

Employment-adjusted Human Development Index

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Abstract:

Purpose - The current HDI has a limited capacity to reflect the human condition and country rankings in an accurate way. In addition, the main critiques on the HDI suggest that it uses very few or perhaps the wrong indicators in measuring human development levels in countries. This paper aims to investigate whether the inclusion of employment as a criterion in the HDI would yield a different ranking of nations.

Design/methodology/approach - In this study, estimates of the proposed Employment-adjusted Human Development Index (E-HDI) are provided for seventy-seven countries for the 2000-2007 period, and comparisons are made both for changes in the human development index (HDI) and rankings over time in each country and for differences between the E-HDI and the UNDP's HDI across countries.

Findings - The experience of a relatively large number of 77 sample countries has offered promising results for the path to improve the current status of the HDI, and hence, to overcome its weakness in terms of ranking of countries. The additional indicator, i.e. employment, improves the explanatory power of the HDI and makes significant contributions to its reliability.

Research limitations/implications - The major limitation of the present study has been the lack of data for a number of the human development indicators for the rest of the countries in the world.

Practical implications - The employment-adjusted index has great potential to make the HDI more operational.

Social implications - By means of E-HDI, the human development performance of the countries can be better evaluated and compared with other countries by using additional information obtained from the employment position of their citizens.

Originality/value - This will be the first paper in the literature that incorporates employment into the HDI..

Keywords: Human Development Index, Employment, Development, Basic Needs, Human Security

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1. Introduction

The Basic Needs approach was a predictable consequence of studies on earlier views on development. The attainment of development had previously been evaluated in terms of growth maximization and industrialization in the early 1950's. Emphasis on employment as a new primary development objective evolved with time (Stewart, 1985).

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DIMENSIONS	Long and healthy life	Knowledge		Decent standard of living	Human Security
INDICATORS	Life expectancy at birth ↓	Adult Literacy Rate ↓	Combined Enrolment Ratio ↓	Real GDP per capita (PPP in US\$) ↓	Total Unemployment Rate (% of labour force) ↓
DIMENSION INDICES	Longevity index	Educational Attainment index		GDP index	Employment index
Employment-adjusted Human Development Index (E-HDI)					

Figure 1: Employment-adjusted Human Development Index (E-HDI)

The basic requirements which are accepted as indicators of a decent life style include accessibility to certain goods and services. These fundamentals are acknowledged as essential criteria by the Basic Needs approach to development.

Although defined differently in different studies, Basic Needs has always included guaranteeing such basic fundamentals as access to safe food (adequate nutrition) and water, and universal provision of health and education services with shelter, clothing and non-material needs such as employment, participation, protection and political liberty. If any of these needs are absent or in a critically short supply, the problem of underdevelopment comes onto the scene (Ghosh 1984; Hicks and Streeten 1979; ILO 1976; UNDP 1994).

All attempts to achieve the expectation of fundamental human needs and development arise from the premise that development should be concerned with the elimination of absolute deprivation as a first priority.

For centuries, the constitutional rhetoric and aspirations of every leader and public figure in the developing and developed world have set forth these basic conditions as a fundamental right. It should also be mentioned that the basic needs approach seems to be consistent with Amartya Sen (1983)'s notion of "entitlement" and "capabilities".

It should be emphasized that the Basic Needs approach to development, while not a strategy, simply prioritizes the order of development techniques. Simply stated, the objectives themselves, and not the methods of implementation to arrive at these objectives, are the more important focus of the approach. (Stewart, 1995).

The Basic Needs approach prescribes a clear set of goals which address planning purposes and policy makers. These goals set the improvement of the quality of life of the individual as their main focus. Therefore, health, education, employment and a commensurate income can be seen as a measure of achieving lifelong goals.

The search for an additional dimension for the composite index of socio-economic progress, namely the human development index (HDI), began in the early 1990's soon after it was introduced by the United Nations Development Programme. For it to be widely accepted and used, it is crucial that the HDI includes only the most important and a limited number of accessible variables for all nations, in order to keep it simple and manageable. The selection of these dimensions highly depends on how the society regards and defines an acceptable composite.

On the other hand, employment could be considered as a vector to raise personal income, which in turn secures the access of individuals to more goods and services. Therefore, it is our recommendation that employment or decent work should be regarded as one of the most important dimensions of human development. Hence, adding the employment dimension under the label of "human security" to the HDI will yield a more comprehensive measure of human development that captures more of people's needs for improving their way of life.

It is important to note that the employment data of many countries are readily available in contrast to variables from social, cultural and political dimensions.

As shown in Figure 1, in addition to the three essential choices of leading a long and healthy life, acquiring knowledge, having access to resources needed for a decent standard of living; and having security needed for a sustainable life are included in the measure of the E-HDI.

In today's world, employment can be recognized as a fundamental human right. It brings personal economic freedom. Additionally, providing and implementing strategies for meaningful and productive work for young generations is one of the main targets of the Millennium Development Goals. Thus, the capacity to develop and satisfy the job needs of its citizens must be among the major goals of every nation in the coming decades. Employment can be further considered a physical need. It constitutes the essential basis for peace, social justice, food security and human development. In this context, securing full employment levels can be considered one of the primary objectives of every nation. Moreover, rising employment levels is also beneficial in fostering economic growth and attaining sustainable development.

In short, employment could be regarded as one of the most critical indicators of human development. Economies functioning at a full employment level, and thus, high levels of gross domestic product (GDP) show radical improvements in terms of human development.

In other words, employment is positively related to the HDI. Its generation is particularly significant for economic growth and poverty reduction. Raising the employment level has been the major objective of the International Labor Organization since the early 1970s due to the fact that employment is not only considered an objective in itself but also a moderator to achieve various objectives, such as high levels of income, production and recognition. Therefore, one should argue that the employment-adjusted index has a great potential to make the HDI more operational.

2. The Rationale of the Study

The current HDI has a limited capacity to reflect the human condition and country rankings in an accurate way. In addition, the main critiques of the HDI suggest that it uses very few or perhaps the wrong indicators in measuring the human development levels of countries. This is mainly due to the fact that two of the current components used for calculating the HDI are not dynamic. It is true that the HDI value is developed to

evolve with time; however, current HDI components fail to yield significantly perceivable overall annual increases to affect the HDI value. This drawback lowers the sensitivity of the HDI towards annual changes.

Nonetheless, employment is a dynamic and fluctuating dimension which reflects the real life circumstances of the individual, similar to health, education and access to resources. It also shows considerable variation across countries.

The unemployment rate, although it has not yet been included in the sub-indices of the HDI, is a strong indicator of social inclusion and quality-of-life through the efficient use of human resources (Taner *et al.* 2011). In addition, Panigrahi and Sivramkrishna (2002), Osberg and Sharpe (2003) and Cherchye *et al.* (2008) have presented their concerns with the problems in HDI rankings in their publications. Furthermore, Wolff *et al.* (2009) and Taner *et al.* (2010), in their analyses, have suggested, and substantiated with statistics, that countries have been misclassified by the HDI.

Hence, this paper empirically investigates whether the inclusion of employment as a criterion in the HDI would yield a different ranking of nations. It is further argued that the HDI could be appropriately modified by simply incorporating an employment dimension to the current index. This Employment-adjusted Human Development Index is denoted as the E-HDI. Due to the limited availability of data for other countries, the sample addresses the situation in only seventy-seven countries.

3. Method

Formerly, the HDI had been based on three sub-indices and four indicators: a longevity index (LEI), as measured by life expectancy at birth; an educational attainment index, as measured by a combination of adult literacy (two-thirds weighting) and combined (i.e. primary, secondary and tertiary) enrolment (one-third weighting) ratios (EI); and standard of living, as measured by GDP index -real GDP per capita measured by purchasing power parity in US\$- (GDPI). To calibrate the dimensions, the UNDP has assigned minimum and maximum values (goalposts) for each underlying sub-index. Performance in each sub-index is then calculated and expressed as a value between 0-1. In the UNDP's approach, these three sub-indices are assigned equal weightings as follows:

$$\text{HDI} = (\text{LEI} + \text{EI} + \text{GDPI})/3$$

As indicated above, the HDI has included only a limited number of indicators to keep it simple and manageable. This simple HDI algorithm has been used for many years and calculated from regularly available data to produce a meaningful value that can be used to compare and rank countries across the world.

In the present approach, the four indices in the E-HDI represent a different set of indicators for assessing the aggregate level of human development with equal weighting in the following way:

$$\text{E-HDI} = (\text{LEI} + \text{EI} + \text{GDPI} + \text{EMPI})/4, \text{ or}$$

$$\text{E-HDI} = (3 \cdot \text{HDI} + \text{EMPI})/4$$

where EMPI is the new included index, i.e. employment index. The unemployment rate is the starting point for the EMPI sub-index of the human security component. This, together with the risk of losing one's job, combined with being unable to find a new job quickly, is taken as a measure of what drives worker insecurity. The EMPI is likewise calculated via basic algebra for each country as shown below:

$$\text{EMPI} = 1 - \text{Total Unemployment Rate}$$

The proposed sub-index of EMPI covers all individuals of normal working age (above 15) including both the employed and the unemployed. In addition, the four sub-indices address conceptually different aspects of human development, which although correlated do not predetermine one another.

The equal weights allow easy comparison over time and across countries. The assessment of change in E-HDI over the years for all the countries is tabulated through using statistical tables. From E-HDI values, comparisons of achievements between countries at a given year or for a particular country for different periods can also be made. Like the HDI, the E-HDI captures both trends over time within countries and allows cross-country comparisons of the level of human development at particular points in time.

4. Data

In this study, a total of 77 highly developed, developed and developing economies are taken as the research sample; re-ranked and re-classified among

themselves for the years between 2000 and 2007¹. Scaled values of the sub-indices are shown in Table 1, 2 and 4-8.

The countries consisted mainly European Union (EU), OECD, Asian, and Central and South American countries. The limitation of the sample size was due to the lack of unemployment data for the rest of the countries for most of the years under study. Another limitation of the study is that statistical analysis has not been possible for the most recent data covered by the 2010 and 2011 Human Development Reports, since the UNDP has opted to change both education and income indicators and the method of calculating HDI in these reports.

5. Descriptive Statistical Analysis

This section presents the main findings of descriptive statistical analysis. In the first sub-section, the main trends for all countries in the sample are thoroughly reviewed, focusing on the HDI, E-HDI values and the rankings together with basic changes in these indicators throughout the period under investigation. Consequently, the analysis is detailed through dividing the sample of 77 countries into two main categories under the titles of OECD and developing countries. While the first category consists of the 30 countries presented at the top of the statistical tables, the remaining 47 countries are covered by the developing country category.

5.1. General Evaluation

The sample consists of 38 European, 16 Asian, 10 South American, 9 Central and North American, 2 Oceanian and 2 African countries. Of the 38 European countries, from the latest available data it is found that 22 are very highly employment-adjusted developed (EAD) where the absolute values of the E-HDI exceed a threshold level of 0.900, 15 are highly EAD (the values of the E-HDI are between 0.800 and 0.900) and only Macedonia is moderately EAD (the values of the E-HDI are between 0.700 and 0.800). Both of the Oceanian countries are very highly EAD. Of the 16 Asian countries, 7 are very highly employment-adjusted developed (EAD), 4 are highly EAD and 5 are moderately EAD. Of the 10 South American countries, 9 are highly EAD and only Bolivia is moderately EAD. Of the 9 Central and North American countries, 2 are very highly employment-adjusted

¹ The data for the HDI and its components is taken from UNDP's **Human Development Reports** from 2002 to 2009.

