

Examples with PIRLS 2021

```
library("devtools")
install_github("eldafani/intsvy")
library("intsvy")
```

Read data for selected variables and countries

The object *dir* specifies the directory path where the PIRLS 2021 data is located (eg. `"/home/data"`). Variable selection can be done with aid of `pirls.var.label(dir)`.

```
pirls <- pirls.select.merge(folder= dir,
                           student= c("ITSEX", "ASBG03"),
                           home= c("ASBHSES", "ASDHSES"),
                           school= c("ACBG05B"))
```

Calculate average reading score by country

```
pirls.mean.pv(pvlabel = "ASRREA", by = "IDCNTRYL", data = pirls)
```

##	IDCNTRYL	Freq	Mean	s.e.	SD	s.e
## 1	Abu Dhabi, UAE	10381	439.56	3.53	141.71	1.90
## 2	Albania	4213	512.74	3.10	78.38	1.42
## 3	Australia	5487	540.13	2.21	82.06	1.45
## 4	Austria	4806	529.76	2.17	68.64	1.16
## 5	Azerbaijan	5209	440.27	3.59	89.45	1.61
## 6	Bahrain	5208	458.39	2.87	109.24	2.03
## 7	Belgium (Flemish)	5114	510.72	2.30	66.57	1.12
## 8	Belgium (French)	4279	494.27	2.66	72.61	1.29
## 9	Brazil	4941	418.88	5.33	122.58	3.01
## 10	Bulgaria	4043	539.89	3.01	88.00	2.51
## 11	Canada, Newfoundland & Labrador	2445	523.32	3.21	78.79	1.63
## 12	Canada, Alberta	3020	538.69	3.56	77.42	1.88
## 13	Canada, British Columbia	4675	535.30	3.55	78.46	1.95
## 14	Canada, Quebec	3739	551.00	2.73	63.76	1.45
## 15	Chinese Taipei	5555	543.76	2.15	68.96	1.29
## 16	Croatia	3937	556.55	2.52	68.69	1.44
## 17	Cyprus	4589	510.87	2.87	78.16	1.33
## 18	Czech Republic	6621	539.65	2.29	73.00	1.29
## 19	Denmark	4821	539.00	2.23	73.12	1.38
## 20	Dubai,UAE	7711	551.86	1.50	99.94	1.53
## 21	Egypt	7979	378.23	5.41	109.93	2.55
## 22	England	4150	557.55	2.47	76.32	1.30
## 23	Finland	7018	549.30	2.40	73.98	1.47
## 24	France	5339	513.74	2.54	71.01	1.46
## 25	Georgia	5241	494.03	2.60	81.81	1.68
## 26	Germany	4611	523.97	2.13	76.59	1.13
## 27	Hong Kong SAR	3830	572.82	2.74	66.52	2.09
## 28	Hungary	5312	539.42	3.43	81.33	2.30

```

## 29      Iran, Islamic Rep. of 5962 412.77 4.88 99.78 3.48
## 30                Ireland 4663 577.33 2.47 76.69 1.36
## 31                Israel 4890 510.05 2.22 88.32 1.61
## 32                Italy 5440 537.18 2.20 66.44 1.05
## 33                Jordan 6150 380.53 5.40 114.28 2.93
## 34      Kazakhstan 7023 503.59 2.73 75.35 1.14
## 35                Kosovo 4557 420.55 3.13 83.63 1.64
## 36                Latvia 4369 527.68 2.61 74.65 2.05
## 37      Lithuania 4623 552.22 2.27 70.91 1.30
## 38      Montenegro 4489 487.16 1.65 77.37 1.04
## 39      Macedonia, Rep. of 2929 442.15 5.32 90.47 2.18
## 40                Malta 3030 514.64 2.73 84.06 1.90
## 41      Morocco 7017 372.39 4.53 106.23 2.91
## 42      Netherlands 4313 527.24 2.52 66.80 1.46
## 43      New Zealand 5557 521.47 2.31 89.32 1.31
## 44      Northern Ireland 4050 565.93 2.51 81.37 1.44
## 45                Norway 5382 538.79 1.99 73.86 1.18
## 46                Oman 5321 429.48 3.70 109.22 1.89
## 47                Poland 4179 549.12 2.18 71.87 1.52
## 48      Portugal 6111 519.76 2.26 71.91 1.32
## 49                Qatar 5258 484.73 3.75 97.63 1.45
## 50      Russian Federation 5217 567.11 3.57 71.28 1.78
## 51      Saudi Arabia 4778 448.55 3.60 90.18 1.85
## 52      Serbia 4037 513.58 2.78 73.52 1.61
## 53      Singapore 6719 587.14 3.14 85.71 2.08
## 54      Slovak Republic 4841 529.07 2.73 76.70 2.22
## 55      Slovenia 5110 519.66 1.86 70.09 1.13
## 56      South Africa 12422 288.22 4.42 129.40 2.86
## 57                Spain 8551 521.21 2.20 68.94 1.31
## 58                Sweden 5175 543.52 2.14 79.42 1.48
## 59                Turkey 6032 496.45 3.39 87.50 1.75
## 60      United Arab Emirates 27448 483.08 1.83 126.67 1.44
## 61      United States 1657 547.54 6.76 87.33 4.36
## 62      Uzbekistan 5846 436.84 2.85 81.28 1.39
## 63      Macao SAR 5093 535.56 1.28 70.88 0.87
## 64      Moscow City, Russian Fed. 5745 598.23 2.10 62.56 0.97
## 65      South Africa (6) 9317 384.27 4.51 128.15 2.80

