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*Interviews available with CDI architect David Roodman*

## **Commitment to Development Index: U.S. Ranks Last on Environment**

### *High CO<sub>2</sub> Emissions, Low Gasoline Taxes Contribute to Poor Showing*

WASHINGTON: The United States ranks last of 21 rich countries on the environment component of the 2007 Commitment to Development Index (CDI). Norway ranks first on the environment component, followed by Ireland, Finland, and the United Kingdom. Spain had the second worst ranking on the environment policy component, followed by Australia and Canada.

The Index, produced annually by the Center for Global Development, an independent Washington research and policy organization, ranks 21 high-income industrialized countries on how well their policies and actions support poor countries' efforts to build prosperity, good government, and security. The scoring adjusts for size, leveling the playing field for large and small nations.

The environment component is one of seven policy areas that comprise the CDI. The other Index components are **aid, trade, investment, migration, security, and technology.**

The Netherlands comes in first on the 2007 CDI on the strength of ample aid-giving, falling greenhouse gas emissions, and support for investment in developing countries. Close behind are three more big aid donors, Denmark, Sweden, and Norway. Australia, Canada, and New Zealand are among those tying for fifth. They have a very different profile: generally low on aid but strong on trade, investment, migration, and security.

Japan remains last.

Overall standings in the Index were little changed from last year, because countries policies and practices towards development tend to change slowly.

On the **environment** component, the Index penalizes fishing subsidies, tropical timber imports, imports of endangered species, higher per capita CO<sub>2</sub> emissions, and low gasoline taxes (which encourage consumption, thereby raising emissions and hastening global warming.)

***“The environment component of the CDI dramatically exposes the disaster of US environmental policies when compared to other rich countries”,*** said CGD research fellow David Roodman, who is the architect of the CDI. ***“The US can do much better. It has the money, technology, and entrepreneurial flair to be a global environmental leader.”***

According to the 2007 Index results newly released on the CGD website, Norway tops this year’s environment standings, displacing U.K. as the frontrunner. Norway’s net greenhouse gas emissions fell during 1995–2005, the last ten years for which data are available, thanks to steady forest expansion, which absorbs carbon dioxide. Second place Ireland scores high in part because its economy has grown 6.6 percent per year faster than its greenhouse gas emissions. The U.K., which has steadily increased gasoline taxes and supported wind and other renewable energy sources, continues to perform well, coming fourth this year, the best showing of any major economy.

The U.S. comes in last due partly to its extremely high greenhouse gas emissions per capita (21.7 tons of carbon dioxide equivalent per person, the third worst after Canada and Australia), and the lowest gasoline taxes of all 21 countries in the Index. Although low gasoline prices are popular, they make driving seem falsely cheap by hiding the costs of global warming, most of which will be borne by poor countries. The U.S. also loses points for its failure to ratify the Kyoto Protocol, the most serious international effort to deal with climate change.

CGD president Nancy Birdsall said that she hoped that the poor U.S. showing on the CDI's environment component would serve as a wake-up call, especially to policymakers in Washington. ***“There is a growing body of evidence that developing countries will suffer first and worst from climate change,”*** she said. ***“Americans aren’t accustomed to being the bad guys, and there is growing public pressure domestically for action on climate change. I hope by next year the U.S. will have moved up in these rankings.”***

A recent report by William Cline, a senior fellow at CGD and the Peterson Institute of International Economics, found that developing countries will suffer an average 10 to 25 percent decline in agricultural productivity by the 2080s, given current greenhouse gas emission trends. Rich countries, which typically have lower average temperatures, will experience a much milder or even positive average effect. But India, for example, could see a drop of 30 to 40 percent. Sudan, already wracked by civil war fueled in part by failing rains, is projected to suffer as much as a 56 percent reduction in agricultural production potential.

