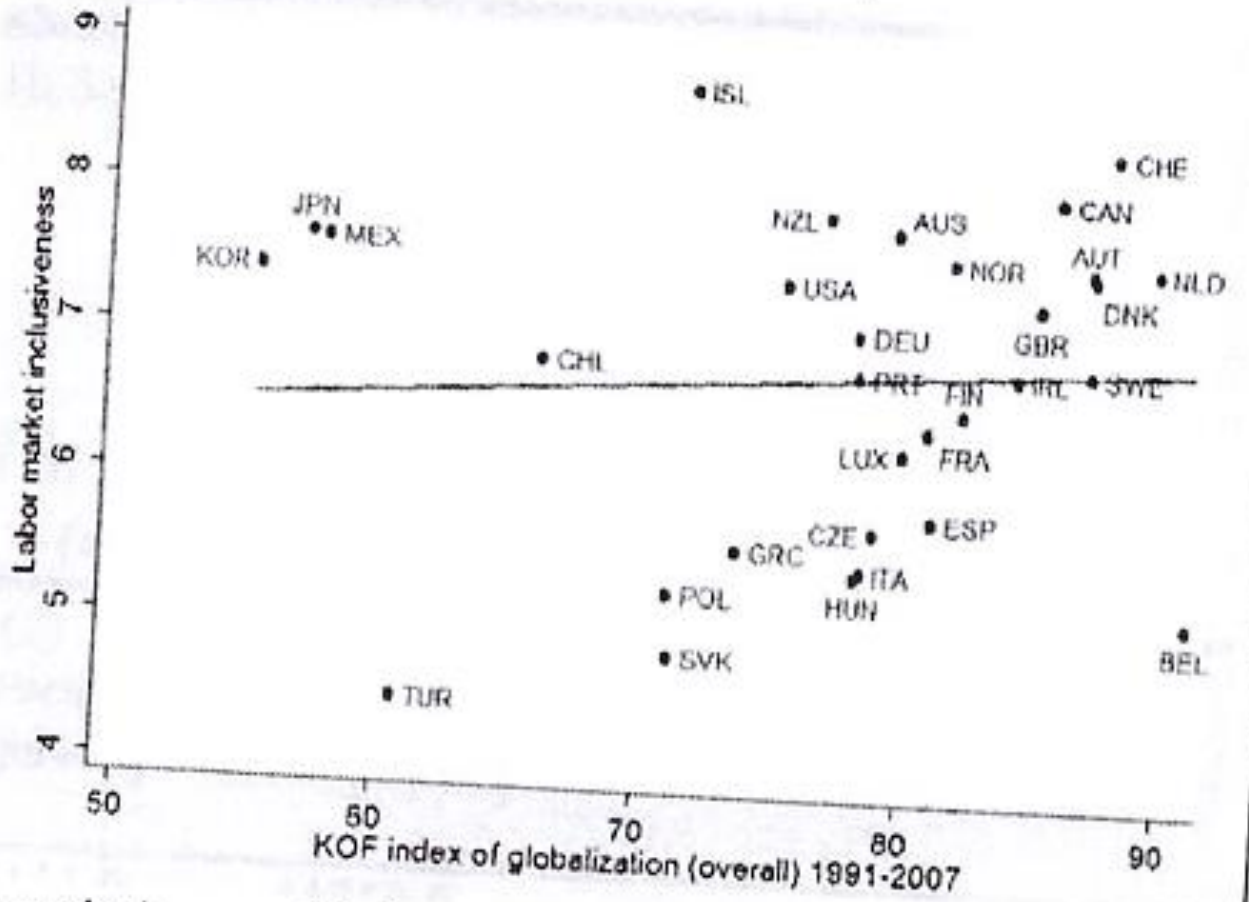
Correlation coefficient: 0.65

Equitable access to education sub-indicator and overall globalization



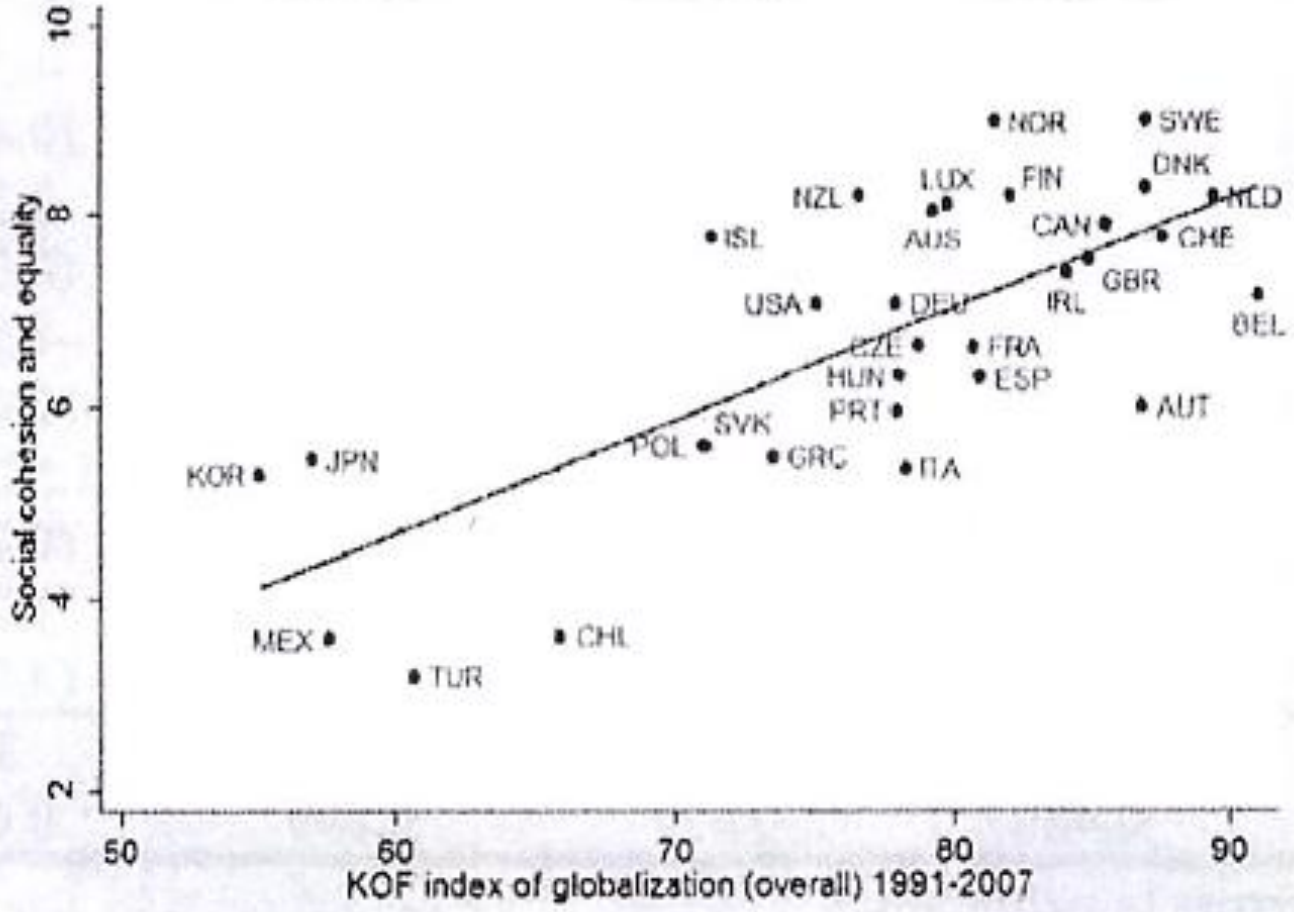
Correlation coefficient: 0.23

Labor market inclusiveness sub-indicator and overall globalization



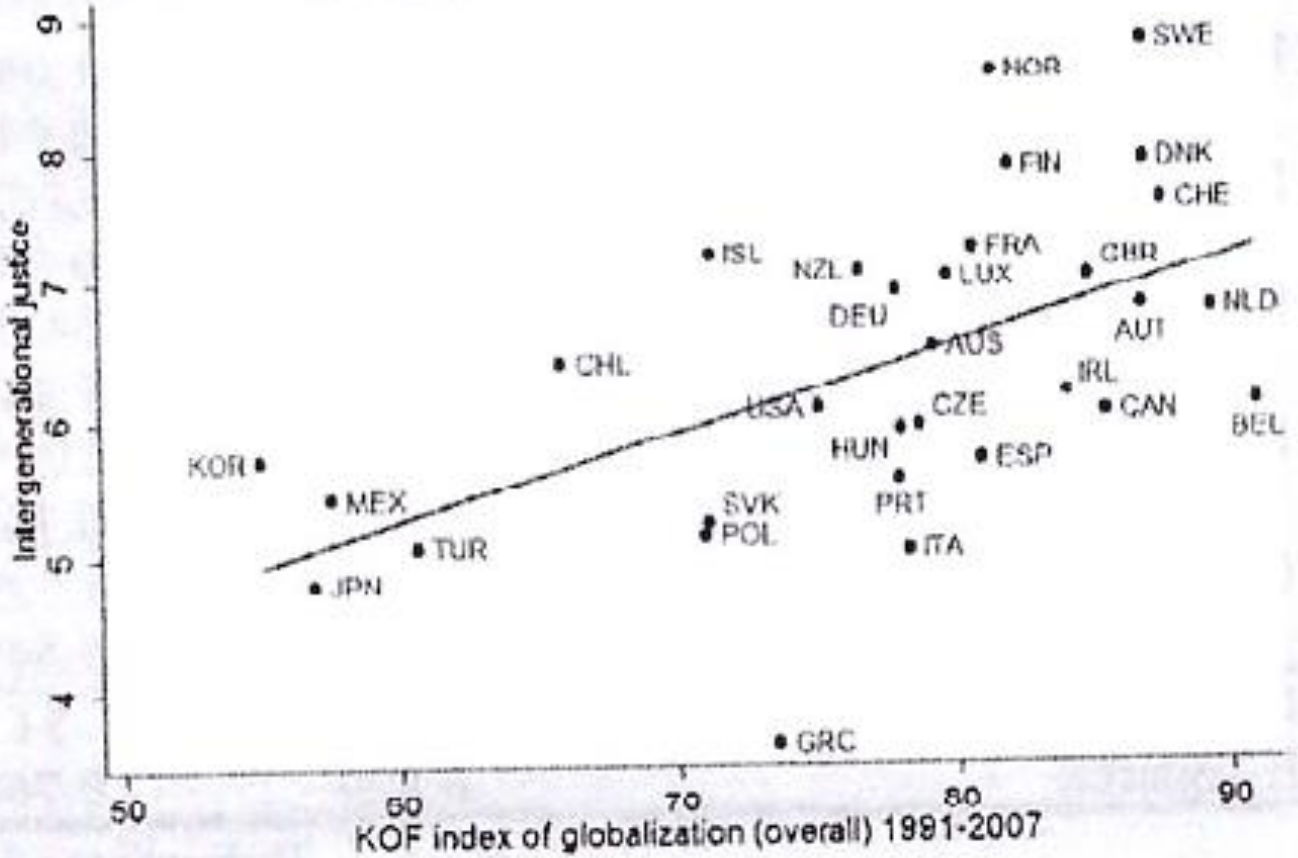
Correlation coefficient: 0.10

Social cohesion and equality sub-indicator and overall globalization



Correlation coefficient: 0.73

Intergenerational justice sub-indicator and overall globalization



Correlation coefficient: 0.54

SOME CONCLUDING REMARKS

- **Necessary to be very careful when making statements about inequality** (un-weighted per capita income inequality increased, the weighted one decreased; inequality between world citizen seems to have increased and share of top incomes generally increased in recent decades)

- No matter how we measure it, there has been **a clear increase in globalization over time**

- There also has been a **significant decrease in unionization** and more generally **in labor market regulations** in past 20-25 years

