Future Social Market Economy
BertelsmannStiftung

Policy Brief # 2014/01

Who profits most from globalization?

Globalization, understood as the economic, political and social interconnection of countries, leads to increased economic growth. On average, the more a country proceeds its interconnection with the rest of the world, the greater its economic growth will be. If real per capita gross domestic product (GDP) is chosen as the reference index for the economic benefits of globalization, Finland can point to the largest gain from globalization from 1990 to 2011. Ranked according to this perspective, Germany holds fourth place out of a total of 42 economies evaluated.

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Focus

	Country	Average income gain per capita between 1990 and 2011 in euro
1.	Finland	1,500
2.	Denmark	1,420
3.	Japan	1,400
4.	Germany	1,240
5.	Switzerland	1,220
:	:	:
38.	Brazil	120
39.	Russ. Federation	120
40.	Mexico	100
41.	China	80
42.	India	20

Source: Prognos AG. | BertelsmannStiftung

Without the globalization that occurred between 1990 and 2011, average annual per capita gross domestic product during that period in Finland would have been €1,500 less. In Germany, the per capita gross domestic product benefit from growing globalization was €1,240 per year. In China and India, per capita gains were only €80 and €20, respectively.

"Globalization" is one of those alluring terms that allow for numerous interpretations. It is often taken to be equivalent to increased world trade. But that doesn't do the concept justice because globalization is much more than a simple expansion of global trade in goods and services. According to Joseph Stiglitz, globalization encompasses many aspects of life in society: the international flow of ideas and knowledge, the sharing of cultures, global civil society and the global environmental movement (Stiglitz 2006). From this perspective, globalization describes the ever stronger economic, political and social interconnectedness of the world. The question of whether that is a blessing or a curse for humanity is answered in different ways. Proponents of globalization emphasize its opportunities (higher global material and immaterial wealth, increase in employment, reduction of absolute poverty), while its opponents prefer to call attention to its dangers (lower minimum standards, increased social inequality and increase of workload).

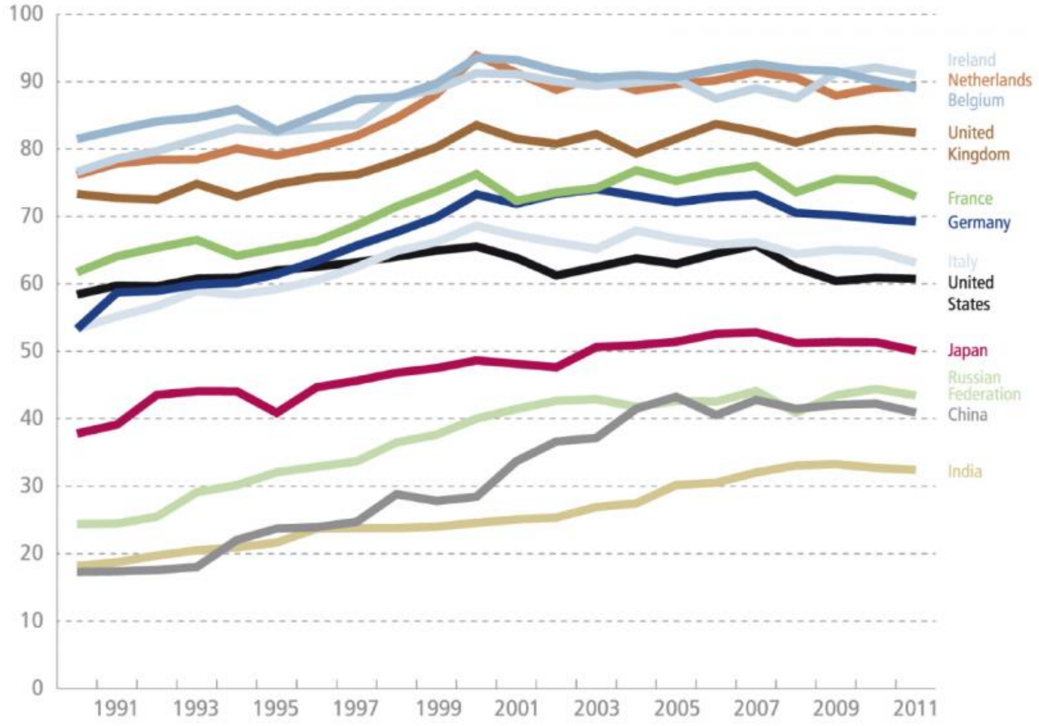
Independent of any comprehensive evaluation of globalization, there exists a broad consensus that globalization results in increased economic growth amongst participating economies. The real extent of its effects on individual countries has not yet been sufficiently quantified, however. In what follows this question is examined more intensively. Specifically, we measure the influence of globalization on real gross gross domestic product in 42 industrialized and emerging countries. In order to do this we first created a globalization index that measures each individual country's economic, political and social interconnection with the rest of the world. In a second step, we used this index to estimate the growth effects of globalization in order to quantify the income gains caused by globalization (defined as the gains in real gross domestic product induced by the globalization) in the third step.

