

[Life expectancy or GDP independent?]

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[2010]

Introduction

This mathematics project will be examining many countries' life expectancy and GDP per capita and see which one is independent. Firstly, numbers that are of reliable resources from the internet will be found and will take the countries' life expectancy and GDP per capita (PPP).

This experiment will be using correlation coefficient and the regression line to verify our results. Firstly, numbers will be taken from GDP per capita and overall life expectancy of both gender and using systemic sampling the data will be collected. The countries will only be collected at every odd

My Null Hypothesis is that life expectancy is dependent to the country's GDP whereas my Alternative Hypothesis is that life expectancy and GDP are independent. The countries will be chosen in systematic sample of every odd number from a list of countries from The World Fact Book (see page:0). Then, the overall average of both sexes will be taken by adding both men and women's life expectancy and divided by 2, because I do not desire to see if GDP affects one of the sexes. Furthermore, the sex ratio of the total population will be looked at if there is much difference or not. Sex ratio is the ratio of males to females in a population. In addition, life expectancy only tells us the life expectancy of either male or female and by taking the average of both sexes one would have to take sex ratio into account or acknowledge that this can also cause some variations to the final result.

Then, xy , $\sum x^2$, $\sum y^2$ will be calculated so to put it in the Pearson's correlations coefficient formula (r) and to get r^2 . This will identify the strength of the relationship between the life expectancy and GDP per capita. Furthermore, by plotting a scatter graph one can see that if the graph is more towards +1, -1 or 0. We cannot say what strong or weak correlation is because everyone describes it differently. Hence, we can only measure the degree of correlation in terms of a numerical value. We will then test the significance of the value based on our selected data.

Background information

Systemic

Information/Measurement

	x	Y Life expectancy	xy	x^2	y^2
Countries	GDP per capita (PPP)				
▲Afghanistan	800	43.8	35040	640000	1918.44
▲Algeria	7,000	72.3	506100	49000000	5227.29
▲Andorra	42,500	82.67	3513475	1806250000	6834.3289
▲Anguilla	8,800	77.46	681648	77440000	6000.0516
▲Argentina	14,200	75.3	1069260	201640000	5670.09
▲Aruba	21,800	74.2	1617560	475240000	5505.64
▲Austria	39,200	79.21	3105032	1536640000	6274.2241
Bahamas, The	28,600	65.66	1877876	817960000	4311.2356
Bangladesh	1,500	62.84	94260	2250000	3948.8656
Belarus	11,800	70.05	826590	139240000	4907.0025
Belize	8,600	68.25	586950	73960000	4658.0625
Bermuda	69,900	78.13	5461287	4886010000	6104.2969
Bolivia	4,500	66.19	297855	20250000	4381.1161
Botswana	13,300	50.58	672714	176890000	2558.3364
British Virgin Islands	38,500	76.86	2959110	1482250000	5907.4596
Bulgaria	12,900	72.57	936153	166410000	5266.4049
Burma	1,200	62.49	74988	1440000	3905.0001
Cambodia	2,000	59.7	119400	4000000	3564.09
Canada	34,300	80.34	2755662	1176490000	6454.5156
Cayman Islands	43,800	80.44	3523272	1918440000	6470.5936
Chad	1,600	47.2	75520	2560000	2227.84
China	6,000	72.8	436800	36000000	5299.84
Comoros	1,000	62.73	62730	1000000	3935.0529
Congo, Republic	4,000	53.74	214960	16000000	2887.9876

of the					
Costa Rica	11,600	78.8	914080	134560000	6209.44
Croatia	16,100	74.9	1205890	259210000	5610.01
Cyprus	28,600	77.98	2230228	817960000	6080.8804
Denmark	37,400	78.3	2928420	1398760000	6130.89
Dominica	9,900	73.07	723393	98010000	5339.2249
Ecuador	7,500	75	562500	56250000	5625
El Salvador	6,200	71.9	445780	38440000	5169.61
Eritrea	700	59.55	41685	490000	3546.2025
Ethiopia	800	49.23	39384	640000	2423.5929
Falkland Islands	35,400	78.3	2771820	1253160000	6130.89
Fiji	3,900	70.12	273468	15210000	4916.8144
France	32,700	80.89	2645103	1069290000	6543.1921
Gabon	14,400	53.99	777456	207360000	2914.9201
Gaza Strip	2,900	73.16	212164	8410000	5352.3856
Germany	34,800	78.93	2746764	1211040000	6229.9449
Gibraltar	38,200	80.9	3090380	1459240000	6544.81
Greenland	20,000	70.23	1404600	400000000	4932.2529
Guam	15,000	75.5	1132500	225000000	5700.25
Guernsey	44,600	80.42	3586732	1989160000	6467.3764
Guinea-Bissan	600	47.18	28308	360000	2225.9524
Haiti	1,300	57.03	74139	1690000	3252.4209
Hong Kong	43,800	81.77	3581526	1918440000	6686.3329
Iceland	39,900	80.43	3209157	1592010000	6468.9849
Indonesia	3,900	70.7	275730	15210000	4998.49
Iraq	4,000	69.31	277240	16000000	4803.8761
Isle of Man	35,000	78.49	2747150	1225000000	6160.6801
Italy	31,000	79.94	2478140	961000000	6390.4036
Japan	34,200	82.07	2806794	1169640000	6735.4849
Jordan	5,000	78.55	392750	25000000	6170.1025
Kenya	1,600	55.31	88496	2560000	3059.1961
Korea, North	1,700	71.92	122264	2890000	5172.4864
Kosovo	2,300	64.77	148971	5290000	4195.1529
Kyrgyzstan	2,100	68.81	144501	4410000	4734.8161
Latvia	17,800	71.6	1274480	316840000	5126.56
Lesotho	1,600	39.97	63952	2560000	1597.6009
Libya	14,400	74	1065600	207360000	5476
Lithuania	17,700	74.44	1317588	313290000	5541.3136
Macan	30,000	80.7	2421000	900000000	6512.49
Madagascar	1,000	62.14	62140	1000000	3861.3796
Malaysia	15,300	72.76	1113228	234090000	5294.0176
Mali	1,200	54.5	65400	1440000	2970.25
Marshall Islands	2,500	70.61	176525	6250000	4985.7721

