Online Appendix to "Business-Cycle Facts Around the World"[*]

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1 Business Cycle Facts for Individual Countries: Quarterly Data Set, 1980Q1 to 2012Q4

To be included in the quarterly data set a country must have at least 30 years (or 120 quarters) of consecutive quarterly observations for y, i, x and m.

Data coverage: 11 emerging market economies, 17 rich economies. Rich Countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Italy, Japan, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States. Emerging Countries: Argentina, Israel, South Korea, Mexico, New Zealand, Peru, Portugal, South Africa, Spain, Turkey, Uruguay.

Sample period: Quarterly data from 1980:Q1 to 2012:Q4. Six series: y, c, g, i, x, and m. Total of 132 observations per series, or 33 years. Of the $(11 + 17) * 6 = 168$ series we have, 160 have 132 observations each. The 8 series that have less than 132 observations are: The series for Uruguay begin in 1983 (6 series), and the private consumption and public consumption data for Argentina begins in 1993:Q1 (2 series).

The data and its documentation is contained in the Excel file: `usg_data_quarterly.xls.` In general, we obtain series for y, c, g, i, x, and m as follows. The raw data typically is in nominal terms. After deflating each series by the GDP deflator, the series is seasonally adjusted. The seasonally adjusted series is then divided by population to obtain a per capita measure. For the majority of countries investment corresponds to gross capital formation. If only data on fixed investment was available, that series is used instead.

This appendix presents second moments for each country using HP filtered data and for first differenced data.

2   Business Cycle Facts for Individual Countries: Annual Data Set, 1965 to 2010

To be included in the annual data set a country must have at least 30 years of consecutive annual observations for y, c, g, i, x and m.

The data is contained in the Excel file: `data_annual.xls`. We adjusted the WDI raw data as follows:

1. Argentina: added Public and Private Consumption Shares from 1980 to 1986 from Penn World Tables.

2. Cuba, Puerto Rico, and Zimbabwe: GDP per capital at PPP prices (not used to produce any business-cycle fact but to categorize a country as rich, poor, or emerging) all entries (i.e., all years) correspond to the 2010 value given in the CIA factbook.

3. Swaziland: Private Consumption Share for 1972 was corrected based on private correspondence with WDI staff.

4. Congo Rep., Nicaragua, and Saudi Arabia: We eliminated all Private Consumption Share data as they appeared faulty. Because other time series for these countries also appear faulty, these countries were not included in computing business-cycle facts.

This appendix presents second moments for each country for log-quadratic detrended data.