1. The globalization index

The index used here closely follows the methodology of the well-established "KOF Globalization Index" of the Swiss Federal Institute of Technology (ETH) Zurich (cf. Dreher 2006). Along with indicators of economic globalization (e.g., data on transnational trade in goods and services, trade barriers and capital controls), it includes data on social globalization (e.g., international tourism, information flows and the percentage of the total population that was foreign-born) and political globalization (e.g., membership in international organizations, the number of foreign embassies in the country and international contracts). Using such data for each country and each year, a globalization index was developed with values ranging between 0 and 100 where higher index values signal a stronger interconnection of that country with the rest of the world. The course of the globalization index over time for selected countries is illustrated in Figure 1.

Fig. 1: Course of the globalization index in selected countries between 1990 and 2011

Data given as index points



Source: Prognos AG.

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It turns out that small countries like Ireland, Belgium and the Netherlands show the highest scores for international interconnection. Large emerging countries like Brazil, Russia, India and China, on the other hand, post substantially lower values. At the same time, however, it can be seen that these last-named countries have risen significantly on the globalization index over the last 21 years. China's score, for example, has more than doubled. Countries like Belgium, Ireland and the Netherlands, on the other hand, had already achieved a very high degree of international connection by 2000. Since that time, the globalization index for these countries remained relatively constant.

2. Growth effects of globalization

In the second step, we used regression analyses in order to determine the impact of globalization on real per capita growth. Based on the period from 1990 to 2011 in the 42 economies studied, our analysis indicates that a one-point rise in the globalization index results in an 0.35 percentage point increase in the growth rate of real per capita gross domestic product. In these regressions we control for additional factors that potentially influence economic growth such as inflation, government debt and public spending. Robustness checks reveal only small and largely insignificant differences between estimators that are specific to sets of countries which differ in the absolute level their gross domestic product and per capita income.

Significance of globalization for economic growth in Germany: In Germany, the value of the globalization index between 1990 and 2011 rose on average by 0.76 points per year. When combined with the computed statistical influence of globalization on economic growth, it turns out that Germany owes about 0.27 percentage points of its annual per capita growth to its growing interconnection with the rest of the world. This corresponds to nearly 20 percent of average growth of per capita GDP in the same period.

The result therefore shows that in the period between 1990 and 2011 in the 42 economies studied, globalization had on average a significantly positive influence that that proved to be robust across different specification of the underlying econometric model. Using this correlation, the influence of globalization on gross domestic product level was calculated in a third step.

3. Quantification of globalization gains

Income gains due to expanding globalization were identified with the help of the real gross domestic product (expressed in 2000 prices). To do this, actual gross domestic product growth between 1990 and 2011 in the 42 countries was compared with the hypothetical growth that would have occurred if the international interconnection of all countries had remained at their 1990 levels. This meant assigning the 1990 value of the globalization index to each country for each year from 1990 to 2011. Annual differences in real gross domestic product between the actual and the hypothetical economic development were then accumulated and used as the measure for the gains from globalization.