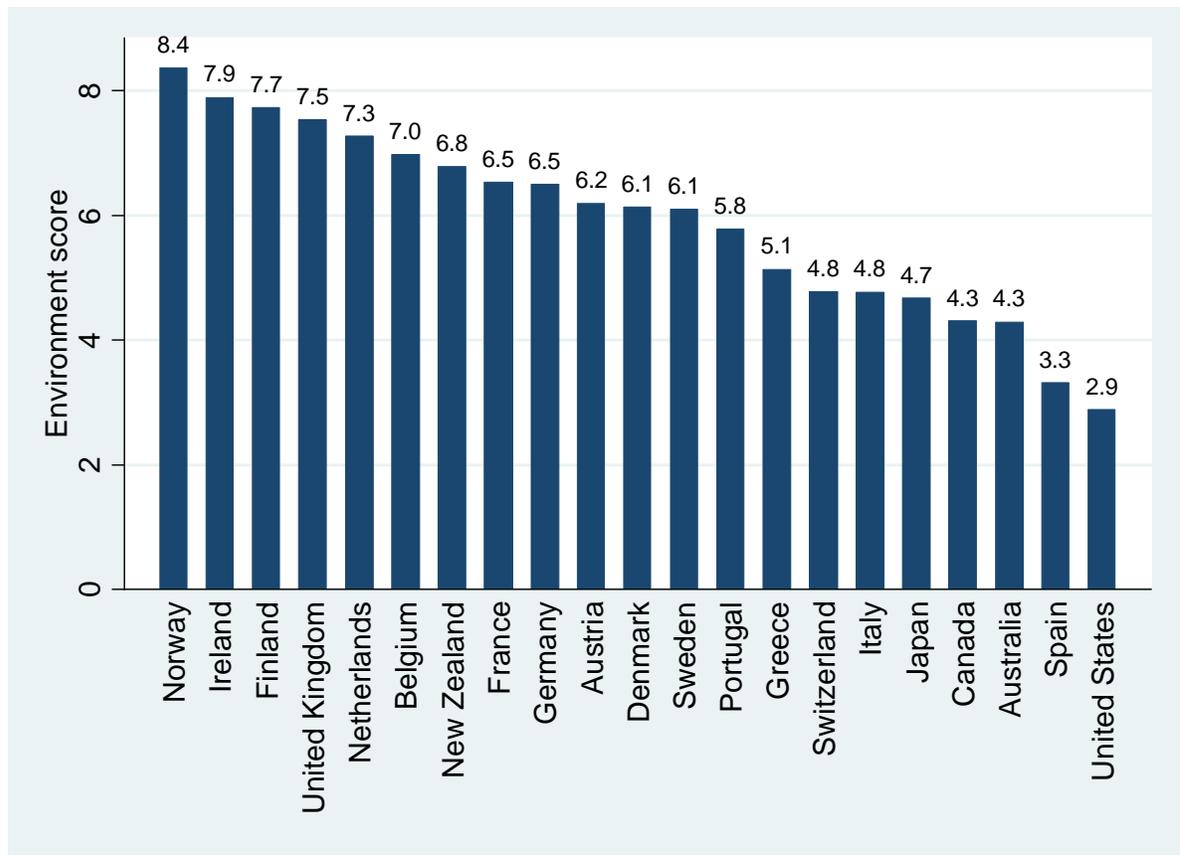
Meanwhile, a new study co-authored by CGD senior fellow David Wheeler predicts that a two-meter sea level rise driven by global warming would flood 90 million people out of their homes, many of them in the river deltas of Bangladesh, Egypt, and Vietnam.

Because of the potentially far-reaching impact of climate change on developing countries, policies in this area account for 60% of the total score in the CDI environment component. Biodiversity—including ratification of relevant treaties and tropical timber imports—accounts for 30% of the environment indicator, while fisheries policy accounts for the remaining 10%.

Within each of these areas there are several weighted indicators. Climate change, for example, includes greenhouse gas emissions per capita (10% of the total environment score), average annual change in greenhouse gas emissions per unit of GDP over the past 10 years (15%), gas taxes (15%), consumption of ozone-depleting substances per capita (10%), and ratification of the Kyoto Protocol (10%), for a total of 60% of the

environment indicator. Roodman designed the environment component in 2003, and incorporated contributions from Amy Cassara and Daniel Prager of the World Resources Institute in 2005.

Norway's strong showing this year partly reflects a change in how the Index is calculated: greenhouse emissions from land use are now included and Norway's forest growth appears to have accelerated in recent years, so total greenhouse gas emissions fell from nearly 36 million tons of carbon dioxide equivalent in 1995 to just under 27 million tons in 2005.