Mauritius	12,100	72.88	881848	146410000	5311.4944
Mexico	14,200	76.2	1082040	201640000	5806.44
Moldova	2,500	70.2	175500	6250000	4928.04
Mongolia	3,200	66.99	214368	10240000	4487.6601
Montserrat	3,400	72.6	246840	11560000	5270.76
Mozambique	900	40.9	36810	810000	1672.81
Nauru	5,000	63.44	317200	25000000	4024.6336
Netherland	40,300	79.11	3188133	1624090000	6258.3921
New Caledonia	15,000	72.27	1084050	225000000	5222.9529
Nicaragua	2,900	70.92	205668	8410000	5029.6464
Nigeria	2,300	46.9	107870	5290000	2199.61
Northern Mariana Islands	12,500	76.29	953625	156250000	5820.1641
Oman	20,200	73.62	1487124	408040000	5419.9044
Palau	8,100	70.71	572751	65610000	4999.9041
Papua New Guinea	2,200	65.66	144452	4840000	4311.2356
Peru	8,400	70.14	589176	70560000	4919.6196
Poland	17,300	75.6	1307880	299290000	5715.36
Puerto Rico	17,800	78.54	1398012	316840000	6168.5316
Romania	12,200	71.91	877302	148840000	5171.0481
Rwanda	900	46.2	41580	810000	2134.44
Saint Kitts and Nevis	19,700	72.66	1431402	388090000	5279.4756
Saint Pierre and Miquelon	7,000	78.98	552860	49000000	6237.8404
Samoa	4,900	71.3	349370	24010000	5083.69
Sao Tome and Principe	1,300	67.64	87932	1690000	4575.1696
Senegal	1,600	56.69	90704	2560000	3213.7561
Seychelles	17,000	72.34	1229780	289000000	5233.0756
Singapore	52,000	81.89	4258280	2704000000	6705.9721
Slovenia	29,500	76.53	2257635	870250000	5856.8409
Somalia	600	48.84	29304	360000	2385.3456
Spain	34,600	79.78	2760388	1197160000	6364.8484
Sudan	2,200	49.11	108042	4840000	2411.7921
Swaziland	5,100	32.23	164373	26010000	1038.7729
Switzerland	40,900	80.62	3297358	1672810000	6499.5844
Taiwan	31,900	77.5	2472250	1017610000	6006.25
Tanzania	1,300	50.71	65923	1690000	2571.5041
Timor-leste	2,400	63.5	152400	5760000	4032.25
Tokelau	1,000	69	69000	1000000	4761
Trinidad and Tobago	18,600	75.98	1413228	345960000	5772.9604

Turkey	12,000	72.88	874560	144000000	5311.4944
Turks and Caicos Island	11,500	74.95	861925	132250000	5617.5025
Uganda	1,100	51.75	56925	1210000	2678.0625
United Arab Emirates	40,000	75.69	3027600	1600000000	5728.9761
United States of America	47,000	78.06	3668820	2209000000	6093.3636
Uzbekistan	2,600	64.98	168948	6760000	4222.4004
Venezuela	13,500	73.7	994950	182250000	5431.69
Virgin Islands	14,500	76.86	1114470	210250000	5907.4596
West Bank	2,900	73.46	213034	8410000	5396.3716
Yemen	2,400	62.5	150000	5760000	3906.25
Zimbabwe	200	39.5	7900	40000	1560.25
Total=	1707100	7914.39	130013258	51470030000	559261.8111

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}}$$

$$\sum (x_i - \bar{x})(y_i - \bar{y}) = \sum x_i y_i - \sum x_i \bar{y} - \sum y_i \bar{x} + \sum \bar{x} \bar{y}$$

$\sum (x_i - \bar{x})(y_i - \bar{y})$ is known as the covariance of X and Y.

$$\sum (x_i - \bar{x})^2 =$$

$$\sum (x_i - \bar{x})^2 =$$

$$\sum (x_i - \bar{x})^2 =$$

$$\sum (x_i - \bar{x})^2 =$$

$\sum (x_i - \bar{x})^2$ is called the standard deviation of X.

$$\sum (x_i - \bar{x})^2 =$$

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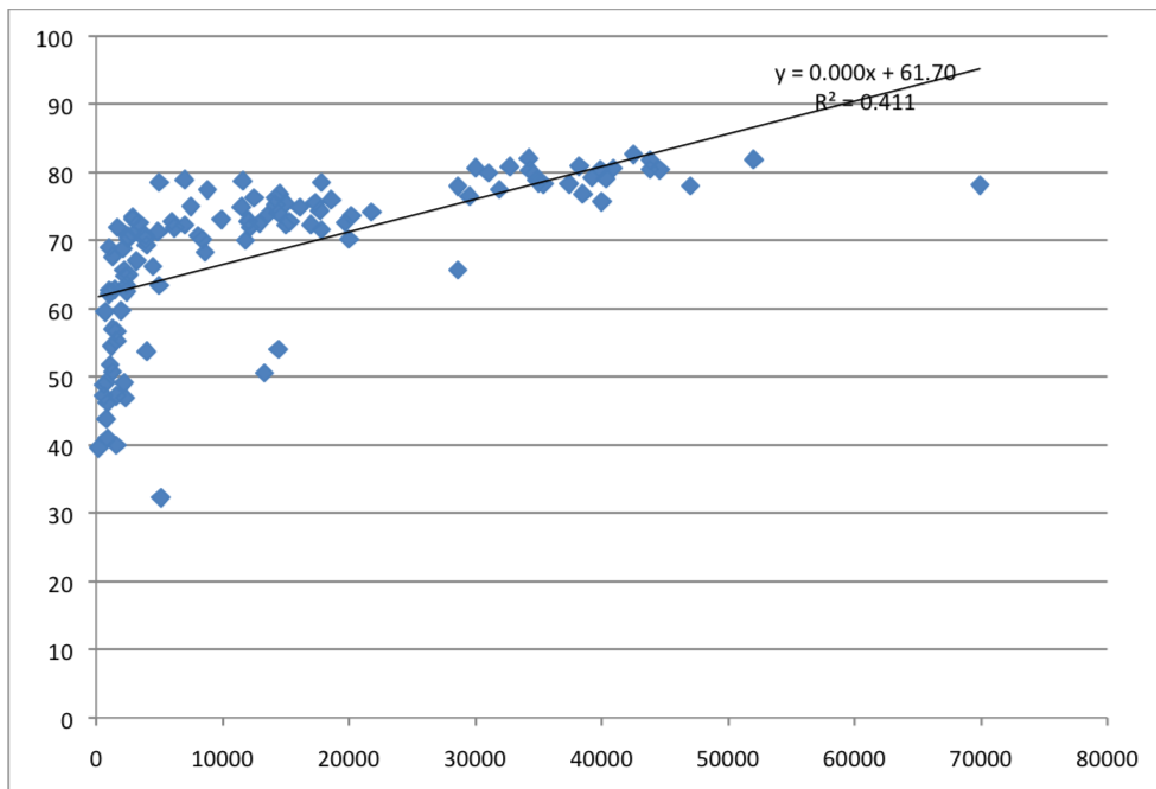
So, $r =$
 $,130013258 - ,1707100.(7914.39) - 115. - ,51470$
 $030000 - , (1707100) - 2. - 115. , -559261.8111 - , ($
 $7914.39) - 2. - 115...$

$$= ,12529300.01 - 161645.4262 \times 120.7778847.$$

$$= ,12529300.01 - 19523192.65.$$

$$= 0.6417649118$$

$$, \square - 2. = 0.4119$$



Interpretation of Results

Possible explanation for outliers (errors)