```

Calculate average reading score by country and sex

```

pirls.mean.pv(pvlabel = "ASRREA", by = c("IDCNTRYL", "ITSEX"), data = pirls[!is.na(pirls$ITSEX), ])

```

```

##          IDCNTRYL ITSEX  Freq  Mean s.e.    SD  s.e
## 1      Abu Dhabi, UAE     1  5305 457.00 3.88 133.04 2.41
## 2      Abu Dhabi, UAE     2  5076 421.69 5.31 147.95 2.71
## 3      Albania           1  2049 523.19 3.54  76.90 1.90
## 4      Albania           2  2164 502.88 3.40  78.49 1.80
## 5      Australia         1  2730 548.85 2.52  78.76 1.99
## 6      Australia         2  2757 531.52 2.82  84.31 1.88
## 7      Austria           1  2348 537.06 2.57  69.23 1.48
## 8      Austria           2  2458 522.69 2.55  67.30 1.36
## 9      Azerbaijan        1  2447 449.76 4.09  87.72 2.11
## 10     Azerbaijan        2  2762 431.92 3.97  90.10 1.99
## 11     Bahrain           1  2508 482.91 3.91  99.10 2.00

```

## 12		Bahrain	2	2700	433.99	3.24	113.32	2.73
## 13		Belgium (Flemish)	1	2518	514.70	2.57	64.54	1.30
## 14		Belgium (Flemish)	2	2595	506.91	2.80	68.23	1.59
## 15		Belgium (French)	1	2101	499.39	3.25	72.01	1.65
## 16		Belgium (French)	2	2178	489.33	2.93	72.83	1.71
## 17		Brazil	1	2387	430.76	5.98	118.51	4.06
## 18		Brazil	2	2543	407.79	6.11	125.32	3.03
## 19		Bulgaria	1	1976	547.82	3.01	86.66	2.37
## 20		Bulgaria	2	2067	532.64	3.99	88.58	3.34
## 21	Canada, Newfoundland & Labrador		1	1226	530.41	3.14	75.91	2.16
## 22	Canada, Newfoundland & Labrador		2	1219	516.13	4.28	80.98	2.22
## 23		Canada, Alberta	1	1482	546.39	4.07	76.07	2.55
## 24		Canada, Alberta	2	1537	531.32	4.20	77.96	2.41
## 25		Canada, British Columbia	1	2313	542.20	3.47	77.04	2.36
## 26		Canada, British Columbia	2	2362	528.78	4.29	79.21	2.38
## 27		Canada, Quebec	1	1884	556.28	3.33	63.31	1.84
## 28		Canada, Quebec	2	1853	545.69	2.88	63.78	1.89
## 29		Chinese Taipei	1	2701	550.61	2.48	68.30	1.79
## 30		Chinese Taipei	2	2854	537.31	2.39	68.96	1.53
## 31		Croatia	1	1935	561.96	3.01	69.21	1.68
## 32		Croatia	2	2002	551.49	3.00	67.80	1.92
## 33		Cyprus	1	2339	515.24	3.20	77.59	1.75
## 34		Cyprus	2	2250	506.31	3.14	78.49	1.65
## 35		Czech Republic	1	3287	541.45	2.81	71.04	1.72
## 36		Czech Republic	2	3334	537.91	2.68	74.81	1.47
## 37		Denmark	1	2479	545.02	2.54	71.80	1.34
## 38		Denmark	2	2342	532.58	2.81	73.96	2.04
## 39		Dubai, UAE	1	3868	556.50	2.66	97.03	1.75
## 40		Dubai, UAE	2	3843	547.08	2.54	102.63	2.28
## 41		Egypt	1	3935	386.34	5.69	106.28	3.08
## 42		Egypt	2	4044	370.29	6.42	112.83	2.89
## 43		England	1	2135	562.39	3.05	74.93	1.66
## 44		England	2	2008	552.51	3.14	77.43	1.79
## 45		Finland	1	3521	558.12	2.72	71.74	1.56
## 46		Finland	2	3497	540.53	2.74	75.12	1.81
## 47		France	1	2667	520.72	2.95	69.21	1.75
## 48		France	2	2672	506.75	2.71	72.08	1.99
## 49		Georgia	1	2542	505.75	2.81	77.57	1.88
## 50		Georgia	2	2699	482.97	3.12	84.14	1.94
## 51		Germany	1	2245	531.81	2.47	75.65	1.55
## 52		Germany	2	2365	516.47	2.51	76.75	1.56
## 53		Hong Kong SAR	1	1955	576.90	2.79	64.04	2.39
## 54		Hong Kong SAR	2	1875	568.62	3.34	68.73	2.37
## 55		Hungary	1	2676	546.79	3.67	77.90	2.51
## 56		Hungary	2	2636	532.04	3.98	83.97	2.72
## 57		Iran, Islamic Rep. of	1	2857	421.81	7.45	98.56	4.59
## 58		Iran, Islamic Rep. of	2	3105	404.97	5.93	100.15	3.98
## 59		Ireland	1	2303	582.99	3.27	77.87	2.00
## 60		Ireland	2	2360	571.91	2.81	75.13	1.48
## 61		Israel	1	2444	512.22	2.76	86.69	1.81
## 62		Israel	2	2446	507.93	2.56	89.84	1.95
## 63		Italy	1	2712	540.70	2.41	65.87	1.13
## 64		Italy	2	2728	533.73	2.42	66.81	1.38
## 65		Jordan	1	3024	398.32	6.76	107.35	3.53