### How the BRICs Stack Up: Ranking Brazil, Russia, India and China

This year for the first time, Roodman extended the environment component of the Index to cover four of the biggest developing countries: Brazil, Russia, India and China, a

group Goldman Sachs dubbed the “BRICs.” For lack of data it was not possible to include indicators for fishing subsidies and imports of endangered species.

Taking into account the remaining eight environmental policy indicators for which data are available—including all the climate indicators—Brazil, Russia, India, and China score remarkably when compared to a similarly limited CDI environment component for the 21 rich countries covered by the full Index.

When the four BRICs are thrown in with the usual 21, they rank second, fourth, fifth, and eleventh. They generally perform well on the greenhouse gas emissions, consumption of ozone-depleting substances, and tropical timber imports. And the BRICs have joined important international environmental accords. As a group, their major weakness is low gas taxes. In addition, Amazon deforestation and heavy fossil fuel use pull Brazil and Russia, respectively, below the CDI 21 average on greenhouse emissions per capita. And China’s abstention from the U.N. fisheries agreement puts it a half point below the other BRICs.

### **CDI Rankings**

The best performing country is The Netherlands, followed by Denmark. Norway and Sweden are tied in third place. Down the line are Finland, New Zealand, Canada and Australia.

Among the G-7—the countries that matter most for developing countries because of their economic power—the U.K. comes in second behind Canada, followed by Germany, while Japan comes in last on the index.

Japan again comes in last overall. Like the U.S., its aid program is small for the size of its economy, and its impact all the smaller when the \$6 billion that developing countries pay it in debt service each year is taken into account. Japan also tends to engage less with the

developing world in ways measured by the CDI. Japan has tight borders to the entry of goods and people from poorer countries and limited involvement in peacekeeping abroad. Still, even the first-place Dutch score only about average (near 5.0) in four of seven policy areas. All countries could do much more to spread prosperity.

To judge fairly which countries have improved most since 2003, this table applies the 2007 CDI formulas to past years. The average score climbed modestly from 5.0 in 2003 to 5.3 in 2005, a level it achieved again in 2007.

Twice as many countries improved as deteriorated over the full period. Several pieces of good news are behind the rise. Norway, Switzerland, the United Kingdom, and the United States gave more aid. Canada, the European Union, and the United States ended quotas on imports of textiles and clothing. Belgium, Denmark, Spain, and Sweden curtailed prohibitions against pension funds investing in developing countries.

The table below shows the overall rankings for the CDI for 2007. This is followed by a list of all 21 countries according to their performance on the Index, with a short description of their strengths and weaknesses.

Rank	Country	Aid	Trade	Investment	Migration	Environment	Security	Technology	Overall (Average)
1	Netherlands	10.7	5.7	8.0	4.8	7.3	5.4	5.2	6.7
2	Denmark	12.0	5.4	5.8	4.6	6.1	5.9	5.4	6.5
3	Norway	10.5	0.7	7.5	4.9	8.4	7.1	5.6	6.4
3	Sweden	11.6	5.4	6.9	5.2	6.1	4.2	5.3	6.4
5	Finland	4.9	5.5	6.5	2.9	7.7	5.7	6.2	5.6
5	New Zealand	3.6	6.7	3.4	7.1	6.8	6.5	5.0	5.6
5	Canada	4.1	7.1	8.0	5.1	4.3	4.3	6.7	5.6
5	Australia	3.1	6.7	7.6	6.5	4.3	6.8	4.6	5.6
9	United Kingdom	4.8	5.5	8.1	3.0	7.5	5.2	4.3	5.5
10	Ireland	6.9	5.3	2.8	6.2	7.9	4.8	3.1	5.3
10	Austria	2.9	5.4	3.9	10.4	6.2	3.8	4.4	5.3
12	Germany	2.6	5.4	8.0	6.0	6.5	3.6	4.3	5.2
13	France	4.0	5.4	6.5	2.7	6.5	3.4	6.9	5.1
14	United States	2.2	7.0	7.0	4.7	2.9	6.4	4.9	5.0
15	Belgium	5.7	5.4	6.2	2.9	7.0	2.4	4.5	4.9
15	Spain	2.9	5.5	7.1	7.1	3.3	2.7	6.0	4.9
17	Portugal	4.5	0.0	6.7	9.3	4.8	3.3	4.9	4.8
18	Portugal	2.4	5.5	6.5	1.3	5.8	5.6	5.2	4.6
19	Italy	2.7	5.6	6.1	2.7	4.8	3.8	5.0	4.4
20	Greece	2.0	5.4	4.9	1.9	5.1	5.1	3.0	3.9
21	Japan	1.2	1.5	5.9	1.7	4.7	1.7	6.3	3.3