Correlation does not mean that there is a relation in GDP per capita to life expectancy because countries with low life expectancy are usually with some form of crisis. One would rarely see these in the higher life expectancy countries. Therefore, outliers are from the developing countries that are not only low in GDP but also other factors affecting it, such as war, disease, 'brain drain', economy crisis and so on. Even though the low GDP may be a contributing factor to the problem mentioned the impact that these crisis have on the countries are more pronounced in the life expectancy compared to GDP alone.

This form of GDP is used because... overall life expectancy rather than life expectancy at birth is used because...

One can see that the outliers of life expectancy 30-50 years old are usually from the developing countries such as Afghanistan, Zimbabwe, Rwanda, Ethiopia, Namibia, Niger, Nigeria and South Africa are of some trouble. For example,

Since the late 1970s Afghanistan has suffered continuous and brutal [civil war](#) in addition to foreign interventions in the form of the 1979 [Soviet invasion](#) and the 2001 [U.S.-led invasion](#) that toppled the [Taliban](#) government.

Following the [September 11 attacks](#) the United States launched [Operation Enduring Freedom](#), a military campaign to destroy the Al-Qaeda terrorist training camps inside Afghanistan.

Zimbabwe is experiencing a severe hard-currency shortage, which has led to [hyperinflation](#).

In 2002, Zimbabwe was suspended from the [Commonwealth of Nations](#) on charges of [human rights](#) abuses during the land redistribution and of [election tampering](#).

Zimbabwe's current economic and food crisis, described by some observers as the country's worst humanitarian crisis since independence, has been attributed in varying degrees, to the government's price controls and land confiscations, the [HIV/AIDS](#) epidemic, and a drought affecting the entire region.

Ethiopia has one of the fastest growing economies in the world, according to ~~the~~ ~~World Bank~~. Ethiopia has showed a fast growing annual GDP and it was the fastest growing non-oil dependent African nation in 2007 and 2008.

Although the bloody border war between Ethiopia and Eritrea (1998-2000) and food crisis.

Nigeria

The Nigerian health care system is continuously faced with a shortage of doctors known as '[brain drain](#)' due to the fact that many highly skilled Nigerian doctors emigrate to North America and Europe. In 1995, It was estimated that 21,000 Nigerian doctors were practicing in the United States alone, which about the same as the number of doctors working in the Nigerian public service. Retaining these expensively-trained professionals has been identified as one of the goals of the government.

Swaziland

Like many subsaharan African countries Swaziland is severely affected by the HIV and AIDS pandemic. In 2004, Swaziland acknowledged for the first time that it suffered an AIDS crisis, with 38.8% of tested pregnant women infected with HIV (see [AIDS in Africa](#)). Prime Minister [Themba Dlamini](#) declared a humanitarian crisis due to the combined effect of drought, land degradation, increased poverty, and HIV/AIDS.

Sudan

clashes occurred in the western region of [Darfur](#) in the early 1970s between the [pastoral](#) tribes.

In July 2007, many parts of the country were devastated by [flooding](#).

First Sudanese Civil War 1955 – 1972

Second Sudanese Civil War 1983 - 2005

Botswana

Congo, Republic of the

Gabon

Guinea-Bissau

Kenya

Lesotho

Mozambique

Somalia

Tanzania

Uganda

▲ All these countries have some form of crisis or history of crisis such as war internally or externally, "brain drain", HIV/AIDS, extreme poverty, hyperinflation, economic crisis, food crisis due to economy of natural disasters, geological location of the country being not very productive and so on.

Validity

The choice of sampling is systemic sampling because it avoids human nature of emotion and bias. Other form of sampling such as simple random sampling, stratified sampling, convenience sampling and so on are not used. When simple random sampling is used human emotions can interfere while choosing countries, although one may say they chose it in random there is always some form of bias. Furthermore, while choosing randomness of selection can result in a sample that doesn't reflect the makeup of population or unlucky error. Stratified sampling is not used because it is difficult to categorise countries based on any characteristics. Convenience sampling is not used as it is not very scientific or systematic and human emotion interference causing bias.

The assumption made is that there is a linear correlation. However, the value of r turns out to be not very strong. During the interpretation of results the weak correlation was partially explained by factors such as war, food shortage, economic crisis, epidemic of

diseases, and so on. In addition, it could well be that there is a non linear correlation instead. Furthermore, this method is extremely difficult and hence unable to test it.

Sex ratio is used to find if there is a significant difference in either population. This is to keep the result as accurate as possible although it may vary the result a little as there is some difference in gender in most countries.

Reference

<http://www.president.gov.af/>

<http://uk.oneworld.net/guides/zimbabwe/development>

<http://www.state.gov/r/pa/ei/bgn/2859.htm>

<http://www.crisisgroup.org/home/index.cfm?id=1229>

<https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html>

<http://www.gov.sz/>

Human Development Index (HDI)

HDI uses GDP as a part of its calculation and then factors in indicators of life expectancy and education levels.

http://en.wikipedia.org/wiki/Gross_domestic_product

<https://www.cia.gov/library/publications/the-world-factbook/fields/2004.html?countryCode=AF&rankAnchorRow=#AF> (GDP? per capita (PPP))

<http://unstats.un.org/unsd/demographic/products/indwm/tab3a.htm> (life expectancy)

http://www.photius.com/rankings/population/sex_ratio_total_population_2006_1.html (sex ratio)

<http://hdr.undp.org/en/statistics/faq/question.72.en.html> (why GDP per capita (PPP))

http://en.wikipedia.org/wiki/List_of_countries_by_life_expectancy

Country	GDP - per capita (PPP)
<u>Afghanistan</u>	\$800 (2008 est.) \$700 (2007 est.) \$600 (2006 est.) note: data are in 2008 US dollars
<u>Albania</u>	\$6,000 (2008 est.) \$5,700 (2007 est.) \$5,400 (2006 est.) note: data are in 2008 US dollars
<u>Algeria</u>	\$7,000 (2008 est.) \$6,900 (2007 est.) \$6,600 (2006 est.) note: data are in 2008 US dollars

[American Samoa](#)

\$8,000 (2007 est.)
\$5,800 (2005 est.)