## 66	Jordan	2	3126	362.29	7.95	118.22	3.83
## 67	Kazakhstan	1	3516	512.17	2.79	70.95	1.44
## 68	Kazakhstan	2	3507	494.88	3.28	78.61	1.53
## 69	Kosovo	1	2310	430.70	3.13	79.90	2.29
## 70	Kosovo	2	2247	409.78	3.81	86.11	2.10
## 71	Latvia	1	2132	541.51	2.59	71.74	2.40
## 72	Latvia	2	2237	514.33	3.25	74.96	2.44
## 73	Lithuania	1	2307	562.99	2.53	67.52	1.45
## 74	Lithuania	2	2316	541.50	2.75	72.56	1.76
## 75	Montenegro	1	2172	497.46	2.02	74.55	1.45
## 76	Montenegro	2	2317	477.56	2.16	78.70	1.52
## 77	Macedonia, Rep. of	1	1478	454.29	5.75	89.38	2.93
## 78	Macedonia, Rep. of	2	1451	429.37	5.96	89.83	2.96
## 79	Malta	1	1407	518.12	3.56	83.15	2.29
## 80	Malta	2	1623	511.65	3.19	84.72	2.34
## 81	Morocco	1	3385	389.52	4.55	103.46	3.15
## 82	Morocco	2	3631	356.31	5.17	106.29	3.69
## 83	Netherlands	1	2184	533.52	2.90	65.92	2.01
## 84	Netherlands	2	2126	520.83	2.77	67.10	1.61
## 85	New Zealand	1	2731	531.17	2.86	87.10	1.67
## 86	New Zealand	2	2825	512.22	2.74	90.44	1.65
## 87	Northern Ireland	1	2095	577.54	2.92	76.93	1.96
## 88	Northern Ireland	2	1955	553.20	3.11	84.16	1.85
## 89	Norway	1	2647	547.05	2.30	71.30	1.61
## 90	Norway	2	2735	530.87	2.36	75.39	1.55
## 91	Oman	1	2687	447.12	4.20	101.81	2.29
## 92	Oman	2	2634	411.58	4.08	113.49	2.50
## 93	Poland	1	2016	559.75	2.48	69.86	1.73
## 94	Poland	2	2163	539.69	2.71	72.31	2.15
## 95	Portugal	1	2961	522.65	2.26	68.47	1.32
## 96	Portugal	2	3150	517.07	2.67	74.88	1.82
## 97	Qatar	1	2746	492.75	4.22	93.23	1.83
## 98	Qatar	2	2512	476.23	4.75	101.39	2.30
## 99	Russian Federation	1	2568	573.90	3.37	69.78	1.97
## 100	Russian Federation	2	2649	560.58	4.51	72.09	2.26
## 101	Saudi Arabia	1	2430	463.50	4.98	87.92	2.65
## 102	Saudi Arabia	2	2348	428.11	4.94	89.22	2.27
## 103	Serbia	1	1952	518.37	3.40	72.29	2.50
## 104	Serbia	2	2085	509.04	3.16	74.37	2.15
## 105	Singapore	1	3288	596.26	2.99	80.66	1.83
## 106	Singapore	2	3431	578.48	3.75	89.38	2.53
## 107	Slovak Republic	1	2474	533.11	2.89	75.57	2.35
## 108	Slovak Republic	2	2367	524.76	3.24	77.66	2.47
## 109	Slovenia	1	2493	529.00	2.06	65.29	1.22
## 110	Slovenia	2	2617	510.75	2.30	73.28	1.60
## 111	South Africa	1	6157	317.20	4.35	122.24	2.91
## 112	South Africa	2	6252	260.14	5.03	129.99	3.31
## 113	Spain	1	4096	522.24	2.59	68.43	1.81
## 114	Spain	2	4455	520.30	2.54	69.38	1.58
## 115	Sweden	1	2588	551.04	2.52	77.33	2.06
## 116	Sweden	2	2587	536.08	2.33	80.75	1.48
## 117	Turkey	1	2989	505.10	3.76	85.45	2.18
## 118	Turkey	2	3043	488.06	3.59	88.65	1.79
## 119	United Arab Emirates	1	14007	497.08	2.67	117.57	1.60

## 120	United Arab Emirates	2	13441	468.41	3.58	133.99	1.93
## 121	United States	1	801	551.19	7.20	87.44	4.92
## 122	United States	2	855	543.78	7.08	87.16	4.79
## 123	Uzbekistan	1	2822	449.23	3.13	77.03	1.65
## 124	Uzbekistan	2	3024	425.20	3.46	83.42	1.74
## 125	Macao SAR	1	2555	540.44	1.52	69.33	1.18
## 126	Macao SAR	2	2538	530.68	1.88	72.06	1.32
## 127	Moscow City, Russian Fed.	1	2852	603.88	2.16	60.28	1.20
## 128	Moscow City, Russian Fed.	2	2893	592.70	2.48	64.23	1.31
## 129	South Africa (6)	1	4864	408.35	4.47	121.99	3.09
## 130	South Africa (6)	2	4446	358.59	5.25	129.57	3.20

Calculate MPL by country

```
pirls.ben.pv(pvlabel="ASRREA", cutoff = 400, by="IDCNTRYL", data=pirls)
```