## Country Rankings

Below are the ranks, scores, and short summaries of strengths and weaknesses for some of the 21 countries covered by the CDI.

Each country receives a score in each of the seven policy areas. The scores are scaled so that the average is exactly 5 in 2003, the initial publishing of the CDI. Then the seven components are averaged for a final score.

Full country reports for all 21 countries are available on the CGD Website [www.cgdev.org](http://www.cgdev.org), which also includes interactive maps and separate reports for each of the 21 countries, in English and in the language of the country.

**1. NETHERLANDS** ranks first overall in 2007. The Netherlands places in the top half of CDI countries in all seven components. It gives a large amount of aid as a share of its income, and the quality of its aid is high. The Netherlands also has policies that promote productive investment in poor countries as well as a strong environmental record from the perspective of developing countries.

**2. DENMARK** ranks second overall in 2007. The Danish foreign aid program is the best in the world in terms of quantity, weighted for country size, as well as its quality. Denmark also contributes a large amount of personnel and finance to international peacekeeping and humanitarian interventions, and encourages research and development. But Denmark's performance is affected by its barriers against agricultural imports from developing countries and its high fishing subsidies.

**3. SWEDEN** gives a large amount of foreign aid as a share of its income and has a high quality foreign aid program. The Swedish government also bears a large burden of refugees in humanitarian emergencies and strong support for research and development. Its security, migration, and environmental scores are near the CDI averages.

**3. NORWAY** ranks first in the security component, thanks to large contributions of personnel and money to internationally sanctioned peacekeeping and forcible humanitarian interventions. Norway also gives a large amount of foreign aid as a share of its income and has in place policies that support Norwegian investment in developing countries. But Norway also employs some of the most restrictive trade barriers against poor countries, finishing second to last in the trade component.

**5. FINLAND** is a strong supporter of technological innovation and dissemination to the developing world and has also made significant contributions to international peacekeeping and forcible humanitarian interventions. But Finland's performance is affected by a below-average score in the migration component. Due to high barriers that restrict entry, the flow of immigrants from poor countries to Finland is one of the lowest in the CDI as a share of country population.

**5. CANADA**'s main contributions to the development of poor countries come through its strong support of technological innovation and dissemination, its low barriers against developing country exports, and its policies that promote productive investment in poor countries. But Canada's positive impact is reduced by its large share of tied foreign aid, its arms exports to undemocratic governments, and its poor environmental record from the standpoint of developing countries.

**5. AUSTRALIA**'s score is driven by its leading role in peacekeeping efforts, low trade barriers against developing country exports, and relatively open migration policies. On the negative side, Australia gives only a small share of its income in foreign aid, has the highest greenhouse gas emissions rate per person, and, along with the United States, is one of only two CDI countries that have not ratified the Kyoto Protocol.

**5. NEW ZEALAND** has among the lowest trade barriers of CDI countries. For its size, New Zealand also contributes significant finance and personnel to internationally sanctioned security operations and admits a large number of immigrants from developing countries. Yet New Zealand's overall score is brought down by its small foreign aid program, poor donor practices, and weak policies toward investment in poor countries (New Zealand is one of just two rich countries lacking a national agency offering political risk insurance).

**9. UNITED KINGDOM** finishes first on the investment component, thanks to policies that promote healthy investment in poor countries. It also has a very strong environmental record from the perspective of developing countries. But the United Kingdom ranks low in the security component because of arms sales to undemocratic governments. British borders are also relatively closed to immigrants from poor countries.