[Andorra](#)

\$42,500 (2007)
\$38,800 (2005)

[Angola](#)

\$8,800 (2008 est.)
\$7,900 (2007 est.)
\$7,000 (2006 est.)
note: data are in 2008 US dollars

[Anguilla](#)

\$8,800 (2004 est.)

[Antigua and Barbuda](#)

\$19,000 (2008 est.)
\$18,900 (2007 est.)
\$18,000 (2006 est.)
note: data are in 2008 US dollars

[Argentina](#)

\$14,200 (2008 est.)
\$13,400 (2007 est.)
\$12,500 (2006 est.)
note: data are in 2008 US dollars

[Armenia](#)

\$6,400 (2008 est.)
\$5,900 (2007 est.)
\$5,200 (2006 est.)
note: data are in 2008 US dollars

[Aruba](#)

\$21,800 (2004 est.)

[Australia](#)

\$38,100 (2008 est.)
\$37,700 (2007 est.)
\$36,800 (2006 est.)
note: data are in 2008 US dollars

[Austria](#)

\$39,200 (2008 est.)
\$39,500 (2007 est.)
\$38,300 (2006 est.)
note: data are in 2008 US dollars

[Azerbaijan](#)

\$9,000 (2008 est.)
\$8,100 (2007 est.)
\$6,600 (2006 est.)
note: data are in 2008 US dollars

[Bahamas, The](#)

\$28,600 (2008 est.)
\$28,300 (2007 est.)

\$27,700 (2006 est.)
note: data are in 2008 US dollars

[Bahrain](#)

\$37,200 (2008 est.)
 \$35,500 (2007 est.)
 \$33,300 (2006 est.)
note: data are in 2008 US dollars

[Bangladesh](#)

\$1,500 (2008 est.)
 \$1,400 (2007 est.)
 \$1,300 (2006 est.)
note: data are in 2008 US dollars

[Barbados](#)

\$19,300 (2008 est.)
 \$19,100 (2007 est.)
 \$18,500 (2006 est.)
note: data are in 2008 US dollars

[Belarus](#)

\$11,800 (2008 est.)
 \$10,700 (2007 est.)
 \$9,900 (2006 est.)
note: data are in 2008 US dollars

[Belgium](#)

\$37,500 (2008 est.)
 \$37,100 (2007 est.)
 \$36,200 (2006 est.)
note: data are in 2008 US dollars

[Belize](#)

\$8,600 (2008 est.)
 \$8,300 (2007 est.)
 \$8,400 (2006 est.)
note: data are in 2008 US dollars

[Benin](#)

\$1,500 (2008 est.)
 \$1,500 (2007 est.)
 \$1,500 (2006 est.)
note: data are in 2008 US dollars

[Bermuda](#)

\$69,900 (2004 est.)

[Bhutan](#)

\$5,600 (2008 est.)
 \$4,800 (2007 est.)
 \$4,200 (2006 est.)
note: data are in 2008 US dollars

[Bolivia](#)

\$4,500 (2008 est.)
 \$4,300 (2007 est.)
 \$4,200 (2006 est.)
note: data are in 2008 US dollars

[Bosnia and Herzegovina](#)

\$6,500 (2008 est.)
\$6,200 (2007 est.)
\$5,900 (2006 est.)
note: data are in 2008 US dollars

[Botswana](#)

\$13,300 (2008 est.)
\$13,200 (2007 est.)
\$13,000 (2006 est.)
note: data are in 2008 US dollars

[Brazil](#)

\$10,100 (2008 est.)
\$9,800 (2007 est.)
\$9,400 (2006 est.)
note: data are in 2008 US dollars

[British Virgin Islands](#)

\$38,500 (2004 est.)

[Brunei](#)

\$53,100 (2008 est.)
\$53,700 (2007 est.)
\$54,400 (2006 est.)
note: data are in 2008 US dollars

[Bulgaria](#)

\$12,900 (2008 est.)
\$12,100 (2007 est.)
\$11,300 (2006 est.)
note: data are in 2008 US dollars

[Burkina Faso](#)

\$1,200 (2008 est.)
\$1,200 (2007 est.)
\$1,100 (2006 est.)
note: data are in 2008 US dollars

[Burma](#)

\$1,200 (2008 est.)
\$1,200 (2007 est.)
\$1,100 (2006 est.)
note: data are in 2008 US dollars

[Burundi](#)

\$400 (2008 est.)
\$400 (2007 est.)
\$400 (2006 est.)
note: data are in 2008 US dollars

[Cambodia](#)

\$2,000 (2008 est.)
\$1,900 (2007 est.)
\$1,800 (2006 est.)
note: data are in 2008 US dollars

[Cameroon](#)

\$2,300 (2008 est.)
 \$2,300 (2007 est.)
 \$2,300 (2006 est.)
note: data are in 2008 US dollars

[Canada](#)

\$39,300 (2008 est.)
 \$39,400 (2007 est.)
 \$38,700 (2006 est.)
note: data are in 2008 US dollars

[Cape Verde](#)

\$3,800 (2008 est.)
 \$3,600 (2007 est.)
 \$3,400 (2006 est.)
note: data are in 2008 US dollars

[Cayman Islands](#)

\$43,800 (2004 est.)

[Central African Republic](#)

\$700 (2008 est.)
 \$700 (2007 est.)
 \$700 (2006 est.)
note: data are in 2008 US dollars

[Chad](#)

\$1,600 (2008 est.)
 \$1,600 (2007 est.)
 \$1,600 (2006 est.)
note: data are in 2008 US dollars

[Chile](#)

\$14,900 (2008 est.)
 \$14,500 (2007 est.)
 \$14,000 (2006 est.)
note: data are in 2008 US dollars

[China](#)

\$6,000 (2008 est.)
 \$5,500 (2007 est.)
 \$4,900 (2006 est.)
note: data are in 2008 US dollars

[Colombia](#)

\$8,900 (2008 est.)
 \$8,700 (2007 est.)
 \$8,200 (2006 est.)
note: data are in 2008 US dollars

[Comoros](#)

\$1,000 (2008 est.)
 \$1,000 (2007 est.)
 \$1,100 (2006 est.)
note: data are in 2008 US dollars

[Congo, Democratic Republic of the](#)

\$300 (2008 est.)