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	R(E-HDI)	R(HDI-E-HDI)
Iceland	0,90	0,95	0,986	0,96	0,949	0,936	-0,013	7	1	6
Norway	0,89	0,95	0,966	0,98	0,9465	0,942	-0,0045	1	2	-1
Australia	0,90	0,93	0,937	0,99	0,93925	0,939	-0,00025	4	7	-3
Canada	0,90	0,94	0,932	0,98	0,938	0,94	0,002	3	8	-5
Ireland	0,86	0,95	0,957	0,96	0,93175	0,925	-0,00675	16	13	3
Sweden	0,91	0,92	0,953	0,99	0,94325	0,941	-0,00225	2	5	-3
Switzerland	0,90	0,94	0,98	0,94	0,94	0,928	-0,012	11	6	5
Japan	0,93	0,93	0,953	0,93	0,93575	0,933	-0,00275	9	11	-2
Netherlands	0,89	0,93	0,974	0,99	0,946	0,935	-0,011	8	3	5
France	0,89	0,92	0,905	0,99	0,92625	0,928	0,00175	11	16	-5
Finland	0,88	0,92	0,902	0,99	0,923	0,93	0,007	10	18	-8
United States	0,87	0,97	0,96	0,98	0,945	0,939	-0,006	4	4	0
Spain	0,89	0,88	0,859	0,97	0,89975	0,913	0,01325	20	25	-5
Denmark	0,85	0,94	0,953	0,98	0,93075	0,926	-0,00475	14	15	-1
Austria	0,89	0,93	0,953	0,96	0,93325	0,926	-0,00725	14	12	2
United Kingdom	0,88	0,91	0,945	0,99	0,93125	0,928	-0,00325	11	14	-3
Belgium	0,89	0,94	0,93	0,99	0,9375	0,939	0,0015	4	9	-5
Luxembourg	0,87	1	0,974	0,9	0,936	0,925	-0,011	16	10	6
New Zealand	0,88	0,88	0,94	0,99	0,9225	0,917	-0,0055	19	19	0
Italy	0,89	0,91	0,893	0,94	0,90825	0,913	0,00475	20	20	0
Germany	0,88	0,92	0,925	0,97	0,92375	0,925	0,00125	16	17	-1
Greece	0,89	0,85	0,886	0,92	0,8865	0,896	0,0095	22	28	-6
Republic of Korea	0,83	0,86	0,959	0,95	0,89975	0,888	-0,01175	24	25	-1
Portugal	0,84	0,86	0,96	0,94	0,9	0,885	-0,015	26	24	2
Czech Republic	0,83	0,82	0,911	0,89	0,86275	0,885	0,02225	26	29	-3
Hungary	0,77	0,8	0,935	0,93	0,85875	0,883	0,02425	29	29	0
Poland	0,81	0,75	0,839	0,94	0,83475	0,88	0,04525	32	39	-7
Slovakia	0,80	0,79	0,812	0,91	0,828	0,882	0,054	31	42	-11
Mexico	0,79	0,75	0,978	0,84	0,8395	0,8	-0,0395	44	35	9
Turkey	0,75	0,71	0,936	0,77	0,7915	0,742	-0,0495	61	52	9
Estonia	0,76	0,77	0,864	0,95	0,836	0,826	-0,01	39	38	1
Georgia	0,8	0,55	0,892	0,89	0,783	0,748	-0,035	58	58	0
Hong Kong	0,91	0,92	0,951	0,83	0,90275	0,888	-0,01475	24	22	2
Israel	0,9	0,89	0,912	0,91	0,903	0,896	-0,007	22	21	1
Latvia	0,76	0,71	0,856	0,93	0,814	0,8	-0,014	44	46	-2
Lithuania	0,78	0,71	0,836	0,93	0,814	0,808	-0,006	42	46	-4
Malaysia	0,79	0,75	0,97	0,8	0,8275	0,782	-0,0455	49	43	6
Argentina	0,81	0,8	0,85	0,92	0,845	0,844	-0,001	34	34	0
Bulgaria	0,76	0,68	0,837	0,9	0,79425	0,779	-0,01525	51	51	0
Chile	0,84	0,76	0,917	0,9	0,85425	0,831	-0,02325	37	33	4
Croatia	0,81	0,73	0,839	0,88	0,81475	0,809	-0,00575	41	45	-4
China	0,76	0,61	0,969	0,8	0,78475	0,726	-0,05875	67	55	12
Russia	0,68	0,74	0,902	0,92	0,8105	0,781	-0,0295	50	49	1
Belarus	0,73	0,72	0,979	0,92	0,83725	0,788	-0,04925	47	37	10
Cuba	0,85	0,64	0,946	0,9	0,834	0,795	-0,039	46	40	6
Ecuador	0,75	0,58	0,91	0,87	0,7775	0,732	-0,0455	64	59	5
Panama	0,82	0,68	0,865	0,86	0,80625	0,787	-0,01925	48	50	-2
Romania	0,75	0,69	0,929	0,88	0,81225	0,775	-0,03725	52	48	4

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	R(E-HDI)	R(HDI-E-HDI)
Trinidad	0,82	0,75	0,878	0,84	0,822	0,805	-0,017	43	44	-1
Ukraine	0,72	0,61	0,884	0,92	0,7835	0,748	-0,0355	58	56	2
Slovakia	0,8	0,79	0,814	0,91	0,8285	0,835	0,0065	35	41	-6
Paraguay	0,75	0,63	0,924	0,83	0,7835	0,74	-0,0435	62	56	6
Uruguay	0,82	0,75	0,864	0,92	0,8385	0,831	-0,0075	36	36	0
South Africa	0,45	0,76	0,746	0,88	0,709	0,695	-0,014	71	68	3
Malta	0,88	0,86	0,933	0,88	0,88825	0,875	-0,01325	33	27	6
Moldova	0,69	0,51	0,927	0,9	0,75675	0,701	-0,05575	70	64	6
Kyrgyzstan	0,71	0,55	0,925	0,87	0,76375	0,712	-0,05175	68	61	7
Cyprus	0,88	0,89	0,951	0,88	0,90025	0,883	-0,01725	29	23	6
Albania	0,8	0,59	0,832	0,8	0,7555	0,733	-0,0225	63	65	-2
Bolivia	0,62	0,53	0,925	0,8	0,71875	0,653	-0,06575	74	67	7
Kuwait	0,85	0,84	0,992	0,74	0,8555	0,813	-0,0425	40	32	8
Nicaragua	0,72	0,53	n/a	0,65	n/a	0,635	n/a	77	n/a	n/a
Macedonia	0,8	0,66	n/a	0,86	n/a	0,772	n/a	54	n/a	n/a
Singapore	0,88	0,91	n/a	0,87	n/a	0,885	n/a	26	n/a	n/a
Tajikistan	0,71	0,41	0,827	0,88	0,70675	0,667	-0,03975	73	70	3
Uzbekistan	0,73	0,53	0,864	0,91	0,7585	0,727	-0,0315	65	63	2
Peru	0,73	0,65	n/a	0,87	n/a	0,747	n/a	60	n/a	n/a
Colombia	0,77	0,69	0,834	0,85	0,786	0,772	-0,014	53	54	-1
Philippines	0,74	0,61	0,888	0,91	0,787	0,754	-0,033	56	53	3
Indonesia	0,69	0,57	0,939	0,79	0,74725	0,684	-0,06325	72	66	6
Egypt	0,7	0,6	0,91	0,62	0,7075	0,642	-0,0655	75	69	6
El Salvador	0,75	0,64	0,93	0,74	0,765	0,706	-0,059	69	60	9
Honduras	0,68	0,53	n/a	0,7	n/a	0,638	n/a	76	n/a	n/a
Dominican Republic	0,7	0,68	0,861	0,8	0,76025	0,727	-0,03325	65	62	3
Bahrain	0,81	0,84	0,939	0,85	0,85975	0,831	-0,02875	36	30	6
Kazakhstan	0,66	0,68	n/a	0,91	n/a	0,75	n/a	57	n/a	n/a
Brazil	0,71	0,72	n/a	0,83	n/a	0,757	n/a	55	n/a	n/a

EMPI, E-HDI, R(E-HDI): Authors' own calculations

HDI-E-HDI=Numerical difference between the two indices

R(HDI)=Rank of a country in terms of its HDI

R(E-HDI)=Rank of a country in terms of its E-HDI

R(HDI-E-HDI)=Difference between the HDI ranking and E-HDI rank of a country

Source: UNDP (2002); ILO

Table 1: Employment- adjusted Human Development Index (E-HDI): 2000

	LEI	GDPi	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	R(E-HDI)	R(HDI-E-HDI)
Iceland	0,95	0,981	0,97	0,98	0,96925	0,969	-0,00025	3	2	1
Norway	0,93	1	0,974	0,989	0,972	0,971	-0,001	1	1	0
Australia	0,94	0,977	0,958	0,993	0,967	0,97	0,003	2	3	-1
Canada	0,93	0,982	0,939	0,991	0,95975	0,966	0,00625	4	7	-3
Ireland	0,91	1	0,94	0,985	0,959	0,965	0,006	5	8	-3
Sweden	0,93	0,986	0,938	0,974	0,957	0,963	0,006	7	11	-4
Switzerland	0,95	1	0,966	0,936	0,96175	0,96	-0,00175	9	5	4
Japan	0,96	0,971	0,96	0,949	0,96025	0,96	-0,00025	9	6	3
Netherlands	0,91	0,994	0,972	0,985	0,96625	0,964	-0,00225	6	4	2
France	0,93	0,971	0,926	0,978	0,952	0,961	0,009	8	15	-7
Finland	0,91	0,975	0,936	0,993	0,953	0,959	0,006	12	13	-1
United States	0,90	1	0,942	0,968	0,953	0,956	0,003	13	13	0
Spain	0,93	0,96	0,887	0,975	0,93775	0,955	0,01725	14	24	-10
Denmark	0,89	0,983	0,967	0,993	0,9575	0,955	-0,0025	14	9	5
Austria	0,92	0,989	0,962	0,962	0,957	0,955	-0,002	14	11	3
United Kingdom	0,91	0,978	0,944	0,957	0,94625	0,947	0,00075	20	21	-1
Belgium	0,91	0,977	0,93	0,974	0,94725	0,953	0,00575	17	19	-2
Luxembourg	0,91	1	0,949	0,975	0,9575	0,96	0,0025	9	9	0
New Zealand	0,92	0,936	0,959	0,993	0,95175	0,95	-0,00175	19	16	3
Italy	0,94	0,954	0,933	0,965	0,94675	0,951	0,00425	18	20	-2
Germany	0,91	0,975	0,925	0,954	0,94175	0,947	0,00525	20	23	-3
Greece	0,90	0,944	0,923	0,981	0,9375	0,942	0,0045	24	25	-1
Republic of Korea	0,90	0,92	0,968	0,988	0,945	0,937	-0,008	25	22	3
Portugal	0,89	0,906	0,924	0,929	0,913	0,909	-0,004	29	28	1
Czech Republic	0,86	0,916	0,956	0,938	0,9165	0,903	-0,0135	30	27	3
Hungary	0,81	0,874	0,922	0,96	0,89025	0,879	-0,01125	37	36	1
Poland	0,84	0,847	0,929	0,952	0,8925	0,88	-0,0125	34	33	1
Slovakia	0,83	0,885	0,905	0,928	0,88625	0,88	-0,00625	34	37	-3
Mexico	0,85	0,826	0,96	0,886	0,8805	0,854	-0,0265	45	40	5
Turkey	0,78	0,812	0,906	0,828	0,83125	0,806	-0,02525	57	54	3
Estonia	0,799	0,887	0,953	0,964	0,90075	0,883	-0,01775	33	31	2
Georgia	0,777	0,641	0,867	0,916	0,80025	0,778	-0,02225	62	60	2
Hong Kong	0,953	1	0,96	0,879	0,948	0,944	-0,004	22	18	4
Israel	0,928	0,93	0,927	0,947	0,933	0,935	0,002	26	26	0
Latvia	0,788	0,851	0,94	0,961	0,885	0,866	-0,019	41	38	3
Lithuania	0,78	0,863	0,957	0,968	0,892	0,87	-0,022	40	34	6
Malaysia	0,819	0,819	0,968	0,851	0,86425	0,829	-0,03525	50	44	6
Argentina	0,831	0,828	n/a	0,947	n/a	0,866	n/a	41	n/a	n/a
Bulgaria	0,802	0,788	0,931	0,93	0,86275	0,84	-0,02275	46	47	-1
Chile	0,891	0,823	0,929	0,919	0,8905	0,878	-0,0125	38	35	3
Croatia	0,85	0,847	0,904	0,916	0,87925	0,871	-0,00825	39	41	-2
China	0,799	0,665	0,96	0,851	0,81875	0,772	-0,04675	64	58	6
Russia	0,686	0,833	0,939	0,933	0,84775	0,817	-0,03075	53	49	4
Belarus	0,733	0,782	0,99	0,961	0,8665	0,826	-0,0405	51	43	8
Cuba	0,891	0,706	0,982	0,993	0,893	0,863	-0,03	44	32	12
Ecuador	0,833	0,719	0,939	0,866	0,83925	0,806	-0,03325	57	50	7
Panama	0,842	0,79	0,932	0,888	0,863	0,84	-0,023	46	46	0
Romania	0,792	0,804	0,936	0,915	0,86175	0,837	-0,02475	48	48	0