##	IDCNTRYL	Benchmark	Percentage	Std. err.
## 1	Abu Dhabi, UAE	At or above 400	61.09	1.18
## 2	Albania	At or above 400	92.12	0.94
## 3	Australia	At or above 400	94.24	0.55
## 4	Austria	At or above 400	95.92	0.43
## 5	Azerbaijan	At or above 400	67.43	1.49
## 6	Bahrain	At or above 400	71.18	0.93
## 7	Belgium (Flemish)	At or above 400	94.31	0.52
## 8	Belgium (French)	At or above 400	89.37	0.92
## 9	Brazil	At or above 400	61.25	1.88
## 10	Bulgaria	At or above 400	92.88	0.94
## 11	Canada, Newfoundland & Labrador	At or above 400	92.51	0.74
## 12	Canada, Alberta	At or above 400	94.97	0.77
## 13	Canada, British Columbia	At or above 400	94.32	0.76
## 14	Canada, Quebec	At or above 400	98.78	0.34
## 15	Chinese Taipei	At or above 400	96.86	0.40
## 16	Croatia	At or above 400	98.08	0.44
## 17	Cyprus	At or above 400	91.79	0.67
## 18	Czech Republic	At or above 400	96.01	0.53
## 19	Denmark	At or above 400	95.95	0.60
## 20	Dubai,UAE	At or above 400	91.80	0.41
## 21	Egypt	At or above 400	44.57	2.00
## 22	England	At or above 400	97.03	0.40
## 23	Finland	At or above 400	96.48	0.53
## 24	France	At or above 400	93.86	0.66
## 25	Georgia	At or above 400	87.16	0.97
## 26	Germany	At or above 400	93.59	0.52
## 27	Hong Kong SAR	At or above 400	98.28	0.41
## 28	Hungary	At or above 400	94.13	1.01
## 29	Iran, Islamic Rep. of	At or above 400	58.60	2.01
## 30	Ireland	At or above 400	97.78	0.38
## 31	Israel	At or above 400	87.96	0.82
## 32	Italy	At or above 400	97.18	0.33
## 33	Jordan	At or above 400	46.64	1.97
## 34	Kazakhstan	At or above 400	90.70	0.79
## 35	Kosovo	At or above 400	62.08	1.54
## 36	Latvia	At or above 400	94.29	0.74
## 37	Lithuania	At or above 400	97.11	0.40

## 38	Montenegro	At or above	400	86.91	0.68
## 39	Macedonia, Rep. of	At or above	400	69.96	2.23
## 40	Malta	At or above	400	90.24	0.91
## 41	Morocco	At or above	400	40.58	1.63
## 42	Netherlands	At or above	400	96.45	0.68
## 43	New Zealand	At or above	400	89.88	0.64
## 44	Northern Ireland	At or above	400	96.83	0.46
## 45	Norway	At or above	400	95.82	0.56
## 46	Oman	At or above	400	62.20	1.37
## 47	Poland	At or above	400	97.21	0.47
## 48	Portugal	At or above	400	94.18	0.58
## 49	Qatar	At or above	400	80.39	1.17
## 50	Russian Federation	At or above	400	98.36	0.37
## 51	Saudi Arabia	At or above	400	71.07	1.62
## 52	Serbia	At or above	400	92.80	0.75
## 53	Singapore	At or above	400	96.66	0.47
## 54	Slovak Republic	At or above	400	93.65	0.80
## 55	Slovenia	At or above	400	94.38	0.47
## 56	South Africa	At or above	400	19.45	1.18
## 57	Spain	At or above	400	95.23	0.57
## 58	Sweden	At or above	400	95.28	0.60
## 59	Turkey	At or above	400	85.89	1.19
## 60	United Arab Emirates	At or above	400	75.03	0.66
## 61	United States	At or above	400	94.51	1.45
## 62	Uzbekistan	At or above	400	69.84	1.38
## 63	Macao SAR	At or above	400	95.92	0.38
## 64	Moscow City, Russian Fed.	At or above	400	99.68	0.08
## 65	South Africa (6)	At or above	400	44.00	1.49