	\$300 (2007 est.) \$300 (2006 est.) note: data are in 2008 US dollars
<u>Congo, Republic of the</u>	\$4,000 (2008 est.) \$3,800 (2007 est.) \$4,000 (2006 est.) note: data are in 2008 US dollars
<u>Cook Islands</u>	\$9,100 (2005 est.)
<u>Costa Rica</u>	\$11,600 (2008 est.) \$11,400 (2007 est.) \$10,800 (2006 est.) note: data are in 2008 US dollars
<u>Cote d'Ivoire</u>	\$1,700 (2008 est.) \$1,700 (2007 est.) \$1,700 (2006 est.) note: data are in 2008 US dollars
<u>Croatia</u>	\$16,100 (2008 est.) \$15,700 (2007 est.) \$14,900 (2006 est.) note: data are in 2008 US dollars
<u>Cuba</u>	\$9,500 (2008 est.) \$9,100 (2007 est.) \$8,500 (2006 est.) note: data are in 2008 US dollars
<u>Cyprus</u>	\$28,600 (2008 est.) \$27,800 (2007 est.) \$26,700 (2006 est.) note: data are in 2008 US dollars
<u>Czech Republic</u>	\$26,100 (2008 est.) \$25,200 (2007 est.) \$23,700 (2006 est.) note: data are in 2008 US dollars
<u>Denmark</u>	\$37,400 (2008 est.) \$37,700 (2007 est.) \$37,200 (2006 est.) note: data are in 2008 US dollars
<u>Djibouti</u>	\$3,700 (2008 est.) \$3,600 (2007 est.) \$3,500 (2006 est.) note: data are in 2008 US dollars

[Dominica](#)

\$9,900 (2008 est.)
 \$9,700 (2007 est.)
 \$9,600 (2006 est.)
note: data are in 2008 US dollars

[Dominican Republic](#)

\$8,100 (2008 est.)
 \$7,900 (2007 est.)
 \$7,400 (2006 est.)
note: data are in 2008 US dollars

[Ecuador](#)

\$7,500 (2008 est.)
 \$7,200 (2007 est.)
 \$7,100 (2006 est.)
note: data are in 2008 US dollars

[Egypt](#)

\$5,400 (2008 est.)
 \$5,200 (2007 est.)
 \$4,900 (2006 est.)
note: data are in 2008 US dollars

[El Salvador](#)

\$6,200 (2008 est.)
 \$6,100 (2007 est.)
 \$6,000 (2006 est.)
note: data are in 2008 US dollars

[Equatorial Guinea](#)

\$31,400 (2008 est.)
 \$29,000 (2007 est.)
 \$27,300 (2006 est.)
note: data are in 2008 US dollars

[Eritrea](#)

\$700 (2008 est.)
 \$700 (2007 est.)
 \$700 (2006 est.)
note: data are in 2008 US dollars

[Estonia](#)

\$21,200 (2008 est.)
 \$21,800 (2007 est.)
 \$20,400 (2006 est.)
note: data are in 2008 US dollars

[Ethiopia](#)

\$800 (2008 est.)
 \$800 (2007 est.)
 \$700 (2006 est.)
note: data are in 2008 US dollars

[European Union](#)

\$33,400 (2008 est.)
 \$33,400 (2007 est.)
 \$32,600 (2006 est.)
note: data are in 2008 US dollars

[Falkland Islands \(Islas Malvinas\)](#) \$35,400 (2002 est.)

[Faroe Islands](#) \$31,000 (2001 est.)

[Fiji](#) \$3,900 (2008 est.)
\$3,900 (2007 est.)
\$4,200 (2006 est.)
note: data are in 2008 US dollars

[Finland](#) \$37,200 (2008 est.)
\$36,700 (2007 est.)
\$35,200 (2006 est.)
note: data are in 2008 US dollars

[France](#) \$32,700 (2008 est.)
\$33,300 (2007 est.)
\$32,800 (2006 est.)
note: data are in 2008 US dollars

[French Polynesia](#) \$18,000 (2004 est.)
\$17,500 (2003 est.)

[Gabon](#) \$14,400 (2008 est.)
\$14,200 (2007 est.)
\$13,700 (2006 est.)
note: data are in 2008 US dollars

[Gambia, The](#) \$1,300 (2008 est.)
\$1,300 (2007 est.)
\$1,200 (2006 est.)
note: data are in 2008 US dollars

[Gaza Strip](#) \$2,900 (2008 est.)
\$1,100 (2006 est.)
note: data are in 2008 US dollars

[Georgia](#) \$4,700 (2008 est.)
\$4,500 (2007 est.)
\$4,000 (2006 est.)
note: data are in 2008 US dollars

[Germany](#) \$34,800 (2008 est.)
\$34,900 (2007 est.)
\$34,000 (2006 est.)
note: data are in 2008 US dollars

[Ghana](#) \$1,500 (2008 est.)

	\$1,400 (2007 est.) \$1,300 (2006 est.) note: data are in 2008 US dollars
<u>Gibraltar</u>	\$38,200 (2005 est.) \$27,900 (2000 est.)
<u>Greece</u>	\$32,000 (2008 est.) \$31,200 (2007 est.) \$30,100 (2006 est.) note: data are in 2008 US dollars
<u>Greenland</u>	\$20,000 (2001 est.)
<u>Grenada</u>	\$13,400 (2008 est.) \$13,000 (2007 est.) \$12,500 (2006 est.) note: data are in 2008 US dollars
<u>Guam</u>	\$15,000 (2005 est.)
<u>Guatemala</u>	\$5,200 (2008 est.) \$5,100 (2007 est.) \$5,000 (2006 est.) note: data are in 2008 US dollars
<u>Guernsey</u>	\$44,600 (2005)
<u>Guinea</u>	\$1,100 (2008 est.) \$1,100 (2007 est.) \$1,100 (2006 est.) note: data are in 2008 US dollars
<u>Guinea-Bissau</u>	\$600 (2008 est.) \$600 (2007 est.) \$600 (2006 est.) note: data are in 2008 US dollars
<u>Guyana</u>	\$3,900 (2008 est.) \$3,700 (2007 est.) \$3,600 (2006 est.) note: data are in 2008 US dollars
<u>Haiti</u>	\$1,300 (2008 est.) \$1,300 (2007 est.) \$1,300 (2006 est.) note: data are in 2008 US dollars

[Honduras](#)

\$4,400 (2008 est.)
\$4,300 (2007 est.)
\$4,200 (2006 est.)
note: data are in 2008 US dollars

[Hong Kong](#)

\$43,800 (2008 est.)
\$42,900 (2007 est.)
\$40,600 (2006 est.)
note: data are in 2008 US dollars