- Number of studies is small but as a whole it seems that

  - **economic globalization does not have a very significant impact on wage inequality**.

  - **the weakening of labor market institutions on the other hand had a clear (positive) impact on wage inequality**

  - **technical progress as a whole increases wage inequality**

  - **the up-skilling of labor force seems to be an effective way of decreasing wage inequality**

- As far as income inequality is concerned, there seems to have been a **spectacular increase in very high incomes** and, according to Piketty, this is not so much related to a rise in their skills and productivity than to the fact that these top managers have the power to fix their own remuneration.

- Piketty stressed also the fact that although a market economy contains powerful forces of convergence associated with the diffusion of knowledge and skills, it includes also powerful forces of divergence which may lead to a situation where the entrepreneur becomes a rentier who will dominate those who own nothing but their labor.
- These are quite pessimistic conclusions that not everyone may share. Piketty has however the merit of drawing our attention to the need of having a careful look at some interesting data.

- I have tried in this lecture to show how important it was to be precise when talking about, say, inequality or globalization. We saw that these concepts may have quite different meanings and that it was unlikely that one could come up with a unifying and simplistic model describing the links between technological change, labor and product market institutions, globalization and inequality.
- As stressed by Piketty, economists have all too often be “preoccupied with petty mathematical problems of interest only to themselves. This obsession with mathematics is an easy way of acquiring the appearance of “scientificity” without having to answer the far more complex questions posed by the world we live in….”

- And Piketty adds: “The truth is that economics should never have sought to divorce itself from the other social sciences and can advance only in conjunction with them.”

THANK YOU