

It is a politically charged topic – taxes.

With certain elected officials arguing that now is the time to start increasing taxes on the middle and upper classes, it's probably useful to look at how higher taxes on the rich might affect the price of gold and other precious metals.

As a couple of examples of the renewed interest in taxing the rich, consider recent actions in Switzerland and the United States.

In Switzerland, elected officials started imposing a 1% levy on individuals with earnings over €250,000 to cover benefits for the unemployed.

In the United States, elected officials increased capital gains and personal income tax rates from a low of 15% to as high as 39% for individuals earning over \$400,000 per year.

These two examples, of course, only capture a sliver of the renewed interest in increased taxation.

How has the price of gold reacted to periods of increased government taxes?

The following has a short geographic and time-series look.

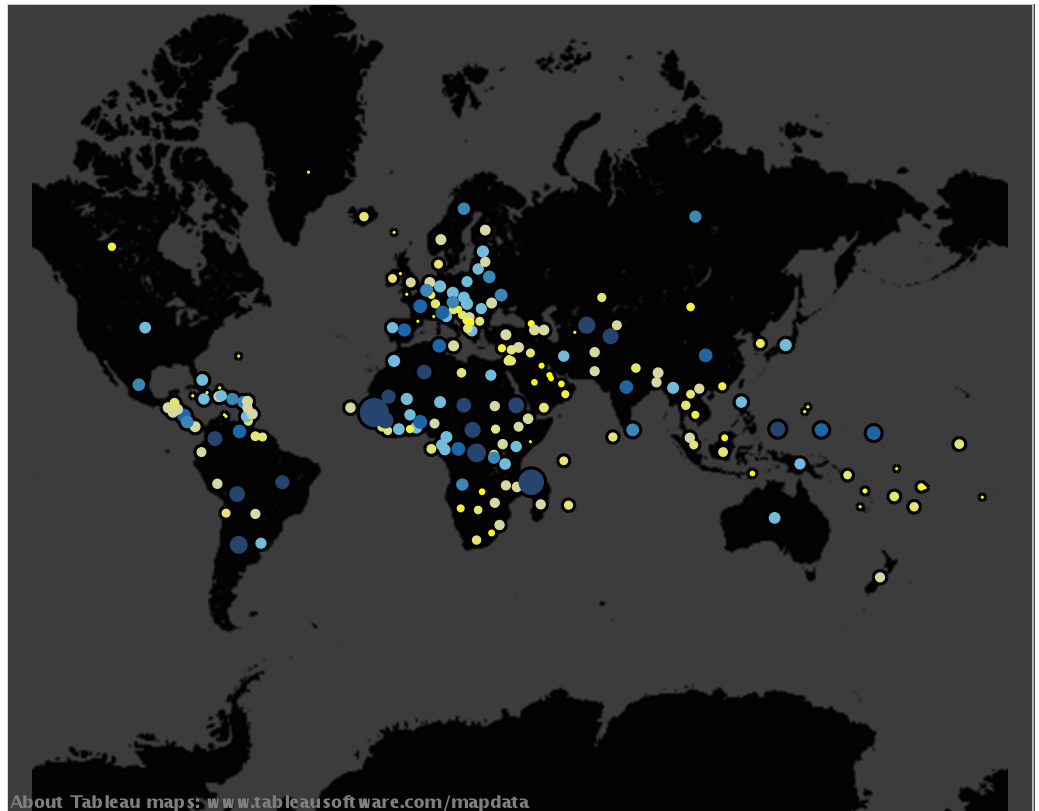
The first graph, to the right, is a geographic plot of the World Bank's total tax rate as a percentage of commercial profit indicator. The indicator starts in 2005 and ends in 2013.

Interestingly, northern African countries, most of the EU, the U.S., and around half of the South American countries impose high tax rates.

In contrast, many Arab countries, southern African countries, Canada, some EU countries, and many island countries impose low tax rates.