[Hungary](#)

\$19,800 (2008 est.)
\$19,700 (2007 est.)
\$19,400 (2006 est.)
note: data are in 2008 US dollars

[Iceland](#)

\$39,900 (2008 est.)
\$41,700 (2007 est.)
\$40,100 (2006 est.)
note: data are in 2008 US dollars

[India](#)

\$2,800 (2008 est.)
\$2,700 (2007 est.)
\$2,500 (2006 est.)
note: data are in 2008 US dollars

[Indonesia](#)

\$3,900 (2008 est.)
\$3,700 (2007 est.)
\$3,500 (2006 est.)
note: data are in 2008 US dollars

[Iran](#)

\$12,800 (2008 est.)
\$12,100 (2007 est.)
\$11,300 (2006 est.)
note: data are in 2008 US dollars

[Iraq](#)

\$4,000 (2008 est.)
\$3,800 (2007 est.)
\$3,800 (2006 est.)
note: data are in 2008 US dollars

[Ireland](#)

\$46,200 (2008 est.)
\$47,500 (2007 est.)
\$45,300 (2006 est.)
note: data are in 2008 US dollars

[Isle of Man](#)

\$35,000 (2005 est.)

[Israel](#)

\$28,200 (2008 est.)
\$27,600 (2007 est.)
\$26,700 (2006 est.)

	note: data are in 2008 US dollars
<u>Italy</u>	\$31,000 (2008 est.) \$31,500 (2007 est.) \$31,100 (2006 est.) note: data are in 2008 US dollars
<u>Jamaica</u>	\$7,400 (2008 est.) \$7,500 (2007 est.) \$7,500 (2006 est.) note: data are in 2008 US dollars
<u>Japan</u>	\$34,200 (2008 est.) \$34,300 (2007 est.) \$33,400 (2006 est.) note: data are in 2008 US dollars
<u>Jersey</u>	\$57,000 (2005 est.)
<u>Jordan</u>	\$5,000 (2008 est.) \$4,800 (2007 est.) \$4,600 (2006 est.) note: data are in 2008 US dollars
<u>Kazakhstan</u>	\$11,500 (2008 est.) \$11,200 (2007 est.) \$10,400 (2006 est.) note: data are in 2008 US dollars
<u>Kenya</u>	\$1,600 (2008 est.) \$1,600 (2007 est.) \$1,600 (2006 est.) note: data are in 2008 US dollars
<u>Kiribati</u>	\$3,200 (2008 est.) \$3,200 (2007 est.) \$3,200 (2006 est.) note: data are in 2008 US dollars
<u>Korea, North</u>	\$1,700 (2008 est.) note: data are in 2008 US dollars
<u>Korea, South</u>	\$26,000 (2008 est.) \$25,500 (2007 est.) \$24,400 (2006 est.) note: data are in 2008 US dollars
<u>Kosovo</u>	\$2,300 (2007 est.)

[Kuwait](#)

\$57,400 (2008 est.)
 \$54,800 (2007 est.)
 \$54,300 (2006 est.)
note: data are in 2008 US dollars

[Kyrgyzstan](#)

\$2,100 (2008 est.)
 \$2,000 (2007 est.)
 \$1,900 (2006 est.)
note: data are in 2008 US dollars

[Laos](#)

\$2,100 (2008 est.)
 \$2,000 (2007 est.)
 \$1,900 (2006 est.)
note: data are in 2008 US dollars

[Latvia](#)

\$17,800 (2008 est.)
 \$18,100 (2007 est.)
 \$16,300 (2006 est.)
note: data are in 2008 US dollars

[Lebanon](#)

\$11,100 (2008 est.)
 \$10,600 (2007 est.)
 \$10,300 (2006 est.)
note: data are in 2008 US dollars

[Lesotho](#)

\$1,600 (2008 est.)
 \$1,500 (2007 est.)
 \$1,400 (2006 est.)
note: data are in 2008 US dollars

[Liberia](#)

\$500 (2008 est.)
 \$400 (2007 est.)
 \$400 (2006 est.)
note: data are in 2008 US dollars

[Libya](#)

\$14,400 (2008 est.)
 \$13,800 (2007 est.)
 \$13,300 (2006 est.)
note: data are in 2008 US dollars

[Liechtenstein](#)

\$118,000 (2007 est.)

[Lithuania](#)

\$17,700 (2008 est.)
 \$17,100 (2007 est.)
 \$15,700 (2006 est.)
note: data are in 2008 US dollars

[Luxembourg](#)

\$81,100 (2008 est.)

	\$81,600 (2007 est.) \$79,100 (2006 est.) note: data are in 2008 US dollars
<u>Macau</u>	\$30,000 (2007) \$28,400 (2006)
<u>Macedonia</u>	\$9,000 (2008 est.) \$8,600 (2007 est.) \$8,200 (2006 est.) note: data are in 2008 US dollars
<u>Madagascar</u>	\$1,000 (2008 est.) \$1,000 (2007 est.) \$1,000 (2006 est.) note: data are in 2008 US dollars
<u>Malawi</u>	\$800 (2008 est.) \$800 (2007 est.) \$800 (2006 est.) note: data are in 2008 US dollars
<u>Malaysia</u>	\$15,300 (2008 est.) \$14,800 (2007 est.) \$14,200 (2006 est.) note: data are in 2008 US dollars
<u>Maldives</u>	\$5,000 (2008 est.) \$4,500 (2007 est.) \$4,400 (2006 est.) note: data are in 2008 US dollars
<u>Mali</u>	\$1,200 (2008 est.) \$1,200 (2007 est.) \$1,200 (2006 est.) note: data are in 2008 US dollars
<u>Malta</u>	\$24,200 (2008 est.) \$24,100 (2007 est.) \$23,300 (2006 est.) note: data are in 2008 US dollars
<u>Marshall Islands</u>	\$2,500 (2008 est.) \$2,900 (2005 est.) note: data are in 2008 US dollars
<u>Mauritania</u>	\$2,100 (2008 est.) \$2,000 (2007 est.) \$2,100 (2006 est.) note: data are in 2008 US dollars

[Mauritius](#) \$12,100 (2008 est.)
\$11,600 (2007 est.)
\$11,100 (2006 est.)
note: data are in 2008 US dollars

[Mayotte](#) \$4,900 (2005 est.)

[Mexico](#) \$14,200 (2008 est.)
\$14,100 (2007 est.)
\$13,900 (2006 est.)
note: data are in 2008 US dollars

[Micronesia, Federated States of](#) \$2,200 (2008 est.)
\$2,300 (2005 est.)
note: data are in 2008 US dollars

[Moldova](#) \$2,500 (2008 est.)
\$2,300 (2007 est.)
\$2,200 (2006 est.)
note: data are in 2008 US dollars

[Monaco](#) \$30,000 (2006 est.)

