

Exploring Residual Profit Allocation

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Online Appendix

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Appendix A: Country-Level Variables

In the table that follows, countries are ordered by GDP by per capita and *italicized* if listed in Annex 1.1 of IMF (2019) as resource-rich in the sense that 20 percent or more of their exports are of oil, gas or minerals, or a large share of their fiscal revenues. The last column reports the country-specific revenue change in percent of current revenue for the reallocation effect of moving to a destination-based RPA.

Table A.1: Country-specific Information

Country	GDPPC USD	CIT Rev Bil. USD	MNE Base Share	CIT Rate Percent	Sales Weight Percent	Capital Weight Percent	Rev. Change Destination Based
<i>Congo Kinshasa</i>	437.46	0.65	0.36	35	0.04	0.03	52.91
<i>Mozambique</i>	447.01	0.85	0.4	32	0.02	0.01	-17.27
Central African Republic	447.14	0.02	0.21	30	0	0	63.14
Madagascar	506.88	0.17	0.29	20	0.01	0.01	22.94
Togo	624.53	0.1	0.28	28	0	0	18.21
Gambia	691.06	0.02	0.19	31	0	0	26.77
Burkina Faso	748.68	0.38	0.3	27.67	0.01	0.01	1.52
Rwanda	765.07	0.12	0.24	30	0.01	0	32.9
Tajikistan	807.52	0.16	0.25	23	0.01	0	-0.21
Ethiopia	819.54	1.43	0.28	30	0.07	0.03	25.88
Uganda	828.14	0.3	0.29	30	0.03	0.02	77.31
Nepal	907.5	0.8	0.29	25	0.02	0.01	-0.08
Tanzania	1002.97	0.8	0.27	30	0.04	0.04	48.26
Benin	1154.96	0.15	0.3	30	0.01	0.01	53.2
Kyrgyzstan	1236.1	0.19	0.34	15	0.01	0.02	5.38
Senegal	1328.47	0.34	0.3	30	0.02	0.01	33.09
Cambodia	1387.06	0.66	0.45	20	0.02	0.01	-18.46
<i>Cameroon</i>	1458.36	0.75	0.28	33	0.03	0.03	30.31
Bangladesh	1502.56	4.29	0.35	25	0.22	0.21	27.18
Kenya	1678.94	2.38	0.3	30	0.06	0.03	2.75
India	1937.63	85.02	0.45	34.74	2.76	2.91	12.5
<i>Ghana</i>	2065.42	1.37	0.4	25	0.05	0.07	15.77
Nicaragua	2092.62	0.72	0.36	30	0.01	0.01	-11.49
<i>Cote d'Ivoire</i>	2097.52	0.81	0.36	25	0.04	0.02	9.35
<i>Congo - Brazzaville</i>	2169.28	0.33	0.44	30	0.01	0.01	-13.1
Honduras	2426.22	0.94	0.41	26.67	0.02	0.06	12.12
Laos	2448.6	0.23	0.34	24	0.01	0.01	32.96
Ukraine	2657.6	2.98	0.51	18	0.12	0.61	43.32
Djibouti	2730.43	0.09	0.48	25	0	0	-13.69
Egypt	2920.51	13.04	0.39	22.67	0.29	0.36	-10.89
Philippines	3015.55	11.39	0.46	30	0.34	0.35	-1.22
Bhutan	3157.54	0.14	0.24	30	0	0	-8.35