Estimate regression of reading on sex by country

```
pirls.reg.pv(pvlabel="ASRREA", x="ITSEX", by = "IDCNTRYL", data=pirls[!is.na(pirls$ITSEX), ])
```

```
## $`Abu Dhabi, UAE`
##           Estimate Std. Error t value
## (Intercept)  492.32      9.04   54.47
## ITSEX        -35.31      6.32   -5.59
## R-squared      0.02      0.01    2.83
##
## $Albania
##           Estimate Std. Error t value
## (Intercept)  543.49      5.84   93.07
## ITSEX        -20.30      3.21   -6.32
## R-squared      0.02      0.01    3.20
##
## $Australia
##           Estimate Std. Error t value
## (Intercept)  566.17      4.74  119.38
## ITSEX        -17.32      2.98   -5.81
## R-squared      0.01      0.00    2.96
##
## $Austria
##           Estimate Std. Error t value
## (Intercept)  551.44      4.65  118.70
```

```

## ITSEX          -14.38      2.73   -5.27
## R-squared      0.01        0.00    2.67
##
## $Azerbaijan
##      Estimate Std. Error t value
## (Intercept)  467.60      6.76   69.20
## ITSEX        -17.84      3.74   -4.77
## R-squared     0.01        0.00    2.36
##
## $Bahrain
##      Estimate Std. Error t value
## (Intercept)  531.84      7.80   68.19
## ITSEX        -48.93      4.51  -10.85
## R-squared     0.05        0.01    5.71
##
## $`Belgium (Flemish)`
##      Estimate Std. Error t value
## (Intercept)  522.49      4.58  114.15
## ITSEX        -7.79      2.79   -2.79
## R-squared     0.00        0.00    1.41
##
## $`Belgium (French)`
##      Estimate Std. Error t value
## (Intercept)  509.45      5.72   89.03
## ITSEX       -10.06      3.18   -3.16
## R-squared     0.00        0.00    1.59
##
## $Brazil
##      Estimate Std. Error t value
## (Intercept)  453.73     10.3   44.05
## ITSEX       -22.97      6.0    -3.83
## R-squared     0.01        0.0    1.93
##
## $Bulgaria
##      Estimate Std. Error t value
## (Intercept)  563.00      5.66   99.46
## ITSEX       -15.18      3.86   -3.93
## R-squared     0.01        0.00    2.04
##
## $`Canada, Newfoundland & Labrador`
##      Estimate Std. Error t value
## (Intercept)  544.69      5.80   93.90
## ITSEX       -14.28      4.01   -3.56
## R-squared     0.01        0.00    1.79
##
## $`Canada, Alberta`
##      Estimate Std. Error t value
## (Intercept)  561.45      7.29   76.96
## ITSEX       -15.07      4.35   -3.47
## R-squared     0.01        0.01    1.76
##
## $`Canada, British Columbia`
##      Estimate Std. Error t value
## (Intercept)  555.62      5.30  104.85

```

```

## ITSEX          -13.42      3.34   -4.02
## R-squared      0.01      0.00    2.04
##
## $`Canada, Quebec`
##           Estimate Std. Error t value
## (Intercept)  566.87      5.67   99.96
## ITSEX        -10.59      3.02   -3.50
## R-squared    0.01      0.00    1.78
##
## $`Chinese Taipei`
##           Estimate Std. Error t value
## (Intercept)  563.91      4.11  137.07
## ITSEX        -13.30      2.28   -5.84
## R-squared    0.01      0.00    2.94
##
## $Croatia
##           Estimate Std. Error t value
## (Intercept)  572.44      5.55  103.06
## ITSEX        -10.48      3.30   -3.18
## R-squared    0.01      0.00    1.63
##
## $Cyprus
##           Estimate Std. Error t value
## (Intercept)  524.17      5.00  104.88
## ITSEX         -8.93      2.68   -3.33
## R-squared    0.00      0.00    1.71
##
## $`Czech Republic`
##           Estimate Std. Error t value
## (Intercept)  544.99      5.20  104.73
## ITSEX         -3.54      3.04   -1.17
## R-squared    0.00      0.00    0.59
##
## $Denmark
##           Estimate Std. Error t value
## (Intercept)  557.45      4.78  116.74
## ITSEX        -12.43      2.98   -4.17
## R-squared    0.01      0.00    2.13
##
## $`Dubai,UAE`
##           Estimate Std. Error t value
## (Intercept)  565.92      6.70   84.48
## ITSEX         -9.42      4.31   -2.18
## R-squared    0.00      0.00    1.10
##
## $Egypt
##           Estimate Std. Error t value
## (Intercept)  402.38      9.30   43.27
## ITSEX        -16.04      5.61   -2.86
## R-squared    0.01      0.00    1.44
##
## $England
##           Estimate Std. Error t value
## (Intercept)  572.26      6.07   94.31