Table 1: HP-Filtered Business Cycles, Quarterly Data, 1980Q1-2012Q4

Statistic	Aust	Aust	Belg	Cana	Denm	Finl	Fran	Germ	Hong	Ital	Japa	Neth	Norw	Swed	Swit	Unit	Unit	Mean
Standard Deviations																		
σ_y	1.27	1.19	1.05	1.53	1.63	2.40	1.01	1.47	2.67	1.20	1.39	1.43	1.46	1.77	1.31	1.46	1.40	1.38
σ_c/σ_y	0.89	0.79	0.94	0.71	1.10	0.60	0.84	0.72	0.96	1.03	0.76	0.91	2.16	0.74	0.55	1.02	0.86	0.85
σ_g/σ_y	1.42	0.96	1.51	1.02	0.92	0.80	0.80	0.88	1.41	1.50	0.86	1.09	2.46	0.76	1.12	0.96	0.76	0.93
σ_i/σ_y	4.89	1.96	3.93	2.81	5.19	4.98	5.12	2.59	3.59	2.69	3.00	3.66	5.48	4.54	4.28	4.96	3.72	3.65
σ_x/σ_y	4.64	4.01	4.80	3.49	3.01	2.92	4.65	3.81	2.22	4.96	5.91	3.59	4.35	2.91	3.18	3.12	3.56	4.11
σ_m/σ_y	4.14	4.28	5.28	3.47	3.40	2.81	5.08	4.07	2.43	5.57	7.98	3.53	3.20	3.09	3.81	3.64	4.32	4.84
$\sigma_{tb/y}$	1.00	0.72	1.03	0.97	1.01	1.32	0.52	0.74	2.27	0.76	0.59	0.86	2.97	0.85	0.81	0.74	0.44	0.64
Correlations with y																		
y	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
c	0.27	0.62	0.68	0.54	0.75	0.67	0.77	0.66	0.72	0.81	0.77	0.75	0.28	0.57	0.53	0.87	0.89	0.78
g/y	-0.55	-0.70	-0.68	-0.86	-0.81	-0.82	-0.87	-0.75	-0.68	-0.56	-0.71	-0.64	-0.43	-0.79	-0.65	-0.82	-0.85	-0.78
i	0.87	0.67	0.71	0.77	0.84	0.70	0.88	0.88	0.69	0.84	0.87	0.73	0.47	0.83	0.80	0.83	0.93	0.87
x	0.17	0.79	0.73	0.79	0.47	0.54	0.75	0.84	0.80	0.67	0.78	0.64	0.34	0.66	0.83	0.43	0.64	0.67
m	0.61	0.72	0.75	0.82	0.64	0.67	0.83	0.78	0.78	0.74	0.70	0.67	0.51	0.67	0.82	0.59	0.82	0.76
tb/y	-0.40	0.19	-0.24	0.09	-0.40	-0.03	-0.36	0.18	-0.14	-0.26	-0.07	0.06	0.01	0.03	-0.11	-0.41	-0.61	-0.31
tb	-0.42	0.23	-0.22	0.11	-0.37	-0.01	-0.36	0.22	-0.07	-0.26	-0.05	0.13	0.04	0.12	-0.05	-0.43	-0.64	-0.31
Serial Correlations																		
y	0.84	0.85	0.83	0.90	0.71	0.85	0.91	0.81	0.77	0.86	0.79	0.84	0.66	0.77	0.85	0.90	0.88	0.85
c	0.73	0.64	0.83	0.81	0.68	0.67	0.75	0.57	0.77	0.76	0.66	0.69	0.77	0.75	0.75	0.79	0.86	0.76
g	0.44	0.71	0.40	0.77	0.79	0.81	0.88	0.50	0.47	0.64	0.42	0.70	0.74	0.55	0.80	0.36	0.72	0.62
i	0.80	0.86	0.88	0.89	0.70	0.45	0.86	0.78	0.65	0.86	0.86	0.63	0.63	0.70	0.79	0.70	0.85	0.82
x	0.71	0.88	0.80	0.82	0.82	0.70	0.88	0.84	0.81	0.83	0.80	0.88	0.76	0.78	0.83	0.73	0.86	0.83
m	0.76	0.91	0.79	0.84	0.84	0.64	0.88	0.87	0.81	0.83	0.88	0.87	0.64	0.83	0.86	0.76	0.83	0.84
tb/y	0.75	0.47	0.25	0.69	0.59	0.21	0.70	0.53	0.50	0.66	0.81	0.53	0.76	0.29	0.42	0.56	0.77	0.69

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Table 2: First-Differenced Business Cycles