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	R(E-HDI)	R(HDI-E-HDI)
Trinidad	0,737	0,911	0,945	0,861	0,8635	0,837	-0,0265	48	45	3
Ukraine	0,72	0,707	0,936	0,96	0,83075	0,796	-0,03475	61	55	6
Slovakia	0,827	0,885	0,89	0,928	0,8825	0,88	-0,0025	34	39	-5
Paraguay	0,778	0,633	0,944	0,871	0,8065	0,761	-0,0455	65	59	6
Uruguay	0,852	0,788	0,908	0,955	0,87575	0,865	-0,01075	43	42	1
South Africa	0,442	0,765	0,77	0,843	0,705	0,683	-0,022	77	74	3
Malta	0,91	0,908	0,936	0,887	0,91025	0,902	-0,00825	31	29	2
Moldova	0,722	0,541	0,96	0,899	0,7805	0,72	-0,0605	71	66	5
Kyrgyzstan	0,71	0,5	0,927	0,918	0,76375	0,71	-0,05375	72	69	3
Cyprus	0,91	0,92	0,961	0,91	0,82275	0,914	0,09125	28	57	-29
Albania	0,858	0,71	n/a	0,886	n/a	0,818	n/a	52	n/a	n/a
Bolivia	0,673	0,624	0,948	0,892	0,78425	0,729	-0,05525	70	65	5
Kuwait	0,875	1	n/a	0,872	n/a	0,916	n/a	27	n/a	n/a
Nicaragua	0,795	0,542	0,951	0,76	0,762	0,699	-0,063	75	70	5
Macedonia	0,819	0,753	0,651	0,88	0,77575	0,817	0,04125	53	68	-15
Singapore	0,92	1	0,96	0,913	0,94825	0,944	-0,00425	22	17	5
Tajikistan	0,691	0,478	0,799	0,896	0,716	0,688	-0,028	76	73	3
Uzbekistan	0,711	0,532	0,908	0,888	0,75975	0,71	-0,04975	72	71	1
Peru	0,8	0,728	0,933	0,891	0,838	0,806	-0,032	57	52	5
Colombia	0,795	0,743	0,891	0,881	0,8275	0,807	-0,0205	56	56	0
Philippines	0,777	0,589	0,927	0,888	0,79525	0,751	-0,04425	66	61	5
Indonesia	0,758	0,603	0,909	0,84	0,7775	0,734	-0,0435	68	67	1
Egypt	0,749	0,664	0,911	0,697	0,75525	0,703	-0,05225	74	72	2
El Salvador	0,771	0,678	0,936	0,794	0,79475	0,747	-0,04775	67	62	5
Honduras	0,783	0,607	0,971	0,806	0,79175	0,732	-0,05975	69	64	5
Dominican Republic	0,79	0,702	0,844	0,839	0,79375	0,777	-0,01675	63	63	0
Bahrain	0,843	0,95	0,932	0,893	0,9045	0,895	-0,0095	32	30	2
Kazakhstan	0,666	0,782	0,927	0,965	0,835	0,804	-0,031	60	53	7
Brazil	0,787	0,761	0,918	0,891	0,83925	0,813	-0,02625	55	51	4

EMPI, E-HDI, R(E-HDI): Authors' own calculations.

Source: UNDP (2009); ILO

Table 2: Employment-adjusted Human Development Index (E-HDI): 2007

	HDI GROWTH RATE 2000-2007 (% change)	R-HDI 2000	R-HDI 2007	CHANGE IN HDI RANK 2000-2007	E-HDI GROWTH RATE 2000-2007 (% change)	R-E-HDI 2000	R-E-HDI 2007	CHANGE IN E-HDI RANK 2000-2007
Iceland	3,526	7	3	4	2,134	1	2	-1
Norway	3,079	1	1	0	2,694	2	1	1
Australia	3,301	4	2	2	2,954	7	3	4
Canada	2,766	3	4	-1	2,319	8	7	1
Ireland	4,324	16	5	11	2,925	13	8	5
Sweden	2,338	2	7	-5	1,458	5	11	-6
Switzerland	3,448	11	9	2	2,314	6	5	1
Japan	2,894	9	9	0	2,618	11	6	5
Netherlands	3,102	8	6	2	2,141	3	4	-1
France	3,556	11	8	3	2,780	16	15	1
Finland	3,118	10	12	-2	3,250	18	13	5
United States	1,810	4	13	-9	0,847	4	13	-9
Spain	4,600	20	14	6	4,223	25	24	1
Denmark	3,132	14	14	0	2,874	15	9	6
Austria	3,132	14	14	0	2,545	12	11	1
United Kingdom	2,047	11	20	-9	1,611	14	21	-7
Belgium	1,491	4	17	-13	1,040	9	19	-10
Luxembourg	3,784	16	9	7	2,297	10	9	1
New Zealand	3,599	19	19	0	3,171	19	16	3
Italy	4,162	20	18	2	4,239	20	20	0
Germany	2,378	16	20	-4	1,949	17	23	-6
Greece	5,134	22	24	-2	5,753	28	25	3
Republic of Korea	5,518	24	25	-1	5,029	25	22	3
Portugal	2,712	26	29	-3	1,444	24	28	-4
Czech Republic	2,034	26	30	-4	6,230	29	27	2
Hungary	-0,453	29	37	-8	3,668	29	36	-7
Poland	0,000	32	34	-2	6,918	39	33	6
Slovakia	-0,227	31	34	-3	7,035	42	37	5
Mexico	6,750	44	45	-1	4,884	35	40	-5
Turkey	8,625	61	57	4	5,022	52	54	-2
Estonia	6,901	39	33	6	7,745	38	31	7
Georgia	4,011	58	62	-4	2,203	58	60	-2
Hong Kong	6,306	24	22	2	5,012	22	18	4
Israel	4,353	22	26	-4	3,322	21	26	-5
Latvia	8,250	44	41	3	8,722	46	38	8
Lithuania	7,673	42	40	2	9,582	46	34	12
Malaysia	6,010	49	50	-1	4,441	43	44	-1
Argentina	2,607	34	41	-7	3,609**	34	37****	-3*****
Bulgaria	7,831	51	46	5	8,624	51	47	4
Chile	5,656	37	38	-1	4,243	33	35	-2
Croatia	7,664	41	39	2	7,917	45	41	4
China	6,336	67	64	3	4,333	55	58	-3
Russia	4,609	50	53	-3	4,596	49	49	0
Belarus	4,822	47	51	-4	3,494	37	43	-6
Cuba	8,553	46	44	2	7,074	40	32	8

	HDI GROWTH RATE 2000-2007 (% change)	R-HDI 2000	R-HDI 2007	CHANGE IN HDI RANK 2000-2007	E-HDI GROWTH RATE 2000-2007 (% change)	R-E-HDI 2000	R-E-HDI 2007	CHANGE IN E-HDI RANK 2000-2007
Ecuador	10,109	64	57	7	7,942	59	50	9
Panama	6,734	48	46	2	7,039	50	46	4
Romania	8,000	52	48	4	6,094	48	48	0
Trinidad	3,975	43	48	-5	5,049	44	45	-1
Ukraine	6,417	58	61	-3	6,031	56	55	1
Slovakia	5,389	35	34	1	6,518	41	39	2
Paraguay	2,838	62	65	-3	2,936	56	59	-3
Uruguay	4,091	36	43	-7	4,442	36	42	-6
South Africa	-1,727	71	77	-6	-0,564	68	74	-6
Malta	3,086	33	31	2	2,477	27	29	-2
Moldova	2,710	70	71	-1	3,138	64	66	-2
Kyrgyzstan	-0,281	68	72	-4	0,000	61	69	-8
Cyprus	3,511	29	28	1	-8,609	23	57	-34
Albania	11,596	63	52	11	8,041**	65	57****	8*****
Bolivia	11,639	74	70	4	9,113	67	65	2
Kuwait	12,669	40	27	13	6,867**	32	28****	4*****
Nicaragua	10,079	77	75	2	6,722*	77***	70	7*****
Macedonia	5,829	54	53	1	1,571	51***	68	-17*****
Singapore	6,667	26	22	4	4,721*	27***	17	10*****
Tajikistan	3,148	73	76	-3	1,309	70	73	-3
Uzbekistan	-2,338	65	72	-7	0,165	63	71	-8
Peru	7,898	60	57	3	5,375*	58***	52	6*****
Colombia	4,534	53	56	-3	5,280	54	56	-2
Philippines	-0,398	56	66	-10	1,048	53	61	-8
Indonesia	7,310	72	68	4	4,048	66	67	-1
Egypt	9,502	75	74	1	6,749	69	72	-3
El Salvador	5,807	69	67	2	3,889	60	62	-2
Honduras	14,734	76	69	7	6,957*	75***	64	11*****
Dominican Republic	6,878	65	63	2	4,406	62	63	-1
Bahrain	7,702	36	32	4	5,205	30	30	0
Kazakhstan	7,200	57	60	-3	4,505*	57***	53	4*****
Brazil	7,398	55	55	0	3,739*	54***	51	3*****

*Growth between 2001 and 2007

**Growth between 2000 and 2006

***E-HDI Ranking in 2001

****E-HDI Ranking in 2006

*****Change in E-HDI Ranking between 2001 and 2007

***** Change in E-HDI Ranking between 2000 and 2006

Table 3: Employment-adjusted Human Development Index (E-HDI) Trends: 2000-2007

developed (EAD), 3 are highly EAD and 4 are moderately EAD. The two African countries are moderately EAD (See Table 2).