(As a note: for interested readers, a table of the tax rates from 2005 to 2013 across time is available at the end of this article.)

**Geographic Look at Tax Rates as % of Commercial Profits - 2013**



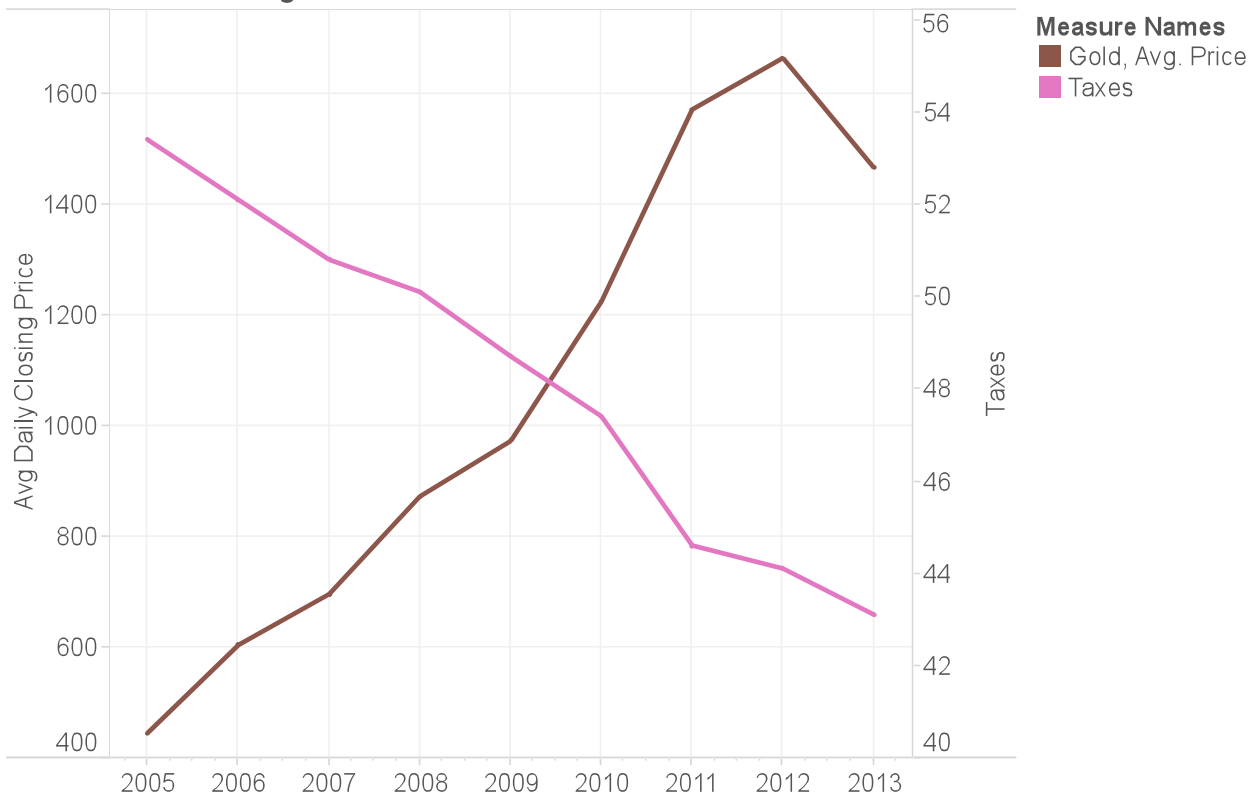
About Tableau maps: [www.tableausoftware.com/mapdata](http://www.tableausoftware.com/mapdata)

Source: World Bank, with plotting and analysis by Thomas Young, Ph.D.



The following chart connects the price of gold with the international average tax rate.

Price of Gold and Average Taxes on an International Basis



Sources: Kitco, World Bank, Thomas Young, Ph.D.

Perhaps surprisingly, the price of gold is generally connected with government taxes.

The correlation comes out to -0.98, meaning the two are almost perfectly negatively correlated.