[Mongolia](#) \$3,200 (2008 est.)
\$2,900 (2007 est.)
\$2,700 (2006 est.)
note: data are in 2008 US dollars

[Montenegro](#) \$9,700 (2008 est.)
\$9,100 (2007 est.)
\$8,400 (2006 est.)
note: data are in 2008 US dollars

[Montserrat](#) \$3,400 (2002 est.)

[Morocco](#) \$4,000 (2008 est.)
\$3,800 (2007 est.)
\$3,800 (2006 est.)
note: data are in 2008 US dollars

[Mozambique](#) \$900 (2008 est.)
\$900 (2007 est.)
\$800 (2006 est.)
note: data are in 2008 US dollars

[Namibia](#) \$5,400 (2008 est.)
\$5,300 (2007 est.)

	\$5,100 (2006 est.) note: data are in 2008 US dollars
Nauru	\$5,000 (2005 est.)
Nepal	\$1,100 (2008 est.) \$1,100 (2007 est.) \$1,000 (2006 est.) note: data are in 2008 US dollars
Netherlands	\$40,300 (2008 est.) \$39,700 (2007 est.) \$38,600 (2006 est.) note: data are in 2008 US dollars
Netherlands Antilles	\$16,000 (2004 est.)
New Caledonia	\$15,000 (2003 est.)
New Zealand	\$27,900 (2008 est.) \$28,200 (2007 est.) \$27,600 (2006 est.) note: data are in 2008 US dollars
Nicaragua	\$2,900 (2008 est.) \$2,900 (2007 est.) \$2,800 (2006 est.) note: data are in 2008 US dollars
Niger	\$700 (2008 est.) \$600 (2007 est.) \$700 (2006 est.) note: data are in 2008 US dollars
Nigeria	\$2,300 (2008 est.) \$2,200 (2007 est.) \$2,100 (2006 est.) note: data are in 2008 US dollars
Niue	\$5,800 (2003 est.)
Northern Mariana Islands	\$12,500 (2000 est.)
Norway	\$55,200 (2008 est.) \$54,400 (2007 est.) \$52,700 (2006 est.) note: data are in 2008 US dollars

[Oman](#) \$20,200 (2008 est.)
\$19,600 (2007 est.)
\$19,200 (2006 est.)
note: data are in 2008 US dollars

[Pakistan](#) \$2,600 (2008 est.)
\$2,500 (2007 est.)
\$2,400 (2006 est.)
note: data are in 2008 US dollars

[Palau](#) \$8,100 (2008 est.)
\$7,600 (2005 est.)
note: data are in 2008 US dollars

[Panama](#) \$11,600 (2008 est.)
\$10,900 (2007 est.)
\$10,000 (2006 est.)
note: data are in 2008 US dollars

[Papua New Guinea](#) \$2,200 (2008 est.)
\$2,200 (2007 est.)
\$2,100 (2006 est.)
note: data are in 2008 US dollars

[Paraguay](#) \$4,200 (2008 est.)
\$4,100 (2007 est.)
\$3,900 (2006 est.)
note: data are in 2008 US dollars

[Peru](#) \$8,400 (2008 est.)
\$7,800 (2007 est.)
\$7,300 (2006 est.)
note: data are in 2008 US dollars

[Philippines](#) \$3,300 (2008 est.)
\$3,300 (2007 est.)
\$3,100 (2006 est.)
note: data are in 2008 US dollars

[Poland](#) \$17,300 (2008 est.)
\$16,500 (2007 est.)
\$15,500 (2006 est.)
note: data are in 2008 US dollars

[Portugal](#) \$22,000 (2008 est.)
\$22,300 (2007 est.)
\$21,900 (2006 est.)
note: data are in 2008 US dollars

[Puerto Rico](#) \$17,800 (2008 est.)
\$18,300 (2007 est.)
\$18,700 (2006 est.)
note: data are in 2008 US dollars

[Qatar](#) \$103,500 (2008 est.)
\$94,200 (2007 est.)
\$85,800 (2006 est.)
note: data are in 2008 US dollars

[Romania](#) \$12,200 (2008 est.)
\$11,300 (2007 est.)
\$10,700 (2006 est.)
note: data are in 2008 US dollars

[Russia](#) \$15,800 (2008 est.)
\$15,200 (2007 est.)
\$14,000 (2006 est.)
note: data are in 2008 US dollars

[Rwanda](#) \$900 (2008 est.)
\$900 (2007 est.)
\$800 (2006 est.)
note: data are in 2008 US dollars

[Saint Helena](#) \$2,500 (1998 est.)

[Saint Kitts and Nevis](#) \$19,700 (2008 est.)
\$19,200 (2007 est.)
\$18,700 (2006 est.)
note: data are in 2008 US dollars

[Saint Lucia](#) \$11,300 (2008 est.)
\$11,100 (2007 est.)
\$11,000 (2006 est.)
note: data are in 2008 US dollars

[Saint Pierre and Miquelon](#) \$7,000 (2001 est.)

[Saint Vincent and the Grenadines](#) \$10,500 (2008 est.)
\$10,000 (2007 est.)
\$9,300 (2006 est.)
note: data are in 2008 US dollars

[Samoa](#) \$4,900 (2008 est.)
\$4,800 (2007 est.)
\$4,700 (2006 est.)
note: data are in 2008 US dollars

<u>San Marino</u>	\$41,900 (2007)
<u>Sao Tome and Principe</u>	\$1,300 (2008 est.) \$1,300 (2007 est.) \$1,300 (2006 est.) note: data are in 2008 US dollars
<u>Saudi Arabia</u>	\$20,700 (2008 est.) \$20,100 (2007 est.) \$19,800 (2006 est.) note: data are in 2008 US dollars
<u>Senegal</u>	\$1,600 (2008 est.) \$1,600 (2007 est.) \$1,600 (2006 est.) note: data are in 2008 US dollars
<u>Serbia</u>	\$10,900 (2008 est.) \$10,300 (2007 est.) \$9,500 (2006 est.) note: data are in 2008 US dollars
<u>Seychelles</u>	\$17,000 (2008 est.) \$16,700 (2007 est.) \$15,700 (2006 est.) note: data are in 2008 US dollars
<u>Sierra Leone</u>	\$700 (2008 est.) \$700 (2007 est.) \$600 (2006 est.) note: data are in 2008 US dollars
<u>Singapore</u>	\$52,000 (2008 est.) \$51,200 (2007 est.) \$48,200 (2006 est.) note: data are in 2008 US dollars
<u>Slovakia</u>	\$21,900 (2008 est.) \$20,600 (2007 est.) \$18,700 (2006 est.) note: data are in 2008 US dollars
<u>Slovenia</u>	\$29,500 (2008 est.) \$28,200 (2007 est.) \$26,400 (2006 est.) note: data are in 2008 US dollars
<u>Solomon Islands</u>	\$1,900 (2008 est.) \$1,800 (2007 est.) \$1,600 (2006 est.)