Statistic	Aust	Aust	Belg	Cana	Denm	Finl	Fran	Germ	Hong	Ital	Japa	Neth	Norw	Swed	Swit	Unit	Unit	Mean
Standard Deviations																		
$\sigma_{\Delta y}$	0.77	0.69	0.67	0.78	1.26	1.43	0.50	0.95	1.90	0.75	0.96	0.87	1.25	1.25	0.78	0.79	0.75	0.81
$\sigma_{\Delta c}/\sigma_{\Delta y}$	1.11	1.18	0.92	0.91	1.16	0.85	1.26	1.05	0.96	1.23	0.94	1.26	1.75	0.78	0.68	1.31	0.92	1.03
$\sigma_{\Delta g}/\sigma_{\Delta y}$	2.52	1.31	2.62	1.44	0.80	0.89	0.91	1.38	2.04	2.17	1.35	1.46	2.12	1.06	1.30	2.11	1.15	1.41
$\sigma_{\Delta i}/\sigma_{\Delta y}$	5.28	2.01	3.48	2.87	5.20	8.77	5.86	2.81	4.30	2.54	2.47	5.30	5.64	5.10	4.83	7.26	3.99	3.99
$\sigma_{\Delta x}/\sigma_{\Delta y}$	5.96	3.70	4.85	4.43	2.39	3.89	4.94	3.47	2.00	4.73	5.52	3.06	3.55	2.83	3.25	4.31	3.77	4.25
$\sigma_{\Delta m}/\sigma_{\Delta y}$	4.89	3.44	5.49	4.09	2.54	4.05	5.28	3.33	2.20	5.39	6.06	3.15	3.22	2.70	3.62	4.63	4.81	4.77
$\sigma_{tb/y}$	1.21	1.36	1.19	2.02	1.49	2.79	0.90	1.09	4.83	1.28	0.96	1.13	4.12	1.46	1.13	1.25	1.12	1.21
Correlations with Δy																		
Δy	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Δc	0.25	0.57	0.52	0.35	0.61	0.32	0.59	0.49	0.54	0.57	0.73	0.36	0.31	0.48	0.45	0.61	0.69	0.61
g/y	-0.07	-0.11	-0.12	-0.29	-0.11	-0.36	-0.06	-0.23	-0.03	-0.11	-0.10	-0.18	-0.11	-0.30	-0.29	-0.08	-0.19	-0.15
Δi	0.64	0.50	0.38	0.62	0.59	0.29	0.55	0.76	0.42	0.57	0.74	0.60	0.20	0.49	0.47	0.50	0.83	0.70
Δx	0.15	0.55	0.47	0.59	0.32	0.36	0.62	0.62	0.71	0.30	0.55	0.37	0.45	0.60	0.67	0.33	0.46	0.48
Δm	0.24	0.56	0.45	0.58	0.40	0.34	0.61	0.46	0.62	0.32	0.38	0.31	0.24	0.41	0.55	0.44	0.54	0.47
tb/y	0.03	0.07	0.18	0.19	0.01	0.27	-0.01	0.19	0.17	-0.02	0.20	0.18	0.14	0.30	-0.05	-0.05	-0.12	0.02
Serial Correlations																		
Δy	0.26	0.37	0.37	0.56	0.06	0.11	0.58	0.09	0.14	0.44	0.25	0.28	-0.20	-0.02	0.16	0.60	0.42	0.37
Δc	0.26	-0.16	0.26	0.11	-0.08	-0.04	-0.00	-0.22	0.16	0.13	-0.05	-0.22	0.09	0.04	-0.02	0.18	0.35	0.13
Δg	-0.38	-0.08	-0.40	0.07	0.09	-0.05	0.44	-0.40	-0.26	-0.15	-0.29	-0.03	-0.03	-0.29	0.22	-0.21	0.00	-0.09
Δi	0.09	0.35	0.30	0.47	-0.01	-0.33	0.24	-0.09	0.01	0.32	0.39	-0.16	-0.24	-0.20	-0.04	-0.10	0.31	0.22
Δx	0.10	0.32	0.24	0.32	0.06	-0.13	0.44	0.22	0.23	0.21	0.28	0.49	0.06	-0.02	0.21	0.12	0.53	0.35
Δm	0.05	0.66	0.14	0.31	0.27	-0.21	0.49	0.36	0.26	0.25	0.42	0.41	-0.23	0.21	0.28	0.28	0.44	0.38
tb/y	0.82	0.84	0.44	0.93	0.81	0.82	0.89	0.78	0.89	0.87	0.92	0.72	0.87	0.76	0.69	0.85	0.96	0.89

Note. The variables Δy, Δc, Δg, Δi, Δx, and Δm denote, respectively, the log differences of output, consumption, government consumption, investment, exports, and imports. The variables g/y and tb/y are quadratically detrended in levels. All variables are expressed in percent.