Morocco	3163.94	5.11	0.38	31	0.1	0.14	-3.96
Cape Verde	3318.88	0.07	0.29	25	0	0	-5.78
<i>Bolivia</i>	3343.08	1.47	0.33	25	0.03	0.01	-13.63
Moldova	3492.75	0.23	0.33	12	0.01	0.01	-11.91
<i>Mongolia</i>	3742.98	0.42	0.39	25	0.01	0.04	25.44
Armenia	3860.17	0.29	0.33	20	0.01	0.01	1.86
<i>Angola</i>	3867.04	5.72	0.38	30	0.09	0.12	-11.73
El Salvador	3927.97	0.92	0.36	30	0.02	0.02	-0.12
<i>Algeria</i>	4004	4.44	0.41	26	0.16	0.15	4.31
Eswatini	4012.72	0.11	0.28	27.67	0	0	-1.93
Guatemala	4145.86	2.38	0.33	25	0.06	0.04	-6.14
Jordan	4207.66	1.06	0.43	20	0.04	0.05	-1.07
<i>Azerbaijan</i>	4291.72	1.36	0.43	20	0.03	0.1	2.16
Georgia	4379.43	0.35	0.4	15	0.01	0.02	-8.63
Albania	4650.54	0.27	0.33	15	0.01	0.02	1.26
Bosnia & Herzegovina	5239.53	0.31	0.38	10	0.01	0.02	-13.52
Jamaica	5520.28	0.46	0.35	25	0.01	0.02	8.27
North Macedonia	5562.6	0.23	0.4	10	0.01	0.01	-16.99
Namibia	5596.98	0.56	0.35	32	0.01	0.01	-7.12
<i>South Africa</i>	5913.54	17.84	0.57	28	0.37	0.59	-20.95
<i>Colombia</i>	6273.04	12.44	0.36	30.67	0.26	0.21	-6.14
Serbia	6428.92	0.95	0.47	15	0.04	0.05	-10.48
<i>Peru</i>	6634.93	7.08	0.4	29	0.19	0.19	-0.99
Thailand	6681.25	18.99	0.56	20	0.29	0.72	-31.81
<i>Gabon</i>	7557.6	0.4	0.33	31.67	0.01	0.02	12.5
Dominica	7731.46	0.01	0.22	25	0	0	-2.72
Lebanon	7810.48	1.02	0.39	15	0.05	0.06	2.16
Montenegro	7895.53	0.06	0.33	9	0	0.01	0.58
Dominican Republic	7912.39	1.68	0.36	27	0.07	0.07	18.49
Bulgaria	8472.77	1.33	0.72	10	0.08	0.13	-36.34
<i>Kazakhstan</i>	8865.93	7.1	0.44	20	0.14	0.35	-12.2
China	8954.3	481.16	0.73	25	21.04	29.65	-9.46
<i>Mexico</i>	9230.54	40.1	0.57	30	1.22	2.5	7.28
Brazil	9254.84	72.42	0.46	34	2.22	2.84	11.43
Malaysia	10185.64	18.82	0.7	24	0.41	0.4	-43.75
<i>Russia</i>	10247.51	53.91	0.45	20	1.29	2.56	-12.05
Turkey	10257.95	15.09	0.46	20.67	0.87	1.1	18.96
Mauritius	10714.88	0.39	0.37	15	0.01	0.01	-18.88
Romania	10895.75	4.21	0.83	16	0.37	0.55	0.62
Costa Rica	11925.26	1.69	0.33	30	0.04	0.05	4.22
Argentina	13015.1	6.58	0.49	33.33	0.72	0.71	132.59
Croatia	13562.73	1.27	0.61	19.33	0.08	0.09	0.87
Poland	13907.29	10.3	0.64	19	0.69	0.54	-6.22
Hungary	14713.82	2.5	0.93	12.33	0.18	0.36	-31.1
<i>Chile</i>	14908.81	12.05	0.44	24.67	0.24	0.23	-19.98