During the period under study, 10 countries (i.e. Turkey, Ukraine, Bulgaria, Georgia, Colombia, Albania, Paraguay, China and Ecuador) were promoted to being highly EAD from being moderately EAD. Likewise, 8 countries (i.e. Malta, Kuwait, Bahrain, Spain, Greece, Korean Republic, Czech Republic and Estonia) were elevated to being very highly EAD from highly EAD. Only Cyprus declined in its status from being very highly to highly EAD (See Tables 1 and 2).

The analysis shows that the E-HDI and HDI have classified some countries in different categories in terms of human development. In 2007, while Bahrain and Estonia are highly developed countries according to the HDI, they are found to be very highly developed according to the E-HDI. While Ukraine, China, Paraguay and Georgia are moderately developed countries according to the HDI, they are found to be highly developed according to the E-HDI. Similarly, while Tajikistan, Nicaragua, South Africa are low developed countries according to the HDI where the absolute values are lower than 0.700, they are found to be moderately developed according to the E-HDI.

Likewise, while Macedonia is highly developed according to the HDI, it is found to be moderately developed according to the E-HDI. Similarly, Cyprus is very highly developed according to the HDI, and is found to be only highly developed according to the E-HDI.

Furthermore, there has been very small fluctuation in the E-HDIs of Uzbekistan, Kyrgyzstan, United States and South Africa with an E-HDI growth rate of less than 1%. High E-HDI growth rates of more than 7.5% were experienced by Lithuania, Latvia, Estonia, Croatia, Ecuador, Bolivia, Chile and Albania. Only Cyprus and South Africa have experienced negative E-HDI growth rates during the period under investigation (See Table 3).

According to the present calculations, while Hungary, Slovakia, Uzbekistan and Phillipines experienced negative HDI growth rates during the analysis period, the E-HDI growth rates of these countries are found to be positive. Lastly, out of 77 countries, the E-HDI of only 22 countries was found to be greater than their HDIs.

5.2. Analysis of OECD Countries

The sample included 30 OECD countries, most of which are highly developed and developed countries.

Norway has led OECD countries for six years. According to both the HDI and E-HDI, it has always ranked within the top two countries.

Nineteen OECD countries consistently had an E-HDI score greater than 0.900, whereas only five countries (i.e. Hungary, Poland, Slovakia, Mexico and Turkey) among OECD countries consistently had an E-HDI score of less than 0.900. The relatively less developed nine countries (Greece, the Republic of Korea, Portugal, Czech Republic, Hungary, Poland, Slovakia, Mexico and Turkey) constitute a "low category" with respect to the E-HDI, by ranking always below the other 20 OECD countries. Five countries (i.e. Hungary, Poland, Slovakia, Mexico and Turkey) always ranked in the last five among OECD countries.

Being the least developed OECD country, the E-HDI of Turkey has become greater than 0.800 only after 2005/6. This positive trend can be related to the significant rise in its employment rate alongside per capita growth in GDP and improvement in educational attainment figures (See Table 2 and 8).

The other cluster of OECD countries which could be categorized as "middle" ranked always between the 13rd and 22th among the 30 OECD countries. These six countries are New Zealand, Italy, Germany, France, Finland and Spain.

The "High" E-HDI category included Iceland, Norway, Australia, Canada, Ireland, Sweden, Switzerland and Japan since these countries always ranked in the top 11 OECD countries during the analysis period.

Switzerland and Austria have had mostly stable rankings during the analysis period, whereas the most unstable rankings were observed for Ireland and Denmark. Furthermore, Ireland and the United States had a similar range of rankings. Likewise, Finland and New Zealand has had the same range of rankings between the 13th and 18th. The United Kingdom experienced a drastic fall in its 2007 rankings. Likewise, Luxembourg had a drastic fall in its 2005/6 rankings.

Between 2005/6 and 2007, the E-HDI decreased only for Spain and the UK (See Table 2 and 8). Between 2004 and 2005, the E-HDI only decreased for Portugal (See Table 7 and 8). This trend can be associated with the signs of the global economic crisis for these countries. As is well known, Spain, Portugal and UK were adversely affected from the recent economic crisis, which manifested itself through declines in GDP, and especially a drastic rise in unemployment rates².

² These three countries are among those which heavily suffered from the recent financial crises. According to Reinhart and Rogoff (2009),

The highest E-HDI value (0.972) was achieved by Norway in 2007. Spain, the Republic of Korea and Portugal reached 0.900 in 2000, Italy in 1999, Greece in 2002, and the Czech Republic in 2005/6.

Among OECD countries, highest loss of rankings (-8) was experienced by Denmark during 2000-2001, whereas the highest gain in ranking (+7) was achieved by Belgium during the same period (See Table 1 and 4).

The Highest annual increase in E-HDI was achieved by Turkey with 3.0% between 2005/6-2007 (See Table 2 and 8). Similarly, the highest annual decrease in the E-HDI was again achieved by Turkey, with -1.6% during the 2000-2001 period (See Table 1 and 4) owing to the most destructive crisis that the country ever experienced in its economic history. Consequently, severe unemployment problems deteriorated the human development performance of the country.

None of the OECD countries enjoyed continuous increases in its ranking. However, 13 OECD countries (i.e. Ireland, Japan, Finland, Spain, Denmark, Austria, United Kingdom, New Zealand, Italy, Greece, the Republic of Korea, Hungary and Poland) had a rising E-HDI trend during the analysis period. Ireland succeeded in increasing its ranking from 2000 through 2005/6. Nevertheless, the global economic crisis jeopardized this trend and negatively affected its performance in terms of human development (See Table 1, 2, 4, 5, 6, 7 and 8)³.

The E-HDI is greater than the HDI during the whole period for eight OECD countries, namely the Republic of Korea, New Zealand, Portugal, Turkey, Iceland, Japan, Mexico, Switzerland and Denmark. These countries had been underestimated by the HDI in terms of their human development levels. The addition of the employment factor to the HDI had significant effects on the values of the relatively less developed countries, such as Turkey, Mexico, the Republic of Korea and Portugal. Furthermore, Canada, France, Finland, Spain, Belgium and Italy had higher HDIs than E-HDIs for all years except 2005/6, which could be considered the starting period of the recent global economic crisis.

5.3. Analysis of Developing Countries

In addition to 30 OECD countries, the sample also consisted of 44 developing and 3 highly developed (i.e.

Singapore, Israel and Hong Kong) countries. According to the E-HDI and HDI statistics, Kuwait began classed as very highly developed (i.e. HDI and E-HDI values exceeded 0.900) in 2004 and 2007 respectively, mainly due to its high per capita income level originating from the export revenues of oil products⁴. Additionally, the E-HDI and HDI statistics also depicted Malta as a very highly developed country with respect to human development in 2007 (See Table 2 and 7).

The countries with the highest HDI growth rate between 2000 and 2007 were Honduras (14.734%), Kuwait (12.669%), Bolivia (11.639%), Albania (11.596%), Ecuador (10.109%) and Nicaragua (10.079%). The country with the lowest HDI growth rate was found to be Uzbekistan (-2.338%).

In 2000, there was no developing country in the sample which had an HDI higher than its E-HDI. Argentina's HDI exceeded its E-HDI during the 2001-2004 period. For all years under study, Israel and Macedonia had HDIs higher than E-HDIs. In 2001, Lithuania's E-HDI was equal to its HDI.

Bahrain, Romania, Indonesia, Trinidad and Ukraine have had mostly stable rankings during the analysis period. Controversially, developing countries like Macedonia, Cyprus and Cuba have had the most fluctuating rankings in their E-HDI.

The countries with the highest E-HDI growth rates during the analysis period were found to be Lithuania (9.582%), Bolivia (9.113%), Latvia (8.722%), Bulgaria (8.624%) and Albania (8.041%). The country with the lowest E-HDI growth rate was found to be Cyprus. In fact, Cyprus had a negative growth rate during the analysis period (-8.609%).

Furthermore, the biggest gains in E-HDI rankings between 2000 and 2007 were realised by Lithuania (+12), Honduras (+11), Singapore (+10), Ecuador (+9), Latvia (+8), Cuba (+8), Albania (+8), Estonia (+7) and Nicaragua (+7). The biggest drops in E-HDI rankings in this period were experienced by Cyprus (-34), Macedonia (-17), Philippines (-8) and Kyrgyzstan (-8) (See Table 3).

Depending on the comparison between HDI and E-HDI rankings, it can be argued that at the beginning of the analysis period (in 2000), the current HDI underestimated the rankings of China (+12), Belarus (+10)

severe financial crises have adverse and lasting effects on output and unemployment.

³ To examine the effects of the current economic crisis on the basic fundamentals of the Irish economy, see for example Lane (2011), Hardiman (2010) and Kelly (2010).

⁴ According to Wikipedia, Kuwait is a small economy with crude oil reserves of about 96 billion barrels which constitute nearly nine per cent of the total world oil reserves. In turn, oil accounts for about half of GDP, and 90 per cent of export revenues (http://en.wikipedia.org/wiki/Economy_of_Kuwait).

and El Salvador (+9), whereas Slovakia, Lithuania and Croatia were overestimated by +6, +4 and +4 rankings, respectively (Table 1). For the following year, the highest negative difference between the rankings of HDI and E-HDI were observed for Belarus (-11), Kuwait (-10), China (-9), Malaysia (-9) and Cuba (-9). Macedonia gained 15 places (Table 4).

In 2002, however, the highest negative differences between the rankings of the HDI and E-HDI were observed for Macedonia (-17), Argentina (-8) and Bulgaria (-7). Cuba, Kuwait and Malaysia gained +9, +8 and +8 places, respectively (Table 5). In 2005-6, the highest difference between the rankings of the HDI and E-HDI was observed for Macedonia (-18). Cuba gained 6 places. The rankings of Cyprus, Moldova, Malta, Russia and Georgia remained the same (Table 7).

At the terminal year of the analysis period (in 2007), addition of the unemployment factor to the HDI has caused Cyprus and Macedonia to lose (-29) and (-15) places, respectively. On the other hand, Cuba and Belarus have gained +12 and +8 places, respectively (Table 8). This brief descriptive analysis indicates that addition of the unemployment factor to the HDI affected Macedonia the most among developing countries. This effect remained mostly stable after 2001.

6. Conclusion

This paper on the Human Development Index represents a first attempt to construct a measure of human development for 77 countries based on the framework developed incorporating the human security component. A new index on human development, the E-HDI, is defined as the average of the scaled value of the four components: income, human security, health and education. While sub-indices of income, health and education are taken from the UNDP's Human Development Reports, the total unemployment rate has been pointed to and used as an indicator of human security, i.e. the new proposed sub-index. In doing so, the current study searches for whether the inclusion of an employment indicator into the existing HDI would result in different rankings of countries. Additionally, it is disputed that the HDI could be appropriately altered via integrating an employment dimension to the current index.

The experiences of a relatively large number of 77 sample countries offer promising results for the path to improve the current status of the HDI, and hence, to

overcome some of its weaknesses. Above all, the dimension of the current index could be enriched with the E-HDI. An additional indicator obviously improves the explanatory power of the HDI and makes significant contributions to its reliability. Moreover, the human development performance of countries could be better evaluated and compared with other countries by using additional information obtained from the employment situations of their citizens.

However, it should be mentioned that the present study could further be ameliorated through assigning each component a weighting depending on any predetermined criteria rather than assigning these on an arbitrary basis. Future research may focus on this field.

A major limitation of the present study has been the lack of data for a number of the human development indicators for the rest of the countries in the world. Future work will hopefully address these gaps and permit the development of more comprehensive and reliable measurement of the various components of the HDI as better data sources are identified and data accessed. Nevertheless, we believe that the current research, despite its exploratory nature, provides significant insight on evaluating and ranking countries over the last decade.