Table 3: HP-Filtered Business Cycles, Quarterly Data, 1980Q1-2012Q4

Statistic	Argentina	Israel	Korea, Rep.	Mexico	New Zealand	Peru	Portugal	South Africa	Spain	Turkey	Uruguay	Mean
Standard Deviations												
σ_y	4.04	1.81	2.14	2.34	1.77	4.79	2.11	1.58	1.33	3.31	3.00	2.60
σ_c/σ_y	1.26	1.63	1.46	1.30	1.01	1.08	1.11	1.56	1.20	1.31	1.71	1.32
σ_g/σ_y	1.50	2.47	1.03	2.11	1.44	2.28	1.66	1.98	2.56	2.51	1.10	2.02
σ_i/σ_y	3.45	3.34	3.80	3.55	3.52	2.50	2.97	6.71	4.25	3.27	4.86	3.88
σ_x/σ_y	2.73	3.84	3.24	4.89	2.99	2.18	2.74	5.30	3.68	2.90	2.81	3.80
σ_m/σ_y	3.75	3.95	2.98	3.40	3.60	2.05	2.82	6.23	4.81	2.69	3.52	3.65
$\sigma_{tb/y}$	2.18	1.95	2.42	1.85	1.43	2.41	1.69	2.32	0.98	1.86	2.15	1.95
Correlations with y												
y	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
c	0.91	0.44	0.78	0.77	0.59	0.83	0.84	0.75	0.77	0.76	0.83	0.78
g/y	-0.06	-0.19	-0.63	-0.19	-0.55	0.32	0.05	-0.31	-0.26	-0.21	-0.46	-0.22
i	0.92	0.43	0.84	0.77	0.63	0.77	0.69	0.65	0.80	0.80	0.54	0.77
x	-0.41	0.43	-0.08	-0.31	0.13	-0.11	0.30	0.32	0.35	-0.02	0.59	-0.05
m	0.71	0.35	0.49	0.26	0.16	0.43	0.55	0.77	0.66	0.67	0.68	0.52
tb/y	-0.76	0.14	-0.55	-0.51	-0.08	-0.42	-0.32	-0.57	-0.62	-0.68	-0.26	-0.56
tb	-0.76	0.07	-0.53	-0.51	-0.08	-0.42	-0.40	-0.56	-0.64	-0.68	-0.26	-0.56
Serial Correlations												
y	0.85	0.60	0.75	0.84	0.52	0.82	0.54	0.88	0.83	0.75	0.80	0.80
c	0.89	0.70	0.80	0.73	0.49	0.78	0.55	0.79	0.74	0.66	0.66	0.74
g	0.87	0.58	0.36	0.36	0.17	0.52	0.71	0.39	0.06	0.60	0.28	0.44
i	0.82	0.66	0.69	0.76	0.71	0.73	0.80	0.47	0.68	0.75	0.39	0.71
x	0.69	0.75	0.74	0.74	0.73	0.69	0.82	0.61	0.77	0.79	0.52	0.73
m	0.86	0.74	0.73	0.68	0.69	0.46	0.75	0.74	0.85	0.72	0.53	0.72
tb/y	0.81	0.54	0.70	0.77	0.48	0.65	0.81	0.53	0.76	0.72	0.31	0.71

Table 4: First-Differenced Business Cycles