```



```

## ITSEX          -9.87      3.74   -2.64
## R-squared      0.00      0.00    1.37
##
## $Finland
##           Estimate Std. Error t value
## (Intercept)  575.71      4.63  124.38
## ITSEX        -17.59      2.66   -6.61
## R-squared     0.01      0.00    3.30
##
## $France
##           Estimate Std. Error t value
## (Intercept)  534.69      4.80  111.30
## ITSEX        -13.97      2.55   -5.48
## R-squared     0.01      0.00    2.69
##
## $Georgia
##           Estimate Std. Error t value
## (Intercept)  528.54      4.79  110.32
## ITSEX        -22.78      2.90   -7.85
## R-squared     0.02      0.00    4.00
##
## $Germany
##           Estimate Std. Error t value
## (Intercept)  547.15      4.44  123.35
## ITSEX        -15.34      2.62   -5.85
## R-squared     0.01      0.00    2.94
##
## $`Hong Kong SAR`
##           Estimate Std. Error t value
## (Intercept)  585.18      4.45  131.48
## ITSEX         -8.28      2.77   -2.99
## R-squared     0.00      0.00    1.54
##
## $Hungary
##           Estimate Std. Error t value
## (Intercept)  561.54      5.82   96.52
## ITSEX        -14.75      3.37   -4.38
## R-squared     0.01      0.00    2.23
##
## $`Iran, Islamic Rep. of`
##           Estimate Std. Error t value
## (Intercept)  438.66     15.55   28.21
## ITSEX        -16.85      9.11   -1.85
## R-squared     0.01      0.01    0.93
##
## $Ireland
##           Estimate Std. Error t value
## (Intercept)  594.06      6.18   96.16
## ITSEX        -11.07      3.52   -3.15
## R-squared     0.01      0.00    1.60
##
## $Israel
##           Estimate Std. Error t value
## (Intercept)  516.50      5.13  100.72

```

```

## ITSEX          -4.28      2.97   -1.44
## R-squared      0.00      0.00    0.75
##
## $Italy
##           Estimate Std. Error t value
## (Intercept)  547.68      3.72  147.20
## ITSEX        -6.97      2.01   -3.48
## R-squared     0.00      0.00    1.76
##
## $Jordan
##           Estimate Std. Error t value
## (Intercept)  434.34     15.52   27.99
## ITSEX       -36.03     10.31   -3.50
## R-squared     0.02      0.01    1.81
##
## $Kazakhstan
##           Estimate Std. Error t value
## (Intercept)  529.46      4.45  118.92
## ITSEX       -17.29      2.74   -6.32
## R-squared     0.01      0.00    3.24
##
## $Kosovo
##           Estimate Std. Error t value
## (Intercept)  451.62      4.89   92.37
## ITSEX       -20.92      3.07   -6.82
## R-squared     0.02      0.00    3.33
##