Examining the overall gross domestic product (see Figure 2), economies like Japan, the United States, Germany and China show the largest globalization-induced income gains. In Germany for example, the cumulative gains in the period from 1990 to 2011 sum up to more than €2 trillion. This corresponds to about 90 percent of gross domestic product in 2011 and thus more than the total government debt load of Germany at that time.

In judging their material prosperity, it is ultimately not the economic output of the whole economy that matters to people but rather the impact on their individual income. As a benchmark for individual material well-being, the real per capita gross domestic product figures more meaningful.

When quantifying globalization gains with this indicator, the ranking of globalization winners is different (see Figure 3). The largest average income gains measured in that way accrue to Finland and Denmark with an average of €1,500 and €1,420 per inhabitant per year, respectively. Including Switzerland, Switzerland, Israel, Austria, Greece, Ireland and Sweden there are six additional small economies amongst the top 10. Out of the large economies, only Japan and Germany can be found at the top of the ranking. According to this form of measurement, the smallest beneficiaries are the large and emerging economies, including all five BRICS countries (Brazil, Russia, India, China and South Africa).

Fig. 2: Average and cumulative income gains from increased globalization between 1990 and 2011

Rank	Country	Average annual income gain in billions of euros*	Cumulative income gain in billions of euros*	Cumulative income gain in relation to real GDP in 2011**
1	Japan	178.7	3,752	68
2	United States	154.8	3,251	24
3	China	103.0	2,163	56
4	Germany	102.0	2,142	92
5	France	50.3	1,057	64
6	Italy	41.4	870	70
7	South Korea	37.7	792	88
8	United Kingdom	34.8	730	38
9	Spain	24.1	506	65
10	Brazil	22.3	468	46
11	Canada	20.9	438	45
12	India	19.6	412	36
13	Russian Federation	17.0	356	75
14	Australia	15.2	319	51
15	Netherlands	14.4	303	63
16	Turkey	12.5	262	57
17	Mexico	11.4	240	26
18	Greece	10.8	226	147
19	Poland	10.1	212	74
20	Switzerland	9.0	188	56
21	Sweden	8.8	184	54
22	Argentina	8.7	182	35
23	Portugal	8.3	175	130
24	Austria	8.3	174	70
25	Finland	7.8	164	102
26	South Africa	7.8	163	77
27	Denmark	7.7	161	86
28	Israel	7.4	156	80
29	Belgium	6.6	138	47
30	Chile	5.0	105	79
31	Hungary	4.1	87	140
32	Ireland	4.0	84	60
33	Romania	3.8	79	126
34	Czech Republic	3.1	65	72
35	New Zealand	2.6	55	77
36	Slovenia	1.8	38	133
37	Slovak Republic	1.5	31	60
38	Norway	1.4	29	13
39	Bulgaria	1.2	26	123
40	Lithuania	1.1	24	117
41	Latvia	0.8	17	130
42	Estonia	0.8	16	166

* real, expressed in 2000 prices, rounded; ** in percentage

Source: Prognos AG.

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Fig. 3: Average and cumulative per capita income gains from increased globalization between 1990 and 2011