Statistic	Argentina	Israel	Korea, Rep.	Mexico	New Zealand	Peru	Portugal	South Africa	Spain	Turkey	Uruguay	Mean
Standard Deviations												
$\sigma_{\Delta y}$	2.43	1.64	1.60	1.35	1.77	3.07	2.07	0.87	0.92	2.39	2.01	1.70
$\sigma_{\Delta c}/\sigma_{\Delta y}$	1.06	1.42	1.27	1.70	1.02	1.16	1.10	1.89	1.34	1.49	2.15	1.48
$\sigma_{\Delta g}/\sigma_{\Delta y}$	1.43	2.49	1.60	4.16	1.85	3.55	1.36	4.00	4.95	3.14	2.00	3.33
$\sigma_{\Delta i}/\sigma_{\Delta y}$	3.69	3.13	4.04	4.29	2.78	2.95	2.02	12.55	5.28	3.28	8.07	4.95
$\sigma_{\Delta x}/\sigma_{\Delta y}$	3.66	3.08	3.21	6.25	2.23	2.78	1.71	8.68	3.81	2.79	4.10	4.65
$\sigma_{\Delta m}/\sigma_{\Delta y}$	3.57	3.23	2.95	4.81	2.88	3.40	2.08	8.20	4.08	2.85	5.15	4.26
$\sigma_{tb/y}$	3.72	2.88	3.57	3.04	1.87	3.66	3.11	3.03	2.12	2.08	3.18	2.93
Correlations with Δy												
Δy	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Δc	0.75	0.26	0.71	0.61	0.47	0.73	0.89	0.51	0.43	0.70	0.52	0.62
g/y	-0.60	-0.15	-0.15	-0.14	-0.18	0.03	-0.06	-0.27	-0.16	-0.02	-0.26	-0.17
Δi	0.71	0.27	0.70	0.60	0.37	0.56	0.61	0.26	0.51	0.63	0.16	0.57
Δx	-0.18	0.39	-0.00	-0.08	0.28	0.00	0.55	0.27	0.21	-0.01	0.32	0.04
Δm	0.47	0.23	0.29	0.24	-0.06	0.17	0.54	0.48	0.40	0.60	0.26	0.37
tb/y	0.00	0.04	0.01	-0.19	0.07	0.09	0.03	-0.08	0.00	-0.31	0.05	-0.11
Serial Correlations												
Δy	0.26	-0.25	0.22	0.32	-0.20	0.40	-0.25	0.58	0.14	0.04	0.08	0.24
Δc	0.54	-0.13	0.21	-0.02	-0.32	0.24	-0.24	0.07	0.04	-0.07	-0.15	0.07
Δg	0.26	-0.06	-0.36	-0.28	-0.43	-0.22	-0.10	-0.23	-0.54	-0.25	-0.41	-0.25
Δi	0.01	-0.40	0.04	0.12	-0.14	0.08	0.03	-0.36	-0.08	0.04	-0.31	-0.01
Δx	-0.02	-0.04	0.11	0.11	-0.03	-0.04	0.11	-0.22	0.07	0.25	-0.40	0.06
Δm	0.45	-0.04	0.18	-0.11	-0.18	-0.24	-0.01	0.06	0.24	0.05	-0.21	0.05
tb/y	0.93	0.78	0.85	0.91	0.69	0.84	0.94	0.73	0.94	0.77	0.68	0.85