	note: data are in 2008 US dollars
<u>Somalia</u>	\$600 (2008 est.) \$600 (2007 est.) \$600 (2006 est.) note: data are in 2008 US dollars
<u>South Africa</u>	\$10,000 (2008 est.) \$9,800 (2007 est.) \$9,500 (2006 est.) note: data are in 2008 US dollars
<u>Spain</u>	\$34,600 (2008 est.) \$34,300 (2007 est.) \$33,100 (2006 est.) note: data are in 2008 US dollars
<u>Sri Lanka</u>	\$4,300 (2008 est.) \$4,100 (2007 est.) \$3,900 (2006 est.) note: data are in 2008 US dollars
<u>Sudan</u>	\$2,200 (2008 est.) \$2,100 (2007 est.) \$1,900 (2006 est.) note: data are in 2008 US dollars
<u>Suriname</u>	\$8,900 (2008 est.) \$8,500 (2007 est.) \$8,200 (2006 est.) note: data are in 2008 US dollars
<u>Swaziland</u>	\$5,100 (2008 est.) \$4,900 (2007 est.) \$4,700 (2006 est.) note: data are in 2008 US dollars
<u>Sweden</u>	\$38,500 (2008 est.) \$38,300 (2007 est.) \$37,400 (2006 est.) note: data are in 2008 US dollars
<u>Switzerland</u>	\$40,900 (2008 est.) \$41,000 (2007 est.) \$39,900 (2006 est.) note: data are in 2008 US dollars
<u>Syria</u>	\$4,800 (2008 est.) \$4,700 (2007 est.) \$4,600 (2006 est.)

	note: data are in 2008 US dollars
<u>Taiwan</u>	\$31,900 (2008 est.) \$31,100 (2007 est.) \$29,500 (2006 est.) note: data are in 2008 US dollars
<u>Tajikistan</u>	\$2,100 (2008 est.) \$1,700 (2007 est.) \$1,600 (2006 est.) note: data are in 2008 US dollars
<u>Tanzania</u>	\$1,300 (2008 est.) \$1,300 (2007 est.) \$1,200 (2006 est.) note: data are in 2008 US dollars
<u>Thailand</u>	\$8,500 (2008 est.) \$8,200 (2007 est.) \$7,900 (2006 est.) note: data are in 2008 US dollars
<u>Timor-Leste</u>	\$2,400 (2008 est.) \$2,400 (2007 est.) \$2,100 (2006 est.) note: data are in 2008 US dollars
<u>Togo</u>	\$900 (2008 est.) \$900 (2007 est.) \$900 (2006 est.) note: data are in 2008 US dollars
<u>Tokelau</u>	\$1,000 (1993 est.)
<u>Tonga</u>	\$4,600 (2008 est.) \$4,600 (2007 est.) \$4,700 (2006 est.) note: data are in 2008 US dollars
<u>Trinidad and Tobago</u>	\$18,600 (2008 est.) \$22,700 (2007 est.) \$21,500 (2006 est.) note: data are in 2008 US dollars
<u>Tunisia</u>	\$7,900 (2008 est.) \$7,600 (2007 est.) \$7,200 (2006 est.) note: data are in 2008 US dollars

[Turkey](#) \$12,000 (2008 est.)
\$11,900 (2007 est.)
\$11,600 (2006 est.)
note: data are in 2008 US dollars

[Turkmenistan](#) \$6,100 (2008 est.)
\$5,600 (2007 est.)
\$5,100 (2006 est.)
note: data are in 2008 US dollars

[Turks and Caicos Islands](#) \$11,500 (2002 est.)

[Tuvalu](#) \$1,600 (2002 est.)

[Uganda](#) \$1,100 (2008 est.)
\$1,100 (2007 est.)
\$1,100 (2006 est.)
note: data are in 2008 US dollars

[Ukraine](#) \$6,900 (2008 est.)
\$7,100 (2007 est.)
\$6,600 (2006 est.)
note: data are in 2008 US dollars

[United Arab Emirates](#) \$40,000 (2008 est.)
\$38,600 (2007 est.)
\$37,300 (2006 est.)
note: data are in 2008 US dollars

[United Kingdom](#) \$36,600 (2008 est.)
\$36,500 (2007 est.)
\$35,500 (2006 est.)
note: data are in 2008 US dollars

[United States](#) \$47,000 (2008 est.)
\$46,800 (2007 est.)
\$46,300 (2006 est.)
note: data are in 2008 US dollars

[Uruguay](#) \$12,200 (2008 est.)
\$11,100 (2007 est.)
\$10,400 (2006 est.)
note: data are in 2008 US dollars

[Uzbekistan](#) \$2,600 (2008 est.)
\$2,400 (2007 est.)
\$2,200 (2006 est.)
note: data are in 2008 US dollars

<u>Vanuatu</u>	\$4,600 (2008 est.) \$4,400 (2007 est.) \$4,200 (2006 est.) note: data are in 2008 US dollars
<u>Venezuela</u>	\$13,500 (2008 est.) \$13,100 (2007 est.) \$12,300 (2006 est.) note: data are in 2008 US dollars
<u>Vietnam</u>	\$2,800 (2008 est.) \$2,700 (2007 est.) \$2,500 (2006 est.) note: data are in 2008 US dollars
<u>Virgin Islands</u>	\$14,500 (2004 est.)
<u>Wallis and Futuna</u>	\$3,800 (2004 est.)
<u>West Bank</u>	\$2,900 (2008 est.) note: data are in 2008 US dollars
<u>Western Sahara</u>	\$2,500 (2007 est.)
<u>Yemen</u>	\$2,400 (2008 est.) \$2,400 (2007 est.) \$2,400 (2006 est.) note: data are in 2008 US dollars
<u>Zambia</u>	\$1,500 (2008 est.) \$1,400 (2007 est.) \$1,400 (2006 est.) note: data are in 2008 US dollars
<u>Zimbabwe</u>	\$200 (2008 est.) \$200 (2007 est.) \$200 (2006 est.) note: data are in 2008 US dollars