References

- Akyüz, Y. and Boratav, K. (2003), "The Making of the Turkish Financial Crisis", *World Development*, 31 (9): 1549-1566.
- Cherchye, L., Ooghe, E. and Van Puyenbroeck, T. (2008), "Robust Human Development Rankings", *Journal of Economic Inequality*, 6 (4): 287-321.
- Dufour, M. and Orhangazi, Ö (2009), "The 2000-2001 Financial Crisis in Turkey: A Crisis for Whom?", *Review of Political Economy*, 21 (1): 101-122.
- Ghosh, P. K. (1984), *Third World Development: A Basic Need Approach*, Westport, Conn.: Greenwood Press.
- Hardiman, N. (2010), "Bringing Domestic Institutions back into an Understanding of Ireland's Economic Crisis", *Irish Studies in International Affairs*, 21, 71-87.
- Hicks, N. and Streeten, P. (1979), "Indicators of Development: The Search of a Basic needs Yardstick", *World Development*, 7: 567-580.
- ILO (International Labour Organization), *LABORSTA - database of labour statistics*, <http://laborsta.ilo.org/>
- ILO (International Labour Organization) (1976), *Employment, Growth, and Basic Needs*, Geneva: ILO.
- Kelly, M. (2010), "Whatever Happened to Ireland?" *CEPR Discussion Paper No. DP7811*. Available at SSRN: <http://ssrn.com/abstract=1611507>
- Lane, P. R. (2011), "The Irish Crisis", *CEPR Discussion Paper No. DP8287*. Available at SSRN: <http://ssrn.com/abstract=1794877>.
- Osberg, L. and Sharpe, A. (2003), "Human Well-being and Economic Well-being: What Values Are Implicit in Current Indices?", Centre for the Study of Living Standards Research Report 2003/04, Ottawa: Centre for the Study of Living Standards.

- Öniş, Z. (2009), "Beyond the 2001 Financial Crisis: The Political Economy of the New Phase of Neo-Liberal Restructuring in Turkey", *Review of International Political Economy*, 16 (3): 409-432.
- Panigrahi, R. and Sivramkrishna, S. (2002), "An adjusted Human Development Index: Robust Country Rankings with Respect to the Choice of Fixed Maximum and Minimum Indicator Values", *Journal of Human Development*, 3 (2): 301-311.
- Reinhart, M.C. and Rogoff, K.S. (2009), "The Aftermath of Financial Crises", *American Economic Review*, 99 (2): 466-472.
- Sen, A. (1983), "Development: Which Way Now?", *Economic Journal*, 93: 745-762.
- Stewart, F. (1985), *Planning to Meet Basic Needs*, London: Macmillan Publications.
- Stewart, F. (1995), "Basic Needs, Capabilities and Human Development", *Greek Economic Review*, 17 (2): 83-96.
- Şenses, F. (2003), "Economic Crisis as an Instigator of Distributional Conflict: The Turkish Case in 2001", *Turkish Studies*, 4 (2): 92-119.
- Taner, M. T., Sezen, B., Alpkan, L. and Aren, S. (2010), Re-computation of UNDP's HDI rankings by Data Envelopment Analysis. VI. International Strategic Management Conference, St.Petersburg, Russia, July.
- Taner, M. T., Sezen, B. and Mihci, H. (2011), "An Alternative Human Development Index Considering Unemployment", *South East European Journal of Economics and Business*, 6 (1): 45- 60.
- UNDP (1994), *Human Development Report 1994*, New York: Oxford University Press.
- UNDP (2002), *Human Development Report 2002*, New York: Oxford University Press.
- UNDP (2003), *Human Development Report 2003*, New York: Oxford University Press.
- UNDP (2004), *Human Development Report 2004*, New York: Oxford University Press.
- UNDP (2005), *Human Development Report 2005*, New York: Oxford University Press.
- UNDP (2006), *Human Development Report 2006*, New York: Oxford University Press.
- UNDP (2007-2008), *Human Development Report 2007-2008*, New York: Oxford University Press.
- UNDP (2009), *Human Development Report 2009*, New York: Oxford University Press.
- Wolff, H., Chong H. and Auffhammer, M. (2009), Human Development Index: Are Developing Countries Misclassified?. Agricultural and Applied Economics Association Annual Meeting, Milwaukee, Wisconsin.
- Yeldan, E. (2006), "Neoliberal Global Remedies: From Speculative-Led Growth to IMF-Led Crisis in Turkey", *Review of Radical Political Economics*, 38 (2): 193-213.

Appendix

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	RANK-E-HDI	R(HDI-E-HDI)
Iceland	0,91	0,95	0,977	0,96	0,94925	0,942	-0,00725	2	3	-1
Norway	0,90	0,95	0,965	0,99	0,95125	0,944	-0,00725	1	1	0
Australia	0,90	0,92	0,933	0,99	0,93575	0,939	0,00325	4	10	-6
Canada	0,90	0,94	0,928	0,97	0,9345	0,937	0,0025	6	14	-8
Ireland	0,86	0,96	0,961	0,96	0,93525	0,93	-0,00525	11	11	0
Sweden	0,91	0,92	0,96	0,99	0,945	0,941	-0,004	3	4	-1
Switzerland	0,90	0,94	0,981	0,95	0,94275	0,932	-0,01075	9	5	4
Japan	0,94	0,92	0,95	0,94	0,9375	0,932	-0,0055	9	9	0
Netherlands	0,89	0,94	0,98	0,99	0,95	0,938	-0,012	5	2	3
France	0,90	0,91	0,913	0,96	0,92075	0,925	0,00425	17	19	-2
Finland	0,88	0,92	0,908	0,99	0,9245	0,93	0,0055	11	16	-5
United States	0,86	0,97	0,952	0,97	0,938	0,937	-0,001	6	8	-2
Spain	0,90	0,89	0,895	0,97	0,91375	0,918	0,00425	19	20	-1
Denmark	0,86	0,95	0,957	0,99	0,93925	0,93	-0,00925	11	6	5
Austria	0,89	0,93	0,951	0,97	0,93525	0,929	-0,00625	16	11	5
United Kingdom	0,88	0,92	0,949	0,99	0,93475	0,93	-0,00475	11	13	-2
Belgium	0,89	0,92	0,934	0,99	0,9335	0,937	0,0035	6	15	-9
Luxembourg	0,88	1	0,974	0,9	0,9385	0,93	-0,0085	11	7	4
New Zealand	0,88	0,88	0,947	0,99	0,92425	0,917	-0,00725	20	17	3
Italy	0,89	0,92	0,904	0,93	0,911	0,916	0,005	21	22	-1
Germany	0,88	0,92	0,927	0,96	0,92175	0,921	-0,00075	18	18	0
Greece	0,89	0,86	0,896	0,93	0,894	0,892	-0,002	28	24	4
Republic of Korea	0,84	0,84	0,963	0,96	0,90075	0,879	-0,02175	27	28	-1
Portugal	0,85	0,87	0,959	0,97	0,91225	0,896	-0,01625	23	21	2
Czech Republic	0,83	0,83	0,918	0,91	0,872	0,861	-0,011	30	29	1
Hungary	0,77	0,8	0,942	0,93	0,8605	0,837	-0,0235	32	34	-2
Poland	0,81	0,76	0,818	0,95	0,8345	0,841	0,0065	41	32	9
Slovakia	0,80	0,8	0,807	0,9	0,82675	0,836	0,00925	44	35	9
Mexico	0,80	0,74	0,975	0,86	0,84375	0,8	-0,04375	36	47	-11
Turkey	0,75	0,68	0,915	0,77	0,77875	0,734	-0,04475	61	64	-3
Estonia	0,77	0,77	0,874	0,96	0,8435	0,833	-0,0105	37	38	-1
Georgia	0,81	0,54	0,89	0,89	0,7825	0,746	-0,0365	60	61	-1
Hong Kong	0,91	0,92	0,949	0,83	0,90225	0,889	-0,01325	26	26	0
Israel	0,9	0,88	0,906	0,93	0,904	0,905	0,001	22	22	0
Latvia	0,76	0,73	0,869	0,95	0,82725	0,811	-0,01625	42	43	-1
Lithuania	0,79	0,74	0,826	0,94	0,824	0,824	0	46	40	6
Malaysia	0,8	0,75	0,965	0,83	0,83625	0,79	-0,04625	40	49	-9
Argentina	0,81	0,79	0,826	0,94	0,8415	0,849	0,0075	38	31	7
Bulgaria	0,76	0,71	0,806	0,91	0,7965	0,795	-0,0015	55	48	7
Chile	0,85	0,75	0,921	0,89	0,85275	0,831	-0,02175	33	39	-6
Croatia	0,82	0,75	0,842	0,88	0,823	0,818	-0,005	47	42	5
China	0,76	0,62	0,964	0,79	0,7835	0,721	-0,0625	59	68	-9
Russia	0,69	0,71	0,911	0,93	0,81025	0,779	-0,03125	49	52	-3
Belarus	0,74	0,72	0,977	0,95	0,84675	0,804	-0,04275	34	45	-11
Cuba	0,86	0,66	0,959	0,9	0,84475	0,806	-0,03875	35	44	-9
Ecuador	0,76	0,58	0,89	0,85	0,77	0,731	-0,039	64	65	-1

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	RANK-E-HDI	R(HDI-E-HDI)
Panama	0,82	0,68	0,853	0,86	0,80325	0,788	-0,01525	51	50	1
Romania	0,76	0,68	0,934	0,88	0,8135	0,773	-0,0405	48	55	-7
Trinidad	0,78	0,75	0,892	0,88	0,8255	0,802	-0,0235	45	46	-1
Ukraine	0,74	0,63	0,891	0,93	0,79775	0,766	-0,03175	54	56	-2
Slovakia	0,8	0,8	0,808	0,9	0,827	0,836	0,009	43	35	8
Paraguay	0,76	0,66	0,924	0,84	0,796	0,751	-0,045	56	59	-3
Uruguay	0,83	0,74	0,847	0,93	0,83675	0,834	-0,00275	39	37	2
South Africa	0,43	0,79	0,706	0,83	0,689	0,684	-0,005	76	71	5
Malta	0,88	0,81	0,936	0,87	0,874	0,856	-0,018	29	30	-1
Moldova	0,72	0,51	0,932	0,86	0,7555	0,7	-0,0555	69	70	-1
Kyrgyzstan	0,72	0,55	0,922	0,91	0,7755	0,727	-0,0485	62	67	-5
Cyprus	0,88	0,89	0,96	0,9	0,9075	0,891	-0,0165	23	25	-2
Albania	0,81	0,6	0,836	0,8	0,7615	0,735	-0,0265	67	63	4
Bolivia	0,64	0,52	0,915	0,85	0,73125	0,672	-0,05925	72	74	-2
Kuwait	0,86	0,87	0,992	0,73	0,863	0,82	-0,043	31	41	-10
Nicaragua	0,73	0,53	0,936	0,66	0,714	0,643	-0,071	74	77	-3
Macedonia	0,81	0,69	0,695	0,86	0,76375	0,784	0,02025	66	51	15
Singapore	0,88	0,91	0,962	0,87	0,9055	0,884	-0,0215	24	27	-3
Tajikistan	0,72	0,41	0,832	0,9	0,7155	0,677	-0,0385	73	73	0
Uzbekistan	0,74	0,53	0,847	0,91	0,75675	0,729	-0,02775	68	66	2
Peru	0,74	0,64	0,921	0,88	0,79525	0,752	-0,04325	57	58	-1
Colombia	0,78	0,71	0,854	0,85	0,7985	0,779	-0,0195	53	52	1
Philippines	0,74	0,61	0,889	0,9	0,78475	0,751	-0,03375	58	59	-1
Indonesia	0,69	0,56	0,919	0,8	0,74225	0,682	-0,06025	70	72	-2
Egypt	0,72	0,59	0,908	0,63	0,712	0,648	-0,064	75	76	-1
El Salvador	0,76	0,66	0,93	0,74	0,7725	0,719	-0,0535	63	69	-6
Honduras	0,73	0,56	0,961	0,71	0,74025	0,667	-0,07325	71	75	-4
Dominican Republic	0,7	0,71	0,844	0,81	0,766	0,737	-0,029	65	62	3
Bahrain	0,81	0,85	n/a	0,86	n/a	0,839	n/a	n/a	33	n/a
Kazakhstan	0,68	0,7	0,896	0,92	0,799	0,765	-0,034	52	57	-5
Brazil	0,71	0,72	0,906	0,9	0,809	0,777	-0,032	50	54	-4