**10. IRELAND**'s strongest contributions to the development of poor countries come through its high quality foreign aid program and its lack of arms exports to undemocratic governments. But as one of only two countries without a national political risk insurance agency, Ireland ranks as the least supportive CDI country of investment in poor countries. It is also one of the lowest in government support for technology creation and dissemination.

**10. AUSTRIA** is rewarded for admitting a large number of legal immigrants from developing countries and for its relatively strong environmental record. But Austria is penalized for poor donor practices, its lack of policies to promote healthy investment in poor countries, and its policies that limit the diffusion of technology.

**12. GERMANY**'s environmental performance from the perspective of developing countries is among the best in the CDI. Germany also has a large inflow of immigrants from poor countries and has taken steps that promote German investment in the developing world. But Germany would score higher if it increased participation in international peacekeeping efforts and provided more support for the creation and dissemination of technological advances.

**13. FRANCE** is one of the strongest supporters of research and development, helping France finish first in the technology component. But France's performance is affected by below-average scores in three CDI components: aid, migration and security. France has a poor immigration record due to the low number of immigrants entering France from poor countries and is one of the world's largest exporters of arms to undemocratic governments.

**14. UNITED STATES** barriers against developing country agricultural exports are lower than those of most CDI countries, and some U.S. policies promote healthy investment in poor countries. But the United States finishes near the bottom of the rankings in both the foreign aid and environment components. U.S. foreign aid is small as a share of its income and it "ties" a large share of this aid to the purchase of U.S. goods and services. The United States also has the lowest gas taxes and among the highest greenhouse gas emission rates per person. Along with Australia, it is one of only two CDI countries that have not signed the Kyoto Protocol.

**15. SPAIN** gives only a small share of its income in foreign aid and has one of the worst environmental records in the CDI from the perspective of poor countries. Spain's highest CDI rank comes in the migration component, thanks to large number of immigrants from developing countries entering the country. Spain also ranks high in the technology component thanks to government policies that support innovation at home and diffusion of technological advances abroad.

**15. BELGIUM** places among the top third of CDI countries in only two components: foreign aid and environmental performance. In the remaining five components, Belgium is among the bottom third of CDI countries. Belgium's overall score is hurt most by the small number of unskilled immigrants from developing countries entering Belgium during the 1990s, its arms exports to poor and undemocratic governments, its small contributions to international peacekeeping and humanitarian interventions, and its low level of government support for research and development.

**17. SWITZERLAND** admitted many immigrants from developing countries in the 1990s and gives an above-average level of foreign aid for its size. But these contributions to development are offset by Switzerland's poor performance on other CDI components. Switzerland is one of the smallest contributors to international peacekeeping operations, having only recently joined the United Nations. It also has high barriers to exports from developing countries, especially agricultural goods.

**18. PORTUGAL**'s environmental record from a developing country perspective is strong, and the Portuguese government has contributed a significant amount of personnel and finance to international security efforts. But Portugal is least open to developing country migrants of any country in the CDI and gives a very small share of its income in foreign aid.

**19. ITALY**'s government is above average on funding for research and development and has in place policies that promote Italian investment in the developing world. But

Italy's overall score is brought down by a very small foreign aid program, poor donor practices (including the highest share of "tied" aid in the CDI), and the low number of unskilled immigrants entering from developing countries as a share of the Italian population.

**20. GREECE** scores below average in four components: foreign aid, investment, migration and technology. The Greek government provides little support for research and development, and has weak policies to promote investment in poor countries. Most notably, the migration inflow from poor countries is one of the lowest among CDI countries.

**21. JAPAN's** barriers to exports from developing countries are the highest in the CDI (driven mainly by rice tariffs) and its foreign aid is the smallest as a share of income. Japan also has a poor environmental record from the perspective of poor countries and admits very few immigrants. Japan's strongest contributions to development come through government support for research and development and through policies that promote investment in poor countries.

## Appendix

### The Commitment to Development Index by Component

A short summary of the seven CDI components follows, including a definition and the top and bottom ranked countries.

#### Aid

Foreign aid is the first policy that comes to mind when people in rich countries think of helping poorer countries. Aid donors give grants, loans, food, and policy and program advice to poor countries to support everything from road building to immunization programs in tiny villages. Most comparisons between donors are based on how much aid each gives, either in absolute terms or as a percentage of GDP. For the CDI, quantity is merely a starting point in a review that also assesses aid quality.