Rank	Country	Average annual per capita income gain in euros*	Cumulative per capita income gain in euros*
1	Finland	1,500	31,400
2	Denmark	1,420	29,800
3	Japan	1,400	29,500
4	Germany	1,240	26,100
5	Switzerland	1,220	25,600
6	Israel	1,080	22,600
7	Austria	1,010	21,300
8	Greece	980	20,500
9	Ireland	970	20,400
10	Sweden	970	20,300
11	Slovenia	900	18,900
12	Netherlands	890	18,700
13	France	800	16,900
14	Portugal	800	16,800
15	South Korea	790	16,500
16	Australia	750	15,800
17	Italy	710	15,000
18	Canada	660	13,800
19	New Zealand	650	13,700
20	Belgium	630	13,200
21	United Kingdom	580	12,100
22	Spain	570	11,900
23	Estonia	560	11,700
24	United States	540	11,300
25	Hungary	410	8,600
26	Latvia	350	7,300
27	Lithuania	330	7,000
28	Chile	300	6,400
29	Norway	300	6,300
30	Czech Republic	300	6,300
31	Slovak Republic	270	5,700
32	Poland	260	5,500
33	Argentina	230	4,900
34	Turkey	190	4,000
35	Romania	170	3,600
36	South Africa	160	3,400
37	Bulgaria	160	3,400
38	Brazil	120	2,600
39	Russian Federation	120	2,500
40	Mexico	100	2,200
41	China	80	1,700
42	India	20	400

* real, expressed in 2000 prices; rounded

Source: Prognos AG.

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The reasons for this result pertain to the low starting levels of per capita income in these countries at the beginning of the period studied. Additionally, the gains in globalization index scores made by the large emerging economies occurred relatively late. Finland and the other economies at the top of the ranking, on the other hand, witnessed increases in their globalization index values right at the beginning of the study period that led to globalization-induced income gains early on which than accumulated over the 21-year period.

4. Globalization winners

The determination of "globalization winners" depends greatly on which criterion is chosen. Besides the one used here (absolute gross domestic product and per capita gross domestic product), there are numerous other economic values that could be considered: labor market data, such as employment or unemployment rates, data on the level of financial or property wealth, income or wealth distribution indicators, poverty rates, etc. Immaterial indicators, like life expectancy or education levels, might also be used. The decision on what criterion to select for determining a globalization winner is therefore a value judgment and as such subjective by definition.

In this study, the globalization winner is selected using per capita gross domestic product. Even though using gross domestic product presents a series of shortcomings – disregard of non-economic dimensions like health, leisure, education and environment, failure to include activities that do not occur in markets (e.g. home daycare, and volunteer activities) and consideration of components that increase gross domestic product but do not actually contribute to well-being (e.g., spending to repair environmental or fire damage) – it continues to serve as a key indicator of material prosperity. As the key indicator for how people are supplied with goods and services, gross domestic product is the material basis for a high quality of life. High material affluence moreover creates jobs, mitigates conflicts in distribution and eases financing social expenditures (education, health, environmental protection, etc.).

As already mentioned, the ranking of globalization winners based on per capita gross domestic product is led by Finland. Finland, like the other main beneficiaries of globalization, was able to increase its per capita gross domestic product from the start of the study period with the help of globalization. It is therefore likely that the technological boom and the important role played by the Finnish telecommunications industry in the 1990s were very decisive in determining the final ranking among globalization winners.

Literature

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Policy Brief 2013/05: Federal States, Industries and Education Level – Effects of TTIP in Germany

All major industries and states would benefit from a transatlantic trade and investment partnership (TTIP). The greatest manufacturing and employment effects would be seen in the electronics and metal processing industries. Baden-Württemberg, Bavaria and North Rhine-Westphalia would benefit most. Furthermore, it becomes apparent that new jobs would be created for all education groups – even for relatively unskilled workers. Their real income could increase even more than that of highly qualified workers.

Policy Brief 2013/06: Europe's Sustainability Strategy - A Casualty of the Euro Crisis or an Ambitious Restart?

Europe's economy should not just grow, it should also retain a social dimension and use resources sparingly. The goal of sustainability may be embedded in the Treaty on European Union and the EU's economic strategies, but emphasizing GDP growth and competitiveness in battling the crisis threatens to undermine efforts to establish a shared approach to achieving sustainable economic activity. This may be unavoidable during an acute crisis. But in the long term, the EU must show the way forward.

V.i.S.d.P

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