EMPI, E-HDI, R(E-HDI): Authors' own calculations

Source: UNDP (2003); ILO

Table 4: Employment-adjusted Human Development Index (E-HDI): 2001

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	R(E-HDI)	R(HDI-E-HDI)
Iceland	0,91	0,95	0,967	0,96	0,94675	0,941	-0,00575	7	4	3
Norway	0,90	0,99	0,96	0,99	0,96	0,956	-0,004	1	1	0
Australia	0,90	0,94	0,937	0,99	0,94175	0,946	0,00425	3	7	-4
Canada	0,90	0,95	0,924	0,98	0,9385	0,943	0,0045	4	13	-9
Ireland	0,86	0,98	0,956	0,96	0,939	0,936	-0,003	10	10	0
Sweden	0,92	0,93	0,96	0,99	0,95	0,946	-0,004	2	3	-1
Switzerland	0,90	0,95	0,969	0,95	0,94225	0,936	-0,00625	10	6	4
Japan	0,94	0,93	0,946	0,94	0,939	0,938	-0,001	9	11	-2
Netherlands	0,89	0,95	0,977	0,99	0,95175	0,942	-0,00975	5	2	3
France	0,90	0,93	0,91	0,96	0,925	0,932	0,007	18	18	0
Finland	0,88	0,93	0,909	0,99	0,92725	0,935	0,00775	13	17	-4

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	R(E-HDI)	R(HDI-E-HDI)
United States	0,87	0,98	0,942	0,97	0,9405	0,939	-0,0015	8	8	0
Spain	0,89	0,9	0,886	0,97	0,9115	0,922	0,0105	20	22	-2
Denmark	0,86	0,96	0,955	0,98	0,93875	0,932	-0,00675	16	12	4
Austria	0,89	0,95	0,947	0,96	0,93675	0,934	-0,00275	14	15	-1
United Kingdom	0,88	0,93	0,948	0,99	0,937	0,936	-0,001	10	14	-4
Belgium	0,90	0,94	0,927	0,99	0,93925	0,942	0,00275	5	9	-4
Luxembourg	0,89	1	0,97	0,91	0,9425	0,933	-0,0095	15	5	10
New Zealand	0,89	0,9	0,948	0,99	0,932	0,926	-0,006	18	16	2
Italy	0,89	0,93	0,909	0,93	0,91475	0,92	0,00525	21	20	1
Germany	0,89	0,94	0,919	0,95	0,92475	0,925	0,00025	19	19	0
Greece	0,89	0,87	0,9	0,95	0,9025	0,902	-0,0005	24	28	-4
Republic of Korea	0,84	0,86	0,969	0,97	0,90975	0,888	-0,02175	27	23	4
Portugal	0,85	0,87	0,949	0,97	0,90975	0,897	-0,01275	26	23	3
Czech Republic	0,84	0,84	0,927	0,92	0,88175	0,868	-0,01375	30	30	0
Hungary	0,78	0,82	0,941	0,95	0,87275	0,848	-0,02475	34	32	2
Poland	0,81	0,78	0,801	0,96	0,83775	0,85	0,01225	33	40	-7
Slovakia	0,81	0,81	0,814	0,91	0,836	0,842	0,006	36	43	-7
Mexico	0,81	0,75	0,973	0,85	0,84575	0,802	-0,04375	45	37	8
Turkey	0,76	0,69	0,897	0,8	0,78675	0,751	-0,03575	61	60	1
Estonia	0,78	0,8	0,897	0,98	0,86425	0,853	-0,01125	31	33	-2
Georgia	0,81	0,52	0,877	0,89	0,77425	0,739	-0,03525	64	65	-1
Hong Kong	0,91	0,93	0,927	0,86	0,90675	0,903	-0,00375	23	25	-2
Israel	0,9	0,88	0,897	0,94	0,90425	0,908	0,00375	22	26	-4
Latvia	0,76	0,75	0,88	0,95	0,835	0,823	-0,012	43	45	-2
Lithuania	0,79	0,77	0,862	0,96	0,8455	0,842	-0,0035	36	38	-2
Malaysia	0,8	0,75	0,965	0,83	0,83625	0,793	-0,04325	49	41	8
Argentina	0,82	0,78	0,804	0,96	0,841	0,853	0,012	31	39	-8
Bulgaria	0,77	0,71	0,824	0,91	0,8035	0,796	-0,0075	47	54	-7
Chile	0,85	0,77	0,922	0,9	0,8605	0,839	-0,0215	39	34	5
Croatia	0,82	0,77	0,852	0,9	0,8355	0,83	-0,0055	42	44	-2
China	0,76	0,64	0,96	0,83	0,7975	0,745	-0,0525	63	57	6
Russia	0,69	0,74	0,921	0,95	0,82525	0,795	-0,03025	48	48	0
Belarus	0,75	0,67	0,97	0,95	0,835	0,79	-0,045	52	45	7
Cuba	0,86	0,66	0,967	0,91	0,84925	0,809	-0,04025	44	36	8
Ecuador	0,76	0,6	0,907	0,85	0,77925	0,735	-0,04425	66	63	3
Panama	0,83	0,69	0,859	0,86	0,80975	0,791	-0,01875	51	51	0
Romania	0,76	0,7	0,916	0,88	0,814	0,778	-0,036	54	50	4
Trinidad	0,77	0,76	0,896	0,87	0,824	0,801	-0,023	46	49	-3
Ukraine	0,74	0,65	0,904	0,94	0,8085	0,777	-0,0315	55	53	2
Slovakia	0,81	0,81	0,815	0,91	0,83625	0,842	0,00575	36	41	-5
Paraguay	0,76	0,64	0,892	0,85	0,7855	0,751	-0,0345	61	62	-1
Uruguay	0,84	0,73	0,83	0,94	0,835	0,833	-0,002	41	45	-4
South Africa	0,4	0,77	0,696	0,83	0,674	0,666	-0,008	76	77	-1
Malta	0,89	0,86	0,93	0,87	0,8875	0,875	-0,0125	29	29	0
Moldova	0,73	0,45	0,921	0,87	0,74275	0,681	-0,06175	71	71	0
Kyrgyzstan	0,72	0,46	0,875	0,92	0,74375	0,701	-0,04275	69	69	0
Cyprus	0,89	0,87	0,967	0,89	0,90425	0,883	-0,02125	28	26	2
Albania	0,81	0,65	0,842	0,89	0,798	0,781	-0,017	53	56	-3

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	R(E-HDI)	R(HDI-E-HDI)
Bolivia	0,64	0,53	0,913	0,86	0,73575	0,681	-0,05475	71	73	-2
Kuwait	0,86	0,85	0,989	0,81	0,87725	0,838	-0,03925	40	31	9
Nicaragua	0,74	0,54	0,878	0,73	0,722	0,667	-0,055	75	74	1
Macedonia	0,81	0,7	0,681	0,87	0,76525	0,793	0,02775	49	66	-17
Singapore	0,88	0,92	0,944	0,91	0,9135	0,902	-0,0115	24	21	3
Tajikistan	0,73	0,38	0,803	0,9	0,70325	0,671	-0,03225	74	76	-2
Uzbekistan	0,74	0,47	0,83	0,91	0,7375	0,709	-0,0285	68	72	-4
Peru	0,74	0,65	0,923	0,86	0,79325	0,752	-0,04125	60	58	2
Colombia	0,78	0,69	0,848	0,84	0,7895	0,773	-0,0165	57	59	-2
Philippines	0,75	0,62	0,886	0,89	0,7865	0,753	-0,0335	59	61	-2
Indonesia	0,69	0,58	0,909	0,8	0,74475	0,692	-0,05275	70	68	2
Egypt	0,73	0,61	0,898	0,62	0,7145	0,653	-0,0615	77	75	2
El Salvador	0,76	0,65	0,938	0,75	0,7745	0,72	-0,0545	67	64	3
Honduras	0,73	0,54	0,962	0,74	0,743	0,672	-0,071	73	70	3
Dominican Republic	0,7	0,7	0,839	0,82	0,76475	0,738	-0,02675	65	67	-2
Bahrain	0,81	0,86	0,913	0,85	0,85825	0,843	-0,01525	35	35	0
Kazakhstan	0,69	0,68	0,907	0,93	0,80175	0,766	-0,03575	58	55	3
Brazil	0,72	0,73	0,908	0,88	0,8095	0,775	-0,0345	56	51	5

EMPI, E-HDI, R(E-HDI): Authors' own calculations

Source: UNDP (2004); ILO

Table 5: Employment-adjusted Human Development Index (E-HDI): 2002

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(E-HDI)	R(HDI)	R(HDI-E-HDI)
Iceland	0,93	0,96	0,955	0,98	0,95625	0,956	-0,00025	2	2	0
Norway	0,91	0,99	0,966	0,99	0,964	0,963	-0,001	1	1	0
Australia	0,92	0,95	0,94	0,99	0,95	0,955	0,005	5	3	-2
Canada	0,92	0,96	0,924	0,97	0,9435	0,949	0,0055	10	4	-6
Ireland	0,88	0,99	0,954	0,97	0,9485	0,946	-0,0025	6	8	2
Sweden	0,92	0,93	0,951	0,99	0,94775	0,949	0,00125	7	4	-3
Switzerland	0,93	0,96	0,96	0,96	0,9525	0,947	-0,0055	3	7	4
Japan	0,95	0,94	0,947	0,94	0,94425	0,943	-0,00125	9	11	2
Netherlands	0,89	0,95	0,959	0,99	0,94725	0,943	-0,00425	8	11	3
France	0,91	0,94	0,903	0,97	0,93075	0,938	0,00725	18	16	-2
Finland	0,89	0,94	0,909	0,99	0,93225	0,941	0,00875	17	13	-4
United States	0,87	0,99	0,94	0,97	0,9425	0,944	0,0015	11	10	-1
Spain	0,91	0,9	0,887	0,97	0,91675	0,928	0,01125	22	21	-1
Denmark	0,87	0,96	0,944	0,99	0,941	0,941	0	13	13	0
Austria	0,90	0,95	0,943	0,96	0,93825	0,936	-0,00225	14	17	3
United Kingdom	0,89	0,94	0,95	0,99	0,9425	0,939	-0,0035	11	15	4
Belgium	0,90	0,94	0,921	0,99	0,93775	0,945	0,00725	15	9	-6
Luxembourg	0,89	1	0,962	0,95	0,9505	0,949	-0,0015	4	4	0
New Zealand	0,90	0,9	0,954	0,99	0,936	0,933	-0,003	16	19	3
Italy	0,92	0,94	0,912	0,95	0,9305	0,934	0,0035	19	18	-1
Germany	0,90	0,94	0,909	0,96	0,92725	0,93	0,00275	20	20	0
Greece	0,89	0,88	0,905	0,97	0,91125	0,912	0,00075	26	24	-2
Republic of Korea	0,85	0,87	0,966	0,97	0,914	0,901	-0,013	24	27	3
Portugal	0,87	0,87	0,937	0,97	0,91175	0,904	-0,00775	21	26	5