If one performed a simple linear regression between the two – as just an initial look – the effect of taxes on the price of gold comes out to -118 with a statistically significant p-value of less than 0.01.

The -118 means that if the worldwide average tax rate went from 43% to say 50%, as it was seven years ago, the price of gold would drop by about 49%.

This analysis is, of course, just for fun given the complexity of the gold market, but it does address some interesting issues.

Why would there be a correlation?

Here are a couple of explanations.

First, increased taxes on the rich reduce the amount of investable cash, which, in turn, reduces the demand for gold and other precious metals.

Second, the relationship may be due to political timing, meaning that governments increase taxes after recessions and other periods of economic stress, which, coincidentally, is when individuals hedging inflation risks may be shifting into other asset classes.

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Third, a negative relationship might have to do with the timing of central bank balance sheet decisions, or more precisely, expected central bank policy decisions that affect their balance sheets.

Overall, taxing the rich may make for good politics. The practice, though, likely won't help the demand for gold and other precious metal. Instead, the political pandering may put downward pressure on the demand for the world's most popular stores of value.

Country	Year									
	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Gambia, The	286.0	292.1	292.1	292.1	292.1	292.1	283.2	283.2	283.2	
Comoros	217.9	217.9	217.9	217.9	217.9	217.9	217.9	217.9	217.9	
Congo, Dem. Rep.	286.5	286.5	288.1	288.1	292.7	339.1	339.1	339.1	118.1	
Argentina	107.5	107.6	107.6	107.6	107.6	107.6	107.7	107.8	107.8	
Uzbekistan	96.7	112.1	90.3	89.8	94.8	95.6	97.5	98.5	99.3	
Guinea	80.7	80.7	80.7	80.7	80.7	87.9	91.2	91.2	91.2	
Central African Republic	65.7	203.8	203.8	203.8	203.8	203.8	54.6	67.4	87.6	
Tajikistan	79.9	79.9	80.0	83.4	83.8	84.0	84.5	84.5	86.0	
Eritrea	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	
Bolivia	80.0	80.0	80.0	80.0	80.0	80.0	80.0	83.4	83.4	
Colombia	83.7	84.0	84.2	80.1	80.3	80.3	76.4	76.0	76.0	
Palau	72.5	72.5	72.5	72.5	72.5	72.5	72.5	75.2	75.2	
Chad	74.0	74.0	74.0	71.3	71.3	75.8	75.8	75.7	73.8	
Algeria	76.9	76.9	74.2	73.8	72.0	72.0	72.0	71.9	71.9	
Brazil	69.0	69.0	69.0	68.4	65.6	66.3	66.3	68.5	68.3	
Mauritania	94.7	94.7	94.7	85.8	85.8	68.2	68.2	68.2	68.2	
Benin	75.7	75.7	73.2	73.2	73.2	65.9	65.9	65.9	65.9	
Italy	76.8	75.4	75.4	72.5	67.7	67.7	67.7	67.7	65.8	
Nicaragua	63.5	63.5	63.5	63.2	63.2	63.2	66.9	64.9	64.9	
Marshall Islands	64.8	64.8	64.8	64.8	64.8	64.8	64.8	64.8	64.8	
France	65.1	65.0	65.0	64.5	64.8	64.8	64.7	64.7	64.7	
Congo, Rep.	64.9	64.9	64.9	65.9	65.9	66.3	65.3	64.9	63.8	
China	80.0	80.7	81.2	79.9	63.8	63.5	63.5	63.7	63.7	
India	66.6	74.0	72.7	70.3	66.0	64.9	62.9	62.8	62.8	
Tunisia	60.6	60.6	60.6	58.6	62.3	62.3	62.4	62.4	62.4	
Venezuela, RB	50.2	49.8	53.6	55.6	60.4	51.9	62.8	61.9	61.7	
Micronesia, Fed. Sts.	59.6	59.6	58.7	58.7	58.7	58.7	59.0	59.9	59.9	
Spain	61.9	61.9	62.1	60.3	57.1	56.8	38.7	38.7	58.6	
Belgium	59.5	59.3	57.3	55.2	54.5	56.7	57.0	57.6	57.5	
Costa Rica	55.2	55.2	55.2	55.2	55.2	55.3	55.3	55.3	55.3	
Sri Lanka	56.7	59.8	61.7	61.7	61.7	96.6	112.9	55.3	55.1	
Ukraine	57.3	57.0	56.6	57.2	57.2	55.5	57.1	55.4	54.9	
Belarus	137.3	137.3	120.8	117.5	99.7	80.5	62.3	60.5	54.0	