## $Latvia
##           Estimate Std. Error t value
## (Intercept)  568.70      4.76  119.47
## ITSEX       -27.18      3.15   -8.63
## R-squared     0.03      0.01    4.43
##
## $Lithuania
##           Estimate Std. Error t value
## (Intercept)  584.48      4.52  129.25
## ITSEX       -21.49      2.76   -7.79
## R-squared     0.02      0.01    3.91
##
## $Montenegro
##           Estimate Std. Error t value
## (Intercept)  517.36      4.15  124.55
## ITSEX       -19.90      2.62   -7.60
## R-squared     0.02      0.00    3.86
##
## $`Macedonia, Rep. of`
##           Estimate Std. Error t value
## (Intercept)  479.22      9.19   52.12
## ITSEX       -24.92      5.19   -4.80
## R-squared     0.02      0.01    2.43
##
## $Malta
##           Estimate Std. Error t value
## (Intercept)  524.58      6.98   75.18

```

```

## ITSEX          -6.47      4.09   -1.58
## R-squared      0.00      0.00    0.80
##
## $Morocco
##           Estimate Std. Error t value
## (Intercept)  422.73      6.48   65.24
## ITSEX        -33.21      3.70   -8.98
## R-squared     0.02      0.01    4.41
##
## $Netherlands
##           Estimate Std. Error t value
## (Intercept)  546.20      4.71  115.85
## ITSEX        -12.68      2.55   -4.97
## R-squared     0.01      0.00    2.45
##
## $`New Zealand`
##           Estimate Std. Error t value
## (Intercept)  550.12      5.40  101.90
## ITSEX        -18.95      3.18   -5.95
## R-squared     0.01      0.00    2.99
##
## $`Northern Ireland`
##           Estimate Std. Error t value
## (Intercept)  601.89      5.54  108.55
## ITSEX        -24.34      3.42   -7.13
## R-squared     0.02      0.01    3.57
##
## $Norway
##           Estimate Std. Error t value
## (Intercept)  563.23      4.06  138.81
## ITSEX        -16.18      2.40   -6.76
## R-squared     0.01      0.00    3.42
##
## $Oman
##           Estimate Std. Error t value
## (Intercept)  482.67      6.93   69.63
## ITSEX        -35.55      3.84   -9.27
## R-squared     0.03      0.01    4.73
##
## $Poland
##           Estimate Std. Error t value
## (Intercept)  579.81      4.73  122.66
## ITSEX        -20.06      2.95   -6.80
## R-squared     0.02      0.01    3.47
##
## $Portugal
##           Estimate Std. Error t value
## (Intercept)  528.23      3.35  157.75
## ITSEX        -5.58      2.02   -2.76
## R-squared     0.00      0.00    1.40
##
## $Qatar
##           Estimate Std. Error t value
## (Intercept)  509.28      7.91   64.42