	LEI	GDPi	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(E-HDI)	R(HDI)	R(HDI-E-HDI)
Czech Republic	0,84	0,85	0,922	0,93	0,8855	0,874	-0,0115	29	29	0
Hungary	0,80	0,83	0,941	0,96	0,88275	0,862	-0,02075	30	32	2
Poland	0,82	0,79	0,804	0,96	0,8435	0,858	0,0145	44	33	-11
Slovakia	0,82	0,82	0,825	0,91	0,84375	0,849	0,00525	43	37	-6
Mexico	0,83	0,75	0,975	0,85	0,85125	0,814	-0,03725	39	45	6
Turkey	0,73	0,7	0,897	0,82	0,78675	0,75	-0,03675	63	64	1
Estonia	0,77	0,82	0,9	0,97	0,865	0,853	-0,012	34	35	1
Georgia	0,76	0,54	0,885	0,9	0,77125	0,732	-0,03925	65	66	1
Hong Kong	0,94	0,94	0,921	0,87	0,91775	0,916	-0,00175	21	22	1
Israel	0,91	0,88	0,893	0,95	0,90825	0,915	0,00675	27	23	-4
Latvia	0,78	0,77	0,894	0,96	0,851	0,836	-0,015	40	43	3
Lithuania	0,79	0,79	0,876	0,97	0,8565	0,852	-0,0045	36	36	0
Malaysia	0,8	0,76	0,964	0,83	0,8385	0,796	-0,0425	45	50	5
Argentina	0,82	0,8	0,846	0,96	0,8565	0,863	0,0065	36	31	-5
Bulgaria	0,79	0,73	0,863	0,91	0,82325	0,808	-0,01525	51	46	-5
Chile	0,88	0,77	0,926	0,91	0,8715	0,854	-0,0175	33	34	1
Croatia	0,83	0,79	0,857	0,9	0,84425	0,841	-0,00325	41	41	0
China	0,78	0,65	0,957	0,84	0,80675	0,755	-0,05175	54	62	8
Russia	0,67	0,76	0,92	0,96	0,8275	0,795	-0,0325	48	51	3
Belarus	0,72	0,68	0,969	0,95	0,82975	0,786	-0,04375	47	54	7
Cuba	0,87	0,67	0,977	0,91	0,85675	0,817	-0,03975	35	44	9
Ecuador	0,82	0,6	0,885	0,86	0,79125	0,759	-0,03225	62	60	-2
Panama	0,83	0,71	0,864	0,88	0,821	0,804	-0,017	52	47	-5
Romania	0,77	0,72	0,93	0,89	0,8275	0,792	-0,0355	48	52	4
Trinidad	0,75	0,78	0,895	0,88	0,82625	0,801	-0,02525	50	48	-2
Ukraine	0,69	0,67	0,909	0,95	0,80475	0,766	-0,03875	55	57	2
Slovakia	0,82	0,82	0,826	0,91	0,844	0,849	0,005	42	37	-5
Paraguay	0,77	0,64	0,919	0,86	0,79725	0,755	-0,04225	60	62	2
Uruguay	0,84	0,74	0,831	0,94	0,83775	0,84	0,00225	46	42	-4
South Africa	0,39	0,77	0,72	0,81	0,6725	0,658	-0,0145	76	76	0
Malta	0,89	0,86	0,924	0,85	0,881	0,867	-0,014	32	30	-2
Moldova	0,71	0,45	0,919	0,85	0,73225	0,671	-0,06125	72	73	1
Kyrgyzstan	0,7	0,48	0,901	0,93	0,75275	0,702	-0,05075	68	68	0
Cyprus	0,89	0,87	0,959	0,91	0,90725	0,891	-0,01625	28	28	0
Albania	0,81	0,64	0,85	0,89	0,7975	0,78	-0,0175	59	56	-3
Bolivia	0,65	0,54	n/a	0,87	n/a	0,687	n/a	n/a	72	n/a
Kuwait	0,87	0,87	0,987	0,8	0,88175	0,844	-0,03775	31	40	9
Nicaragua	0,75	0,58	0,923	0,74	0,74825	0,69	-0,05825	70	71	1
Macedonia	0,81	0,7	0,633	0,87	0,75325	0,797	0,04375	67	49	-18
Singapore	0,89	0,92	0,941	0,91	0,91525	0,907	-0,00825	23	25	2
Tajikistan	0,64	0,4	0,919	0,91	0,71725	0,652	-0,06525	75	77	2
Uzbekistan	0,69	0,48	0,831	0,91	0,72775	0,694	-0,03375	73	70	-3
Peru	0,75	0,66	0,928	0,88	0,8045	0,762	-0,0425	56	58	2
Colombia	0,79	0,7	0,856	0,86	0,8015	0,785	-0,0165	57	55	-2
Philippines	0,76	0,63	0,886	0,89	0,7915	0,758	-0,0335	61	61	0
Indonesia	0,7	0,59	0,903	0,81	0,75075	0,697	-0,05375	69	69	0
Egypt	0,75	0,61	0,89	0,62	0,7175	0,659	-0,0585	74	75	1
El Salvador	0,76	0,65	0,931	0,76	0,77525	0,722	-0,05325	64	67	3

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(E-HDI)	R(HDI)	R(HDI-E-HDI)
Honduras	0,71	0,55	0,949	0,74	0,73725	0,667	-0,07025	71	74	3
Dominican Republic	0,7	0,7	0,833	0,84	0,76825	0,749	-0,01925	66	65	-1
Bahrain	0,82	0,86	0,883	0,86	0,85575	0,846	-0,00975	38	39	1
Kazakhstan	0,64	0,7	0,912	0,94	0,798	0,761	-0,037	58	59	1
Brazil	0,76	0,73	0,903	0,89	0,82075	0,792	-0,02875	53	52	-1

EMPI, E-HDI, R(E-HDI): Authors' own calculations

Source: UNDP (2005); ILO

Table 6: Employment-adjusted Human Development Index (E-HDI): 2003

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	R(E-HDI)	R(HDI-E-HDI)
Iceland	0,93	0,98	0,975	0,97	0,96375	0,96	-0,00375	2	1	1
Norway	0,91	0,99	0,954	0,99	0,961	0,965	0,004	1	2	-1
Australia	0,92	0,95	0,949	0,99	0,95225	0,957	0,00475	3	4	-1
Canada	0,92	0,96	0,932	0,97	0,9455	0,95	0,0045	6	10	-4
Ireland	0,88	1	0,957	0,99	0,95675	0,956	-0,00075	4	3	1
Sweden	0,92	0,95	0,944	0,98	0,9485	0,951	0,0025	5	8	-3
Switzerland	0,93	0,97	0,959	0,95	0,95225	0,947	-0,00525	9	4	5
Japan	0,95	0,95	0,956	0,94	0,949	0,949	0	7	7	0
Netherlands	0,89	0,96	0,938	0,99	0,9445	0,947	0,0025	9	11	-2
France	0,91	0,95	0,9	0,97	0,9325	0,942	0,0095	16	19	-3
Finland	0,89	0,95	0,914	0,99	0,936	0,947	0,011	9	17	-8
United States	0,88	1	0,949	0,97	0,94975	0,948	-0,00175	8	6	2
Spain	0,91	0,92	0,909	0,98	0,92975	0,938	0,00825	19	21	-2
Denmark	0,87	0,96	0,951	0,99	0,94275	0,943	0,00025	15	13	2
Austria	0,90	0,96	0,942	0,96	0,9405	0,944	0,0035	14	15	-1
United Kingdom	0,89	0,96	0,952	0,97	0,943	0,94	-0,003	18	12	6
Belgium	0,90	0,96	0,916	0,98	0,939	0,945	0,006	12	16	-4
Luxembourg	0,89	1	0,954	0,94	0,946	0,945	-0,001	12	9	3
New Zealand	0,90	0,91	0,964	0,99	0,941	0,936	-0,005	20	14	6
Italy	0,92	0,94	0,923	0,96	0,93575	0,94	0,00425	18	18	0
Germany	0,90	0,9	0,907	0,96	0,91675	0,932	0,01525	21	26	-5
Greece	0,89	0,9	0,894	0,97	0,9135	0,921	0,0075	24	27	-3
Republic of Korea	0,87	0,89	0,962	0,98	0,9255	0,912	-0,0135	26	22	4
Portugal	0,87	0,88	0,925	0,96	0,90875	0,904	-0,00475	27	28	-1
Czech Republic	0,85	0,88	0,92	0,93	0,895	0,885	-0,01	29	30	-1
Hungary	0,80	0,86	0,929	0,95	0,88475	0,869	-0,01575	32	32	0
Poland	0,83	0,81	0,822	0,95	0,853	0,862	0,009	34	42	-8
Slovakia	0,82	0,83	0,836	0,92	0,8515	0,856	0,0045	39	43	-4
Mexico	0,84	0,77	0,964	0,86	0,8585	0,821	-0,0375	45	39	6
Turkey	0,73	0,73	0,9	0,81	0,7925	0,757	-0,0355	63	63	0
Estonia	0,78	0,83	0,903	0,97	0,87075	0,858	-0,01275	37	35	2
Georgia	0,76	0,56	0,874	0,91	0,776	0,743	-0,033	66	65	1
Hong Kong	0,95	0,96	0,932	0,88	0,9305	0,927	-0,0035	22	20	2
Israel	0,92	0,92	0,896	0,95	0,9215	0,927	0,0055	22	24	-2
Latvia	0,78	0,79	0,896	0,96	0,8565	0,845	-0,0115	43	40	3
Lithuania	0,79	0,81	0,886	0,97	0,864	0,857	-0,007	38	38	0
Malaysia	0,81	0,77	0,965	0,84	0,84625	0,805	-0,04125	49	46	3
Argentina	0,83	0,82	0,874	0,95	0,8685	0,863	-0,0055	33	36	-3