The Index penalizes “tied” aid, which recipients are required to spend on products from the donor nation; this prevents them from shopping around and raises project costs by 15–30 percent. The Index also subtracts debt payments the rich countries receive from developing countries on aid loans. And it looks at where aid goes, favoring poor, uncorrupt nations. Aid to Iraq, for instance, is counted at 10¢ on the dollar, since in Iraq corruption is rampant and rule of law weak. Aid to Mozambique, on the other hand, with its high poverty and relatively good governance, is counted at 77¢ on the dollar. Finally, donors are penalized for overloading recipient governments with too many small aid projects. When projects are many and recipient officials few, the obligation to host visits from donor officials and file regular reports becomes a serious burden.

The Index rewards governments for letting taxpayers write off charitable contributions, since some of those contributions go to Oxfam, CARE, and other nonprofits working in developing countries. All CDI countries except Austria, Finland, and Sweden offer such incentives. Since the Index is about government policy, it counts only private giving that is attributed to tax incentives. Private giving to developing countries is higher in the U.S. than in most countries, at 10¢ per person per day. But even adding that to the 25¢ a day in government aid leaves the U.S. well short of donors such as Sweden and Denmark, which give \$1.00 and \$1.07 a day in government aid alone.

The differences between countries in raw aid quantity are dramatic, and as a result they heavily influence the overall aid scores. The Netherlands and the Scandinavian countries take the top four slots on aid, while Japan and the U.S. end up near the bottom. But quality matters too. Norway edges out Denmark for first place on sheer aid quantity as a share of GDP, but falls to fourth in the CDI for funding smaller projects and being less selective. And the U.S. would score higher if it did not tie some 70 percent of its aid and gave less to corrupt or undemocratic governments in Iraq, Jordan, Pakistan, and elsewhere.

**Subsidies per rich-country animal and aid per poor person, 2004 (\$)**

	Subsidies per head				Aid per poor person in developing countries
	Cattle	Chickens	Pigs	Sheep	
EU 15	179.28	0.01	9.24	28.93	16.11
Australia	17.12	0.39	6.49	0.94	0.54
Canada	68.59	0.15	18.99	0.00	0.95
Japan	163.23	0.21	3.92	0.00	2.38
New Zealand	2.66	0.13	2.14	0.19	0.08
Norway	965.72	1.48	39.98	94.06	0.83
Switzerland	987.58	7.63	139.62	16.11	0.61
United States	29.06	0.58	9.03	4.12	7.67
All	92.59	0.38	10.58	12.85	29.17

Sources: OECD, FAO, CGD.

"poor person"=2.7 billion people live under \$2/day in developing world.

## Trade

The system of rules that governs world trade has developed since World War II through a series of major international negotiating “rounds.” Because rich countries have been able to call the shots, their barriers to some of the goods poor countries are best at producing—including crops— have largely stayed in place. Yet when rich countries tax food imports and subsidize their own farmers’ production, they cause overproduction and dumping on world markets, which lowers prices and hurts poor-country farmers. Industrial tariffs also tend to be anti-poor, with low rates for raw commodities and high rates for labor-intensive, processed goods. U.S. tariffs on imports from India, Indonesia, Sri Lanka, and Thailand brought in \$2.06 billion in 2005—twice what the U.S. committed to these countries for tsunami relief the same year. CGD senior fellow William Cline calculates that if rich countries dropped all remaining trade barriers, it would lift 200 million people out of poverty.

For the Index’s trade component, each country’s complex collection of tariffs and subsidies is converted into a flat, across-the-board tariff representing its total effect on developing countries. Canada does best on trade in the 2007 Index, with Australia, New Zealand, and the U.S. not far behind. In general, EU nations share common trade and agriculture policies, so they score essentially the same on trade. Two European nations outside the EU, Norway and Switzerland, score the worst. For the first time, Japan scores above these two rather than below. Its tariffs on rice now average about 500%, which is huge, but well down from the 900% of a few years earlier. In fact, the tariffs have not fallen; rather the world price of rice, to which they are compared, has risen.