```

```

## ITSEX          -16.53      4.98   -3.32
## R-squared      0.01      0.00    1.68
##
## $`Russian Federation`
##           Estimate Std. Error t value
## (Intercept)  587.23      5.45  107.84
## ITSEX        -13.32      3.70   -3.60
## R-squared     0.01      0.00    1.84
##
## $`Saudi Arabia`
##           Estimate Std. Error t value
## (Intercept)  498.89     10.81   46.15
## ITSEX        -35.39      6.77   -5.23
## R-squared     0.04      0.01    2.66
##
## $Serbia
##           Estimate Std. Error t value
## (Intercept)  527.69      6.16   85.71
## ITSEX        -9.32      3.52   -2.65
## R-squared     0.00      0.00    1.35
##
## $Singapore
##           Estimate Std. Error t value
## (Intercept)  614.04      4.32  142.24
## ITSEX        -17.78      2.72   -6.53
## R-squared     0.01      0.00    3.48
##
## $`Slovak Republic`
##           Estimate Std. Error t value
## (Intercept)  541.47      4.65  116.48
## ITSEX        -8.36      2.78   -3.01
## R-squared     0.00      0.00    1.54
##
## $Slovenia
##           Estimate Std. Error t value
## (Intercept)  547.25      3.77  144.98
## ITSEX        -18.25      2.35   -7.77
## R-squared     0.02      0.00    3.91
##
## $`South Africa`
##           Estimate Std. Error t value
## (Intercept)  374.27      6.15   60.87
## ITSEX        -57.07      3.55  -16.07
## R-squared     0.05      0.01    8.27
##
## $Spain
##           Estimate Std. Error t value
## (Intercept)  524.17      4.57  114.62
## ITSEX        -1.94      2.64   -0.73
## R-squared     0.00      0.00    0.37
##
## $Sweden
##           Estimate Std. Error t value
## (Intercept)  566.00      4.24  133.56

```

```

## ITSEX          -14.96      2.31   -6.48
## R-squared      0.01      0.00    3.25
##
## $Turkey
##           Estimate Std. Error t value
## (Intercept)  522.14     5.61   93.00
## ITSEX        -17.04     2.85   -5.99
## R-squared    0.01      0.00    2.99
##
## $`United Arab Emirates`
##           Estimate Std. Error t value
## (Intercept)  525.75     7.48   70.33
## ITSEX        -28.67     5.22   -5.49
## R-squared    0.01      0.00    2.79
##
## $`United States`
##           Estimate Std. Error t value
## (Intercept)  558.59     9.58   58.28
## ITSEX        -7.41     4.38   -1.69
## R-squared    0.00      0.00    0.84
##
## $Uzbekistan
##           Estimate Std. Error t value
## (Intercept)  473.27     5.50   86.11
## ITSEX        -24.04     3.36   -7.15
## R-squared    0.02      0.01    3.61
##
## $`Macao SAR`
##           Estimate Std. Error t value
## (Intercept)  550.21     3.32  165.52
## ITSEX        -9.77     2.23   -4.37
## R-squared    0.00      0.00    2.18
##
## $`Moscow City, Russian Fed.`
##           Estimate Std. Error t value
## (Intercept)  615.05     3.44  178.55
## ITSEX        -11.17     2.08   -5.36
## R-squared    0.01      0.00    2.72
##
## $`South Africa (6)`
##           Estimate Std. Error t value
## (Intercept)  458.10     6.51   70.35
## ITSEX        -49.75     3.87  -12.86
## R-squared    0.04      0.01    6.53

```