## WHAT DO TAX HIKES HAVE TO DO WITH THE PRICE OF GOLD?

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Mexico	55.7	53.1	52.3	51.5	51.0	50.5	52.7	52.5	53.7
Austria	58.2	52.4	52.4	52.4	53.4	53.2	52.3	52.4	52.4
Angola	52.1	52.1	52.1	52.1	52.1	52.1	52.1	52.1	52.1
Sweden	54.1	54.1	53.7	53.7	53.9	52.0	52.0	52.0	52.0
St. Kitts and Nevis	52.3	52.3	52.3	52.5	52.5	52.5	52.5	51.9	51.9
Burundi	279.7	279.7	279.7	279.7	279.7	154.5	51.6	51.6	51.6
Puerto Rico	57.6	57.6	57.6	60.6	60.6	63.6	63.1	50.7	50.7
Russian Federation	60.0	51.2	51.2	48.3	48.3	46.5	46.9	54.1	50.7
Hungary	56.6	55.7	55.3	56.6	56.6	54.6	52.0	49.5	49.7
Japan	52.5	52.5	52.5	55.0	55.3	47.6	48.4	49.4	49.7
Morocco	51.7	51.7	44.4	52.9	49.3	49.6	49.6	49.6	49.6
Mali	51.4	51.4	51.4	51.4	51.4	51.4	51.1	51.1	49.5
Estonia	50.3	49.1	48.4	47.9	48.1	48.6	57.6	66.4	49.4
Germany	47.7	47.4	49.0	49.4	43.9	47.0	45.6	45.9	49.4
Togo	52.5	52.5	52.6	52.6	52.5	50.3	48.9	48.9	49.4
Myanmar								52.7	48.9
Cameroon	50.6	50.8	50.8	50.4	48.8	48.8	48.8	48.8	48.8
Senegal	50.3	45.5	45.5	45.5	45.5	45.5	45.5	45.5	48.5
Czech Republic	48.8	48.2	47.7	47.7	46.4	48.0	48.1	48.1	48.1
Niger	42.3	42.3	42.4	42.3	46.5	46.5	43.8	43.8	48.0
Slovak Republic	48.7	47.3	47.3	46.5	47.5	47.4	47.6	47.1	47.2
Australia	52.1	51.1	50.1	49.9	47.6	47.5	47.3	47.2	47.0
Bahamas, The			44.9	44.9	44.9	44.9	46.6	46.6	46.6
Cote d'Ivoire	47.3	47.3	44.6	44.6	44.4	44.2	44.0	39.4	46.4
United States	45.8	47.4	46.1	46.4	46.1	46.5	46.5	46.4	46.3
Guinea-Bissau	54.2	45.9	45.9	45.9	45.9	45.9	45.9	45.9	45.9
Grenada	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3
Tanzania	43.8	43.8	43.9	44.4	44.4	44.4	44.9	44.9	44.9
Philippines	47.2	47.6	49.1	47.1	47.1	43.8	44.5	44.5	44.5
Jamaica	49.9	49.9	49.9	49.9	49.9	48.7	44.3	44.3	44.3
Kenya	49.8	49.8	49.3	49.3	49.3	49.3	49.3	44.2	44.2
Equatorial Guinea	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1
Iran, Islamic Rep.	44.2	44.2	44.2	44.2	44.2	44.1	44.1	44.1	44.1
Greece	54.0	49.5	48.9	46.7	46.7	46.7	45.9	44.1	44.0
Burkina Faso	47.5	47.6	47.6	44.5	44.9	44.8	43.5	43.5	43.9
Dominican Republic	35.5	35.8	39.5	35.2	38.4	40.1	41.2	43.4	43.5
Gabon	45.1	44.7	44.7	44.7	44.7	43.5	43.5	43.5	43.5
Lithuania	51.2	47.6	46.2	45.6	43.6	45.1	43.1	43.0	43.1
Romania	55.8	48.2	45.6	45.4	45.1	43.5	43.1	42.9	42.9
Egypt, Arab Rep.	54.3	46.4	45.1	44.0	43.0	42.6	43.6	42.6	42.6
Portugal	43.8	43.8	42.9	42.5	42.3	42.6	42.7	42.0	42.3
San Marino								42.2	42.2