## Investment

Foreign investment can be a significant driver of development in poor countries. Many of East Asia’s fastest-growing countries—South Korea, Malaysia, Singapore, and Thailand—benefited from investment from abroad. However, foreign investment can also

breed instability (witness the 1997 Asian financial crisis) as well as corruption and exploitation, a prime example being the pollution and unrest in Nigeria's oil-producing regions.

The Index looks at what rich countries are doing to promote investment that is actually good for development. It looks at two kinds of capital flows: 1) foreign direct investment, which occurs when a company from one country buys a stake in an existing company or builds a factory in another country; and 2) portfolio investment, which occurs when foreigners buy securities that are traded on open exchanges. The component is built on a checklist of policies that matter. Do the rich-country governments offer political risk insurance, encouraging companies to invest in poor countries whose political climate would otherwise be deemed too insecure? If so, do they filter out projects likely to do egregious environmental harm or exploit workers? Do they have tax provisions or treaties to prevent overseas investors from being taxed both at home and in the investment country?

The lowest scorers are Ireland and New Zealand, which do not provide political risk insurance and do little to prevent double taxation, and Austria, which restricts pension fund investments in developing countries. Top-ranked Britain does better on all these counts and has participated aggressively in international arrangements to control corruption, such as the Kimberley Process to track and eliminate trade in "blood diamonds" used to finance warlords in countries such as Angola and Sierra Leone.

### **Migration**

Some 200 million people today—one in 33—do not live in the country where they were born. That number should grow as aging rich societies run short of workers, which should be a boon for development. Workers who have migrated from poor to rich countries already send billions of dollars back to their families each year, a flow that surpasses foreign aid. Some immigrants from developing countries, especially students, pick up skills and bring them home—engineers and physicians as well as entrepreneurs who, for example, start computer businesses.

But what about brain drain? Emigration has been blamed for emptying African clinics of nurses, who can earn far more in London hospitals. But CGD research fellow Michael Clemens has found little evidence that these skilled people hurt their home country by leaving it. Far more ails African clinics and hospitals than a lack of personnel, and personnel shortages themselves result from many forces—such as low pay and poor working conditions—untouched by international migration policies

The CDI rewards immigration of both skilled and unskilled people, though unskilled more so. One indicator used is the gross inflow of migrants from developing countries in a recent year, including unskilled and skilled immigrants but leaving out illegals. Another is the net increase in the number of unskilled immigrant residents from developing countries during the 1990s. (Based on census data, it cannot be updated often.) The Index also uses indicators of openness to students from poor countries and aid for refugees and asylum seekers.

Austria takes first for accepting the most migrants for its size, with Switzerland not far behind. At the bottom is Japan, whose population of unskilled workers from developing countries actually shrank during the 1990s. The U.S., the great nation of immigrants, scores a surprisingly mediocre 4.7. Why? For its size, its inflow of legal immigrants and refugees is actually low compared to many European nations.

### **Environment**

A healthy environment is sometimes dismissed as a luxury for the rich. But people cannot live without a healthy environment. And poor nations have weaker infrastructures and fewer social services than rich countries, making the results of climate change all the more damaging. A study co-authored by CGD senior fellow David Wheeler predicts that a two-meter sea level rise would flood 90 million people out of their homes, many of them in the river deltas of Bangladesh, Egypt, and Vietnam.

The environment component looks at what rich countries are doing to reduce their disproportionate exploitation of the global commons. Are they reining in greenhouse gas emissions? How complicit are they in environmental destruction in developing countries, for example by importing commodities such as tropical timber? Do they subsidize fishing fleets that deplete fisheries off the coasts of such countries as Senegal and India?

Norway tops this year's environment standings. Its net greenhouse gas emissions fell during 1995–2005, the last ten years for which data are available, thanks to steady expansion in its forests, which absorb carbon dioxide. Also high is Ireland, whose economy grew 6.6 percent per year faster in the same period than its greenhouse gas emissions; and the U.K., which has steadily increased gasoline taxes and supported wind and other renewable energy sources. Spain finishes low as a heavy subsidizer of its fishing industry while Japan is hurt by its high tropical timber imports. The U.S. has not ratified the Kyoto Protocol, the most serious international effort yet to deal with climate change. That gap, along with high greenhouse emissions and low gas taxes, puts the U.S. last. Two notches up, Australia cuts a similar profile, with the highest per-capita greenhouse gas emissions in the group.