Latvia	15785.53	0.44	0.62	16.67	0.04	0.05	23.62
Seychelles	15962.29	0.1	0.36	33	0	0	-13.95
Uruguay	16415.15	2.24	0.31	25	0.04	0.04	-8.61
Lithuania	16990.48	0.74	0.55	15	0.05	0.11	22.29
Slovakia	17853.74	3.3	0.75	21.33	0.06	0.12	-47.49
Greece	19109.47	4.23	0.3	29	0.13	0.03	2.09
Estonia	20631.56	0.47	0.51	20	0.02	0.05	13.35
Czechia	20661.78	7.5	0.77	19	0.25	0.4	-37.07
Portugal	21647.15	7.07	0.45	30.17	0.21	0.23	1.73
Slovenia	23764.39	0.87	0.54	18.33	0.03	0.05	-12.15
Cyprus	26663.6	1.26	0.36	12.5	0.01	0.01	-30.33
Malta	27933.34	0.79	0.44	35	0.01	0.01	-27.91
Spain	28472.26	30.51	0.53	25	1.54	2.18	20.26
South Korea	31414.58	45.7	0.58	25.3	1.34	2.89	-4.34
Italy	32600.03	39.85	0.42	28.97	1.73	1.07	10.82
Japan	38780.26	219.6	0.52	29.89	5.74	4.98	-15.32
Israel	39875.65	11.13	0.29	24	0.16	0.25	-7.85
France	40463.13	68.78	0.68	37.76	3.77	2.76	23.65
New Zealand	41207.23	10.61	0.48	28	0.21	0.16	-22.59
United Kingdom	41571.5	73.39	0.7	19.33	4.13	3.53	-18.72
<i>Canada</i>	44659.6	62.74	0.57	26.73	1.98	1.16	-22.02
Germany	44703.52	101.8	0.75	29.87	4.8	4.3	-8.14
Belgium	44723.62	20.3	0.5	32.52	0.29	0.47	-21.19
Finland	46757.74	6.4	0.63	20	0.39	0.23	-12.03
Austria	47990.9	10.88	0.56	25	0.39	0.58	-2.44
Netherlands	49397.77	28.45	0.82	25	1.06	0.9	-38.67
Sweden	53123.02	15.98	0.78	22	0.77	1.12	-15.81
<i>Australia</i>	54783.66	85.35	0.59	30	1.7	2.17	-25.64
Denmark	57895.96	10.06	0.53	22	0.3	0.26	-22.08
United States	60305.6	315.22	0.63	34.56	31.84	18.04	80.68
Singapore	62161.39	13.66	1	17	0.33	0.98	-63.57
Iceland	69414.43	0.63	0.18	20	0	0.01	-5.71
Ireland	70254.54	9.92	1	12.5	0.35	0.47	-75.13
<i>Norway</i>	75693.49	18.97	0.66	24	0.5	0.57	-32.37
Luxembourg	110615.29	3.35	0.78	27.44	0.02	0.09	-59.31

Appendix B: Inferring θ Using the Semi-Elasticity of Taxable Profits

Before-tax profits in jurisdiction i , gross of routine profits there (so corresponding broadly to EBIT), are given by

$$f_i \equiv \pi_i + rk_i = \pi_i^* + s_i + rk_i = \left\{ 1 + \frac{\beta_i \Pi}{rk_i} + \theta \Delta \bar{\tau}_i \right\} rk_i, \quad (\text{B.1})$$

where the first equality follows from (7) and the second from using in (14) the definition of β_i and further defining the tax differential $\Delta \bar{\tau}_i = \sum_{j=1}^N \tau_j \left(\frac{k_j}{K} \right) - \tau_i$. With the assumption that $E[\beta_i | k_i] = \frac{k_i}{K}$, this implies a semi-elasticity of reported gross pretax earnings with respect to the tax differential of

$$\frac{\partial E[f_i | k_i]}{\partial \Delta \bar{\tau}_i} \approx \frac{\theta}{1 + \frac{\Pi}{rK} + \theta E[\Delta \bar{\tau}_i | k_i]}. \quad (\text{B.2})$$

The meta-study of Beer, de Mooij and Liu (2020) suggests a consensus value of $\frac{\partial \ln E[f_i | k_i]}{\partial \Delta \bar{\tau}_i} = 1.5$, while for the sample used here, $E[\Delta \bar{\tau}_i | k_i] = 0.04$ and $\frac{\Pi}{rK} = 0.47$. Rearranging (B.2) and evaluating at these values gives $\theta = 3.61$.

Moreover, we obtain approximate confidence intervals for θ using the Delta Method of:

$$SE(\theta) = \frac{\theta}{(1 - \epsilon E[\Delta \bar{\tau}_i | k_i])} \left[\frac{1}{\epsilon} + E[\Delta \bar{\tau}_i | k_i] \right] se(\epsilon), \quad (\text{B.3})$$

where we define $\epsilon \equiv \frac{\partial \ln E[f_i | k_i]}{\partial \Delta \bar{\tau}_i}$. Using a standard error of 0.3 for the estimated ϵ gives $SE(\theta) = 0.53$.

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