Table 5: Business Cycles Facts for Poor Countries, Log-Quadratic Detrending, Annual Data, 1965-2010

	Standard Deviations							Correlations with y							Serial Correlations							Means	
Country	σ_y	$\frac{\sigma_c}{\sigma_y}$	$\frac{\sigma_g}{\sigma_y}$	$\frac{\sigma_i}{\sigma_y}$	$\frac{\sigma_x}{\sigma_y}$	$\frac{\sigma_m}{\sigma_y}$	$\sigma_{tb/y}$	c	$\frac{g}{y}$	i	x	m	$\frac{tb}{y}$	tb	y	c	g	i	x	m	$\frac{tb}{y}$	$\frac{tb}{y}$	$\frac{x+m}{y}$
Poor Countries																							
Bangladesh	4.20	0.82	3.00	5.50	5.22	3.90	2.10	0.78	0.47	0.57	0.28	0.54	-0.23	-0.30	0.60	0.32	0.47	0.61	0.61	0.42	0.47	-6.10	25.92
Benin	3.66	1.40	4.88	5.57	4.98	4.55	3.44	0.74	0.45	0.19	0.41	0.51	-0.27	-0.41	0.71	0.48	0.87	0.52	0.59	0.74	0.71	-13.28	41.02
Bhutan	4.08	3.35	3.25	3.92	5.42	2.64	7.89	0.29	-0.65	-0.16	0.62	-0.25	0.63	0.56	0.46	0.36	0.24	0.60	0.78	0.08	0.50	-18.64	78.78
Burkina Faso	3.54	3.23	3.53	5.99	3.35	5.02	3.41	0.83	-0.45	0.06	0.11	0.69	-0.67	-0.75	0.63	0.82	0.33	0.66	0.16	0.85	0.80	-14.92	31.79
Burundi	8.46	1.06	3.44	6.45	2.61	3.49	5.23	0.86	0.21	0.71	0.54	0.79	-0.59	-0.70	0.77	0.67	0.81	0.80	0.24	0.86	0.71	-12.00	31.24
Cameroon	14.45	0.82	1.32	2.41	1.81	2.12	3.04	0.94	0.07	0.86	0.78	0.83	-0.31	-0.27	0.93	0.85	0.85	0.86	0.78	0.89	0.34	-0.22	48.39
Central African Republic	6.00	1.68	2.34	4.28	3.06	2.76	3.46	0.82	-0.45	0.32	0.38	0.62	-0.24	-0.40	0.79	0.78	0.55	0.41	0.48	0.48	0.37	-10.11	50.93
China	7.56	1.17	2.23	2.85	1.90	2.20	1.75	0.65	0.05	0.79	-0.01	0.14	-0.14	-0.11	0.55	0.83	0.76	0.31	0.60	0.56	0.48	1.63	33.30
Comoros	2.73	0.96	4.23	7.49	6.89	4.35	4.55	0.13	0.13	0.31	0.31	0.19	0.12	-0.04	0.44	0.16	0.60	0.42	0.11	0.74	0.41	-26.62	58.02
Congo, Dem. Rep.	18.34	0.89	2.28	4.08	2.43	2.73	3.92	0.93	0.43	0.78	0.70	0.77	-0.59	-0.67	0.94	0.83	0.78	0.68	0.65	0.62	0.45	-2.42	51.23
Cote d'Ivoire	13.02	0.77	2.08	3.12	1.52	1.89	4.45	0.89	0.30	0.89	0.82	0.92	-0.44	-0.32	0.93	0.83	0.92	0.89	0.86	0.93	0.61	6.19	71.73
Ethiopia	6.39	1.16	3.70	2.96	4.12	3.14	2.39	0.74	-0.05	0.45	0.15	0.08	0.23	0.02	0.54	0.57	0.72	0.24	0.67	0.59	0.59	-10.26	29.57
Gambia, The	5.63	2.07	4.25	10.89	4.39	5.22	6.29	-0.18	0.23	0.67	0.56	0.69	-0.58	-0.63	0.81	0.27	0.32	0.81	0.79	0.84	0.77	-10.42	81.23
Ghana	8.11	1.00	2.90	4.93	5.45	5.87	4.36	0.78	0.40	0.17	0.32	0.18	0.31	0.26	0.86	0.52	0.80	0.75	0.87	0.86	0.51	-7.83	52.43
Guyana	10.85	1.41	2.65	2.15	2.26	2.22	7.68	0.64	0.31	0.46	0.65	0.67	-0.01	-0.15	0.90	0.56	0.76	0.58	0.74	0.70	0.23	-8.86	154.43
Honduras	5.87	1.44	2.86	3.75	3.10	3.47	3.75	0.83	0.36	0.38	0.52	0.59	-0.47	-0.55	0.88	0.93	0.91	0.65	0.82	0.82	0.50	-7.60	80.01
India	3.16	1.07	2.21	2.89	3.86	4.52	0.97	0.67	0.01	0.47	0.07	-0.18	-0.06	-0.10	0.60	0.36	0.70	0.56	0.76	0.75	0.75	-1.62	19.67
Indonesia	8.30	1.17	2.54	3.55	3.16	2.60	3.73	0.57	0.16	0.54	0.32	0.27	-0.05	-0.04	0.89	0.80	0.68	0.61	0.37	-0.03	0.58	2.49	45.89