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Papua New Guinea	41.6	41.5	41.5	41.5	42.1	42.1	42.1	42.1	42.1
Uruguay	71.3	71.3	71.3	43.0	41.9	41.9	41.9	41.9	41.9
Poland	43.2	43.2	43.4	45.1	42.2	40.1	39.5	39.8	41.6
Antigua and Barbuda	51.5	47.6	46.2	46.2	41.0	41.0	41.0	41.0	41.0
Malta							41	40.9	41
Guatemala	38.7	38.7	36.5	40.9	40.9	40.9	40.9	40.9	40.9
Barbados							41.1	40.8	40.8
Bhutan	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8
Norway	41.1	41.1	41.1	40.7	40.7	40.7	40.7	40.7	40.7
Panama	43.9	44.1	44.7	43.8	43.8	43.8	43.6	40.5	40.5
Haiti	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4
Moldova	48.0	45.9	42.5	42.0	31.0	30.4	30.8	30.8	40.4
Turkey	52.8	52.4	44.3	44.3	43.3	43.3	40.0	40.0	40.2
Azerbaijan	46.4	42.2	40.9	40.9	40.9	40.9	40.0	40.0	40.0
Finland	49.5	47.7	47.8	47.8	47.7	40.8	39.0	40.6	39.8
Syrian Arab Republic	43.3	43.3	43.3	39.8	39.7	39.7	39.7	39.7	39.7
Netherlands	47.7	44.6	41.8	38.2	38.5	39.4	39.6	39.2	39.3
Honduras	44.0	44.0	44.0	44.1	44.1	44.1	43.6	40.0	39.2
Armenia	36.6	36.6	38.8	38.6	38.6	38.6	38.8	38.8	38.8
St. Vincent and the Grenadines	45.0	45.0	45.0	42.6	41.0	38.7	38.7	38.7	38.7
El Salvador	34.7	34.7	34.7	34.7	34.8	34.8	34.8	34.8	38.1
Djibouti	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8
Mozambique	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5
Cabo Verde	53.1	53.1	53.1	53.1	49.7	37.5	37.9	37.2	37.2
Dominica	37.0	37.0	37.0	37.0	37.0	37.0	37.1	37.1	37.1
Serbia	35.8	35.8	35.8	34.0	34.0	34.0	34.0	34.0	36.8
Uganda	36.9	35.2	36.8	34.0	35.0	35.0	35.0	36.6	36.6
Swaziland	36.3	36.3	36.3	36.3	36.3	36.5	36.5	36.5	36.5
Peru	38.4	38.3	38.3	38.1	37.2	37.1	36.6	36.4	36.4
Afghanistan	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3
Malaysia	36.0	36.0	36.0	34.5	34.2	33.7	34.0	24.5	36.3
Sudan	49.7	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1
Latvia	36.4	36.4	36.4	36.8	37.7	37.6	37.1	35.9	35.9
Madagascar	46.9	46.5	46.5	42.6	38.4	37.7	37.1	36.4	35.8
Zimbabwe	32.3	32.3	51.4	68.4	38.2	39.1	34.3	34.5	35.3
Vietnam	39.9	39.9	39.9	39.9	39.9	32.9	40.0	34.3	35.2
Bangladesh	35.3	35.3	37.0	36.1	35.0	35.0	35.0	35.0	35.0
Paraguay	54.5	44.8	35.1	35.0	35.0	35.0	35.0	35.0	35.0
Malawi	33.4	33.4	33.0	32.2	26.3	25.9	29.0	32.4	34.9
Pakistan	43.1	41.6	40.2	28.8	30.9	30.9	34.6	34.6	34.7
New Zealand	36.6	35.4	35.5	36.0	33.2	34.7	34.4	34.0	34.6
St. Lucia	35.7	34.0	34.0	34.0	34.4	34.0	34.4	34.6	34.6