### **Security**

Rich nations engage daily in activities that enhance or degrade the security of developing countries. They make or keep the peace in countries recently torn by conflict, and they occasionally make war. Their navies keep open sea lanes vital to international trade. But rich countries also supply developing-country armed forces with tanks and jets.

The CDI looks at three aspects of the security-development nexus. It tallies the financial and personnel contributions to peacekeeping operations and forcible humanitarian interventions, although it counts only operations approved by an international body such as the U.N. Security Council or NATO (thus the invasion of Iraq does not count). It also rewards countries that base naval fleets where they can secure sea lanes vital to international trade. Only four countries get points for that: France, the Netherlands, Britain, and the U.S.

Finally, the Index penalizes some arms exports to undemocratic nations that spend heavily on weapons. Putting weapons in the hands of despots can increase repression at home and the temptation to launch military adventures abroad. When weapons are sold instead of being given to developing nations, this diverts money that might be better spent on teachers or transit systems. Still, because countries need guns as well as butter—arming a police force can strengthen the rule of law—the Index penalizes exports to some countries but not all.

Australia and Norway take the top spots on security—Australia for its U.N.-approved action in 1999 to stop Indonesian oppression of East Timor, and Norway for steady contributions to peacekeeping operations in the former Yugoslavia and the Middle East. The U.S. scores above average overall, earning points for flexing its military muscle near sea lanes but making only average contributions to approved international interventions, while losing points for its record as a leading arms merchant to Middle Eastern dictatorships such as Saudi Arabia. Japan earns a perfect score on arms exports to developing countries (it has none) but lags otherwise because of its peace constitution and minimal international military profile.

### **Technology**

One important way that rich countries affect poorer ones over the long run is through technology. For example, with medical technology from rich countries, human health and survival in Latin America and East Asia made gains over four decades during the 20th century that took Europe almost 150 years. Today, the Internet is facilitating distance learning, democracy movements, and new opportunities to participate in the global economy. Of course, some new technologies do as much harm as good, creating huge new challenges for the developing world: consider the motor vehicle, which symbolizes gridlock and pollution at least as much as it does freedom and affluence in dense and growing cities such as Bangkok.

The Index rewards policies that support the creation and dissemination of innovations of value to developing countries. It rewards government subsidies for research and development (R&D), whether delivered through spending or tax breaks. Spending on military R&D is discounted by half. On the one hand, much military R&D does more to improve the destructive capacity of rich countries than the productive capacity of poor ones. On the other, military security is important for development, and military R&D can have civilian spin-offs. Consider that the Pentagon partly funded the early development of the Internet.

Also factored in are policies on intellectual property rights (IPRs) that can inhibit the international flow of innovations. These take the form of patent laws that arguably go too far in advancing the interests of those who produce innovations at the expense of those who use them. Some countries, for example, allow patenting of plant and animal varieties. In such countries, a company could develop a crop variety, say, that thrives in poor tropical soils, patent it, and then opt not to sell it because the poor who could use it have inadequate buying power. Other countries use their leverage to negotiate trade agreements with individual developing countries that extend certain IPRs beyond

international norms in the General Agreement on Tariffs and Trade. U.S. negotiators, for example, have pushed for developing countries to agree never to force the immediate licensing of a patent even when it would serve a compelling public interest, as a HIV/AIDS drug might if produced by low-cost local manufacturers.

No country does spectacularly better than its peers on technology. The U.S. loses points for pushing for compulsory licensing bans, and the Europeans are penalized for allowing the copyrighting of databases containing data assembled with public funds. Greece and Ireland lag considerably behind overall because of low government R&D subsidies. France, which spends a substantial 1 percent of GDP on government R&D, takes first. Canada, whose policies on IPRs are the least restrictive of the group, places second.

### **About the Center for Global Development**

The Center for Global Development is an independent think tank that works to reduce global poverty and inequality by encouraging policy change in the United States and other rich countries through rigorous research and active engagement with the policy community. [www.cgdev.org](http://www.cgdev.org)

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