Kenya	7.23	0.98	2.13	3.08	2.08	2.15	3.38	0.72	0.66	0.82	0.56	0.81	-0.51	-0.59	0.81	0.50	0.88	0.70	0.72	0.68	0.45	-4.47	60.44
Lesotho	7.46	2.37	3.00	4.12	2.84	2.23	14.83	0.62	-0.45	0.39	0.47	0.60	0.01	-0.38	0.67	0.88	0.78	0.73	0.64	0.80	0.70	-77.42	127.59
Madagascar	7.15	0.81	2.41	4.02	3.01	2.89	4.42	0.86	0.49	0.86	0.58	0.68	-0.35	-0.44	0.83	0.72	0.66	0.68	0.58	0.57	0.63	-8.58	45.76
Malawi	9.40	0.83	2.00	3.07	2.07	2.01	5.74	0.54	-0.09	0.40	0.77	0.54	0.23	-0.02	0.85	0.36	0.61	0.51	0.62	0.61	0.33	-12.90	62.18
Mali	7.62	1.37	1.76	1.75	1.71	1.89	4.07	0.84	-0.38	0.09	0.42	0.28	0.29	0.00	0.80	0.88	0.25	0.32	0.36	0.37	0.21	-14.05	50.26
Mauritania	11.15	1.56	2.90	3.58	3.56	3.04	15.17	0.70	-0.06	0.09	0.79	0.45	0.22	0.17	0.85	0.55	0.88	0.47	0.84	0.83	0.75	-12.67	93.78
Mongolia	9.46	1.36	2.37	2.52	1.89	2.30	8.52	0.70	0.48	0.82	0.06	0.50	-0.44	-0.64	0.86	0.67	0.60	0.62	-0.34	0.14	0.50	-18.93	105.63
Mozambique	8.28	1.25	2.03	4.25	5.28	4.09	6.68	0.88	-0.34	0.54	0.86	0.72	-0.15	-0.33	0.75	0.59	0.50	0.46	0.78	0.70	0.69	-18.91	52.65
Nepal	3.55	0.96	2.28	4.66	7.63	4.62	2.59	0.41	-0.27	-0.38	0.65	0.42	0.44	0.32	0.74	0.14	0.40	0.66	0.79	0.65	0.69	-9.46	35.28
Niger	6.60	1.01	2.05	7.14	3.20	3.55	3.47	0.59	-0.07	0.54	0.48	0.39	-0.00	-0.20	0.61	0.40	0.54	0.56	0.76	0.76	0.41	-6.39	39.07
Pakistan	3.88	1.29	4.13	3.75	3.54	4.26	3.48	0.47	0.39	0.43	0.24	0.48	-0.23	-0.28	0.84	0.74	0.73	0.67	0.63	0.72	0.77	-6.39	32.64
Papua New Guinea	10.33	1.27	1.24	2.36	2.14	1.61	9.98	0.43	0.11	0.54	0.61	0.52	0.15	0.11	0.90	0.68	0.75	0.75	0.85	0.80	0.69	-4.01	93.23
Philippines	8.53	0.75	1.50	2.67	1.71	2.05	3.10	0.88	-0.26	0.79	0.08	0.23	-0.02	-0.14	0.94	0.90	0.86	0.81	0.68	0.78	0.61	-3.07	61.14
Rwanda	14.67	0.73	1.53	2.01	2.77	1.46	6.81	0.82	0.03	0.88	0.73	0.38	0.61	0.24	0.69	0.74	0.56	0.68	0.78	0.59	0.19	-11.46	31.32
Senegal	3.76	1.49	6.11	10.13	4.28	5.58	4.36	0.36	0.29	0.53	0.38	0.54	-0.45	-0.49	0.56	0.73	0.71	0.90	0.59	0.83	0.80	-8.60	59.73
Sierra Leone	15.58	0.90	1.19	2.21	1.87	1.78	6.74	0.84	-0.37	0.51	0.55	0.46	0.13	-0.09	0.91	0.77	0.58	0.42	0.62	0.52	0.65	-5.96	49.04
Sri Lanka	2.41	1.66	3.87	7.11	6.53	6.41	4.04	0.68	-0.30	0.77	-0.04	0.42	-0.58	-0.60	0.76	0.42	0.54	0.75	0.82	0.71	0.54	-7.61	65.31
Sudan	7.62	1.47	4.75	4.68	5.13	4.64	3.37	0.58	0.14	0.20	0.58	0.69	-0.37	-0.49	0.79	0.69	0.88	0.57	0.82	0.77	0.47	-4.42	28.16
Togo	10.33	1.20	2.13	3.89	2.67	2.57	7.79	0.16	0.17	0.78	0.82	0.71	0.08	0.03	0.84	0.17	0.70	0.74	0.71	0.80	0.17	-6.02	85.36
Uganda	4.27	1.09	5.06	2.53	4.43	2.17	2.99	0.48	0.47	0.52	0.37	0.25	0.16	0.04	0.80	0.44	0.80	0.19	0.53	0.37	0.37	-5.54	37.27
Zambia	11.14	1.06	2.98	3.41	1.88	1.44	7.72	-0.31	0.56	0.73	0.80	0.63	0.27	0.29	0.91	0.34	0.77	0.73	0.73	0.52	0.23	1.42	78.30
Zimbabwe	10.50	0.99	4.16	5.38	2.06	1.92	5.60	0.62	0.09	0.50	0.73	0.60	0.27	0.14	0.81	0.58	0.63	0.72	0.75	0.73	0.70	-5.26	64.88