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	R(E-HDI)	R(HDI-E-HDI)
Bulgaria	0,79	0,73	0,88	0,92	0,83	0,816	-0,014	46	50	-4
Chile	0,89	0,78	0,922	0,91	0,8755	0,859	-0,0165	35	34	1
Croatia	0,84	0,8	0,862	0,9	0,8505	0,846	-0,0045	42	44	-2
China	0,78	0,68	0,958	0,84	0,8145	0,768	-0,0465	59	54	5
Russia	0,67	0,77	0,922	0,95	0,828	0,797	-0,031	51	51	0
Belarus	0,72	0,71	0,981	0,95	0,84025	0,794	-0,04625	53	47	6
Cuba	0,88	0,67	0,981	0,93	0,86525	0,826	-0,03925	44	37	7
Ecuador	0,82	0,61	0,914	0,86	0,801	0,765	-0,036	61	61	0
Panama	0,83	0,72	0,876	0,88	0,8265	0,809	-0,0175	47	56	-9
Romania	0,78	0,74	0,92	0,9	0,835	0,805	-0,03	49	49	0
Trinidad	0,75	0,8	0,917	0,88	0,83675	0,809	-0,02775	47	48	-1
Ukraine	0,69	0,69	0,914	0,94	0,8085	0,774	-0,0345	58	57	1
Slovakia	0,82	0,83	0,819	0,92	0,84725	0,856	0,00875	39	45	-6
Paraguay	0,77	0,65	0,926	0,86	0,8015	0,757	-0,0445	63	59	4
Uruguay	0,84	0,76	0,869	0,95	0,85475	0,851	-0,00375	41	41	0
South Africa	0,37	0,79	0,738	0,8	0,6745	0,653	-0,0215	76	76	0
Malta	0,89	0,87	0,928	0,86	0,887	0,875	-0,012	31	31	0
Moldova	0,72	0,48	0,927	0,89	0,75425	0,694	-0,06025	73	71	2
Kyrgyzstan	0,7	0,49	0,915	0,92	0,75625	0,705	-0,05125	69	69	0
Cyprus	0,9	0,91	0,953	0,91	0,91825	0,903	-0,01525	28	25	3
Albania	0,82	0,65	0,856	0,88	0,8015	0,784	-0,0175	56	59	-3
Bolivia	0,65	0,55	0,938	0,87	0,752	0,692	-0,06	74	72	2
Kuwait	0,87	0,88	0,986	0,87	0,9015	0,875	-0,0265	30	29	1
Nicaragua	0,75	0,6	0,935	0,75	0,75875	0,698	-0,06075	71	67	4
Macedonia	0,82	0,7	0,628	0,87	0,7545	0,796	0,0415	52	70	-18
Singapore	0,9	0,94	0,942	0,91	0,923	0,916	-0,007	25	23	2
Tajikistan	0,65	0,41	0,84	0,9	0,7	0,652	-0,048	77	75	2
Uzbekistan	0,69	0,49	n/a	0,91	n/a	0,696	n/a	72	n/a	n/a
Peru	0,75	0,67	0,926	0,87	0,804	0,767	-0,037	60	58	2
Colombia	0,79	0,72	0,872	0,86	0,8105	0,79	-0,0205	55	55	0
Philippines	0,76	0,64	0,882	0,89	0,793	0,763	-0,03	62	62	0
Indonesia	0,7	0,6	0,901	0,83	0,75775	0,711	-0,04675	68	68	0
Egypt	0,75	0,62	0,897	0,73	0,74925	0,702	-0,04725	70	73	-3
El Salvador	0,77	0,65	0,932	0,76	0,778	0,729	-0,049	67	64	3
Honduras	0,72	0,56	0,941	0,77	0,74775	0,683	-0,06475	75	74	1
Dominican Republic	0,71	0,72	0,816	0,83	0,769	0,751	-0,018	65	66	-1
Bahrain	0,82	0,89	0,937	0,86	0,87675	0,859	-0,01775	35	33	2
Kazakhstan	0,64	0,72	0,916	0,96	0,809	0,774	-0,035	57	56	1
Brazil	0,76	0,74	0,911	0,88	0,82275	0,792	-0,03075	54	53	1

EMPI, E-HDI, R(E-HDI): Authors' own calculations

Source: UNDP (2006); ILO

Table 7: Employment-adjusted Human Development Index (E-HDI): 2004

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	R(E-HDI)	R(HDI-E-HDI)
Iceland	0,94	0,985	0,97	0,978	0,9685	0,968	-0,0005	1	1	0
Norway	0,91	1	0,965	0,991	0,96725	0,968	0,00075	1	2	-1
Australia	0,93	0,962	0,951	0,993	0,95925	0,962	0,00275	3	3	0
Canada	0,92	0,97	0,937	0,991	0,95475	0,961	0,00625	4	6	-2
Ireland	0,89	0,994	0,956	0,993	0,95825	0,959	0,00075	5	4	1
Sweden	0,92	0,965	0,93	0,978	0,94925	0,956	0,00675	6	11	-5
Switzerland	0,94	0,981	0,96	0,946	0,95625	0,955	-0,00125	7	5	2
Japan	0,95	0,959	0,959	0,946	0,9545	0,953	-0,0015	8	8	0
Netherlands	0,90	0,966	0,961	0,988	0,95475	0,953	-0,00175	8	6	2
France	0,92	0,954	0,906	0,982	0,94025	0,952	0,01175	10	18	-8
Finland	0,90	0,964	0,923	0,993	0,9445	0,952	0,0075	10	16	-6
United States	0,88	1	0,954	0,971	0,9515	0,951	-0,0005	12	10	2
Spain	0,93	0,935	0,915	0,987	0,9405	0,949	0,0085	13	17	-4
Denmark	0,88	0,973	0,961	0,993	0,952	0,949	-0,003	13	9	4
Austria	0,91	0,971	0,952	0,966	0,949	0,948	-0,001	15	12	3
United Kingdom	0,90	0,969	0,947	0,97	0,9465	0,946	-0,0005	16	14	2
Belgium	0,90	0,963	0,918	0,977	0,93875	0,946	0,00725	16	20	-4
Luxembourg	0,89	1	0,952	0,942	0,94625	0,944	-0,00225	18	15	3
New Zealand	0,91	0,922	0,962	0,993	0,9475	0,943	-0,0045	19	13	6
Italy	0,92	0,944	0,932	0,958	0,939	0,941	0,002	20	19	1
Germany	0,90	0,949	0,916	0,953	0,93	0,935	0,005	22	23	-1
Greece	0,90	0,91	0,911	0,97	0,92225	0,926	0,00375	24	26	-2
Republic of Korea	0,88	0,9	0,965	0,98	0,93175	0,921	-0,01075	26	22	4
Portugal	0,88	0,888	0,923	0,925	0,90375	0,897	-0,00675	28	29	-1
Czech Republic	0,85	0,889	0,928	0,936	0,9005	0,891	-0,0095	29	30	-1
Hungary	0,80	0,866	0,925	0,958	0,887	0,874	-0,013	32	32	0
Poland	0,84	0,823	0,862	0,951	0,868	0,87	0,002	33	40	-7
Slovakia	0,82	0,846	0,866	0,921	0,8635	0,863	-0,0005	37	43	-6
Mexico	0,84	0,781	0,968	0,863	0,86375	0,829	-0,03475	45	41	4
Turkey	0,77	0,74	0,901	0,812	0,8065	0,775	-0,0315	61	62	-1
Estonia	0,77	0,842	0,95	0,968	0,8825	0,86	-0,0225	40	35	5
Georgia	0,761	0,587	0,862	0,914	0,781	0,754	-0,027	66	66	0
Hong Kong	0,949	0,977	0,944	0,885	0,93875	0,937	-0,00175	21	20	1
Israel	0,921	0,927	0,91	0,946	0,926	0,932	0,006	23	25	-2
Latvia	0,784	0,821	0,913	0,961	0,86975	0,855	-0,01475	41	39	2
Lithuania	0,792	0,831	0,917	0,965	0,87625	0,862	-0,01425	39	36	3
Malaysia	0,811	0,783	0,965	0,839	0,8495	0,811	-0,0385	50	47	3
Argentina	0,836	0,815	0,905	0,946	0,8755	0,869	-0,0065	34	37	-3
Bulgaria	0,795	0,752	0,91	0,926	0,84575	0,824	-0,02175	46	48	-2
Chile	0,889	0,799	0,94	0,914	0,8855	0,867	-0,0185	35	33	2
Croatia	0,839	0,813	0,889	0,899	0,86	0,85	-0,01	43	45	-2
China	0,792	0,703	0,959	0,837	0,82275	0,777	-0,04575	60	56	4
Russia	0,667	0,782	0,928	0,956	0,83325	0,802	-0,03125	52	52	0
Belarus	0,728	0,73	0,988	0,956	0,8505	0,804	-0,0465	51	46	5
Cuba	0,879	0,683	0,981	0,952	0,87375	0,838	-0,03575	44	38	6
Ecuador	0,828	0,629	0,922	0,858	0,80925	0,772	-0,03725	63	60	3
Panama	0,836	0,723	0,909	0,878	0,8365	0,812	-0,0245	49	51	-2

	LEI	GDPI	EMPI	EI	E-HDI	HDI	HDI-E-HDI	R(HDI)	R(E-HDI)	R(HDI-E-HDI)
Romania	0,782	0,752	0,927	0,905	0,8415	0,813	-0,0285	48	50	-2
Trinidad	0,737	0,832	0,938	0,872	0,84475	0,814	-0,03075	47	49	-2
Ukraine	0,711	0,705	0,932	0,948	0,824	0,788	-0,036	58	55	3
Slovakia	0,821	0,846	0,867	0,921	0,86375	0,863	-0,00075	37	41	-4
Paraguay	0,771	0,641	0,933	0,853	0,7995	0,755	-0,0445	65	63	2
Uruguay	0,848	0,768	0,894	0,942	0,863	0,852	-0,011	42	44	-2
South Africa	0,43	0,786	0,745	0,806	0,69175	0,674	-0,01775	76	77	-1
Malta	0,901	0,877	0,927	0,856	0,89025	0,878	-0,01225	31	31	0
Moldova	0,724	0,508	0,926	0,892	0,7625	0,708	-0,0545	70	70	0
Kyrgyzstan	0,676	0,494	0,919	0,917	0,7515	0,696	-0,0555	74	73	1
Cyprus	0,9	0,905	0,955	0,904	0,916	0,903	-0,013	27	27	0
Albania	0,853	0,663	0,862	0,887	0,81625	0,801	-0,01525	53	57	-4
Bolivia	0,662	0,557	0,92	0,865	0,751	0,695	-0,056	75	74	1
Kuwait	0,871	0,93	0,985	0,871	0,91425	0,891	-0,02325	29	28	1
Nicaragua	0,782	0,601	0,944	0,747	0,7685	0,71	-0,0585	69	68	1
Macedonia	0,814	0,714	0,627	0,875	0,7575	0,801	0,0435	53	71	-18
Singapore	0,907	0,95	0,955	0,908	0,93	0,922	-0,008	25	23	2
Tajikistan	0,689	0,435	0,81	0,896	0,7075	0,673	-0,0345	77	76	1
Uzbekistan	0,696	0,505	0,894	0,906	0,75025	0,702	-0,04825	72	75	-3
Peru	0,761	0,684	0,928	0,872	0,81125	0,773	-0,03825	62	59	3
Colombia	0,788	0,716	0,873	0,869	0,8115	0,791	-0,0205	57	58	-1
Philippines	0,767	0,657	0,92	0,888	0,808	0,771	-0,037	64	61	3
Indonesia	0,745	0,609	0,897	0,83	0,77025	0,728	-0,04225	68	67	1
Egypt	0,761	0,629	0,894	0,732	0,754	0,708	-0,046	70	72	-2
El Salvador	0,772	0,661	0,934	0,772	0,78475	0,735	-0,04975	67	65	2
Honduras	0,739	0,59	0,969	0,771	0,76725	0,7	-0,06725	73	69	4
Dominican Republic	0,776	0,736	0,84	0,827	0,79475	0,779	-0,01575	59	64	-5
Bahrain	0,837	0,896	0,936	0,864	0,88325	0,866	-0,01725	36	34	2
Kazakhstan	0,682	0,728	0,919	0,973	0,8255	0,794	-0,0315	56	54	2
Brazil	0,779	0,74	0,916	0,883	0,8295	0,8	-0,0295	55	53	2

EMPI, E-HDI, R(E-HDI): Authors' own calculations

Source: UNDP (2007-8); ILO

Table 8: Employment-adjusted Human Development Index (E-HDI): 2005-6