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United Kingdom	34.7	34.6	34.5	34.2	34.9	36.1	36.1	35.0	34.0
Ecuador	35.3	35.3	35.3	34.9	34.9	35.3	35.3	34.6	33.9
Nigeria	31.6	32.2	32.2	32.2	32.2	32.2	32.7	33.8	33.8
Ethiopia	30.3	30.3	30.3	30.3	30.3	30.3	30.3	32.5	33.4
Kyrgyz Republic	68.1	67.2	61.4	61.4	59.4	30.6	33.4	33.4	33.4
Belize	34.7	34.8	34.8	33.2	33.2	33.2	33.2	33.2	33.2
Yemen, Rep.	195.2	47.9	47.9	47.8	47.8	47.8	32.7	32.7	32.7
Guyana	39.0	39.0	39.0	39.0	38.8	38.8	35.9	35.9	32.5
Sao Tome and Principe	46.9	48.7	48.7	47.2	47.2	33.3	32.5	32.5	32.5
Slovenia	39.2	39.2	38.4	35.8	36.7	34.6	33.9	33.9	32.5
Sierra Leone	272.0	272.0	235.2	235.2	235.2	235.2	32.4	32.4	32.4
Indonesia	37.5	37.5	37.5	37.5	37.8	32.2	32.2	32.2	32.2
Kiribati	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8
Albania	58.2	56.5	45.9	46.2	37.0	33.1	31.5	32.0	31.7
Libya								31.6	31.6
Nepal	32.5	32.5	32.8	34.1	32.5	31.7	31.5	31.5	31.5
Fiji	41.5	41.5	41.5	41.5	41.2	39.3	38.3	37.6	31.2
Lebanon	35.4	35.4	35.4	36.0	30.2	30.2	30.2	30.2	30.2
South Africa	37.6	37.1	36.5	33.7	29.8	30.0	32.4	32.7	30.1
Iceland	26.4	26.5	26.2	25.8	24.3	26.1	29.6	30.6	29.9
Israel	39.1	38.2	35.2	33.0	31.9	31.1	30.2	29.0	29.9
Rwanda	46.8	36.9	33.5	33.4	31.0	31.0	31.0	30.8	29.9
Thailand	37.5	37.4	37.4	37.5	36.9	36.9	36.9	37.2	29.8
Tonga	27.5	27.5	27.5	27.5	27.5	25.4	25.4	25.4	29.6
Switzerland	28.8	27.6	27.9	27.8	28.7	28.8	28.9	29.1	29.1
Trinidad and Tobago	37.0	37.2	33.1	33.1	33.1	33.1	29.1	29.1	29.1
Jordan	31.1	31.1	31.1	31.1	31.1	31.2	27.7	28.1	28.9
Maldives	9.3	9.3	9.3	9.3	9.3	9.3	9.3	26.8	28.9
South Sudan								26.3	28.7
Kazakhstan	44.1	44.2	41.4	41.5	34.7	28.6	28.6	28.6	28.6
Mauritius	26.2	26.0	24.2	25.8	26.0	27.2	27.7	27.5	28.2
Korea, Rep.	35.4	31.1	30.2	32.5	31.0	28.8	28.7	29.0	27.9
Suriname	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9
Iraq	24.2	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8
Bulgaria	45.2	41.6	35.8	33.9	30.4	28.0	27.2	27.7	27.7
Chile	25.3	25.1	25.1	25.1	24.8	24.5	24.5	27.7	27.7
Singapore	27.7	23.8	23.2	27.9	27.8	25.4	27.1	27.6	27.1
Denmark	33.3	31.5	32.0	29.2	28.2	28.1	26.4	27.0	27.0
Lao PDR	35.2	35.2	35.2	33.4	32.3	32.3	31.9	31.9	26.8
Liberia		42.9	42.9	42.9	42.9	42.9	42.9	26.6	26.6
Ireland	25.3	25.3	25.3	25.4	25.5	25.3	25.4	25.5	25.7
Seychelles	48.4	48.4	48.4	46.6	44.1	44.1	32.2	25.7	25.7

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Bosnia and Herzegovina	42.8	42.7	42.8	42.8	25.9	22.2	23.7	23.7	25.5
Botswana	17.1	17.1	17.1	17.1	17.0	19.5	19.5	25.4	25.4
Solomon Islands	26.1	26.1	26.1	26.1	26.1	26.2	26.2	25.3	24.9
Mongolia	39.8	39.8	39.8	33.8	24.3	24.3	24.6	24.6	24.6
Canada	47.5	45.0	44.3	44.1	42.3	27.7	26.1	24.6	24.3
Ghana	39.8	35.9	32.7	32.5	32.5	32.5	33.4	33.4	22.9
Hong Kong SAR, China	24.1	24.1	24.1	24.1	23.0	23.0	23.0	23.0	22.9
Cyprus				20.6	20.6	22.3	22	22.2	22.5
Oman	19.5	20.3	12.0	21.6	21.6	21.6	22.0	22.0	22.0
Namibia	25.8	25.8	25.8	22.8	22.3	22.3	21.8	21.8	21.8
Cambodia	21.5	21.5	21.5	21.5	21.7	21.4	21.4	21.4	21.4
Montenegro		30.4	30.4	31	26.3	25.4	20.9	20.9	20.9
Luxembourg		20.4	20	20	20	20	19.8	20	20.7
Croatia	21.4	21.4	21.4	21.4	21.4	22.1	21.9	21.8	19.8
Samoa	20.2	20.2	19.8	18.9	18.9	18.9	18.9	18.9	18.9
West Bank and Gaza	22.5	18.1	16.8	16.5	16.5	16.5	16.5	16.5	16.5
Georgia	57.0	38.6	38.6	38.6	15.3	15.3	16.5	16.5	16.4
Brunei Darussalam		37.4	37.4	37.4	30.3	17.3	16.8	16.8	16.1
Lesotho	28.8	28.8	22.4	19.6	19.9	19.6	16.0	16.0	16.0
Kosovo					28.3	16.5	15.4	15.4	15.4
Zambia	15.4	15.4	15.0	15.0	15.0	14.3	14.4	15.1	15.1
United Arab Emirates	14.4	14.4	14.4	14.4	14.1	14.1	14.1	14.9	14.9
Saudi Arabia	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
Bahrain			14.7	13.5	13.5	13.5	13.5	13.5	13.5
Kuwait	10.7	10.7	10.7	10.7	10.7	10.7	10.7	12.4	12.4
Qatar			11.3	11.3	11.3	11.3	11.3	11.3	11.3
Timor-Leste	48.4	48.4	48.4	32.6	11.0	11.0	11.0	11.0	11.0
Vanuatu	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
Macedonia, FYR	20.3	20.3	20.3	17.4	14.6	8.3	8.4	8.2	8.2
Average	53.4	52.1	50.8	50.1	48.7	47.4	44.6	44.1	43.1