Table 6: Business Cycles, Log-Quadratic Detrending, Annual Data, 1965-2010

Country	σ_y	$\frac{\sigma_c}{\sigma_y}$	$\frac{\sigma_g}{\sigma_y}$	$\frac{\sigma_i}{\sigma_y}$	$\frac{\sigma_x}{\sigma_y}$	$\frac{\sigma_m}{\sigma_y}$	$\sigma_{tb/y}$	c	$\frac{g}{y}$	i	x	m	$\frac{tb}{y}$	tb	y	c	g	i	x	m	$\frac{tb}{y}$	$\frac{tb}{y}$	$\frac{x+m}{y}$
Emerging Countries																							
Albania	12.50	0.61	1.16	3.74	2.17	1.65	12.56	-0.12	-0.72	0.94	0.86	-0.42	0.78	0.71	0.74	0.14	0.50	0.62	0.52	0.36	0.49	-18.28	56.30
Algeria	10.55	1.17	1.34	2.83	2.94	2.67	7.21	0.23	-0.26	0.80	0.61	0.72	-0.08	-0.08	0.74	0.32	0.56	0.84	0.65	0.51	0.46	0.75	57.68
Antigua and Barbuda	8.65	2.02	0.74	3.34	1.71	2.24	10.38	0.40	-0.72	0.71	0.63	0.66	-0.17	-0.28	0.83	0.61	0.21	0.69	0.55	0.63	0.57	-10.57	146.46
Argentina	10.76	0.86	3.88	2.55	2.15	2.06	3.18	0.71	0.49	0.92	0.19	0.63	-0.40	-0.31	0.85	0.61	0.78	0.83	0.63	0.59	0.60	1.83	20.49
Bahrain	9.49	1.87	0.73	2.78	1.39	1.44	7.52	0.74	-0.73	0.26	0.70	0.72	-0.07	0.11	0.82	0.73	0.54	0.30	0.51	0.64	0.36	12.85	174.11
Barbados	6.71	1.31	2.52	3.61	2.26	2.59	5.32	0.88	0.24	0.81	0.63	0.82	-0.61	-0.67	0.81	0.70	0.69	0.80	0.80	0.86	0.69	-5.71	119.00
Bolivia	8.80	0.65	1.80	2.51	2.36	1.69	4.38	0.60	0.38	0.61	0.50	0.68	-0.00	-0.04	0.92	0.79	0.73	0.59	0.78	0.69	0.54	-1.88	54.12
Botswana	9.43	1.58	1.66	3.73	2.41	1.79	11.24	0.32	-0.31	-0.12	0.86	0.46	0.41	0.27	0.88	0.76	0.85	0.86	0.85	0.86	0.85	-4.02	94.70
Brazil	9.80	1.16	1.35	2.00	2.38	2.67	2.29	0.92	-0.59	0.90	0.45	0.69	-0.32	-0.35	0.93	0.91	0.76	0.80	0.60	0.78	0.79	0.26	18.28
Bulgaria	10.41	0.77	1.54	3.61	1.37	1.55	5.46	0.76	0.29	0.87	0.57	0.78	-0.45	-0.47	0.88	0.66	0.82	0.76	0.36	0.56	0.67	-4.16	99.69
Chile	8.67	1.13	1.52	2.94	1.59	1.47	3.35	0.84	-0.38	0.75	-0.03	0.24	-0.29	-0.28	0.86	0.78	0.78	0.58	0.63	0.52	0.47	1.15	49.51
Colombia	4.12	0.91	4.09	3.58	3.59	3.23	2.98	0.76	-0.20	0.70	0.48	0.45	0.05	0.03	0.87	0.65	0.83	0.67	0.71	0.63	0.70	-0.67	31.16
Costa Rica	8.14	0.88	2.20	2.91	2.08	2.42	3.42	0.78	0.71	0.86	0.65	0.80	-0.54	-0.63	0.92	0.69	0.93	0.78	0.76	0.83	0.43	-4.50	72.83
Cuba	18.66	0.71	1.30	2.63	2.26	2.34	2.32	0.97	0.58	0.88	0.98	0.97	-0.74	-0.86	0.94	0.87	0.94	0.85	0.93	0.91	0.57	-6.62	55.62
Cyprus	4.26	0.91	1.85	4.37	2.12	2.44	3.14	0.66	-0.37	0.89	0.67	0.78	-0.49	-0.63	0.64	0.38	0.57	0.66	0.20	0.42	0.38	-7.31	103.78
Dominica	7.29	0.95	1.74	3.59	3.00	2.16	10.79	0.29	-0.31	0.56	0.83	0.62	0.32	0.17	0.67	0.48	0.73	0.70	0.58	0.77	0.43	-20.69	106.20
Dominican Republic	9.32	0.99	2.89	2.44	2.21	1.67	3.72	0.90	-0.20	0.84	-0.07	0.13	-0.17	-0.31	0.85	0.78	0.79	0.53	0.66	0.38	0.49	-6.15	59.50
Ecuador	8.11	0.65	3.01	2.47	2.53	2.13	3.91	0.71	0.78	0.82	0.69	0.77	-0.04	-0.09	0.91	0.65	0.89	0.66	0.71	0.77	0.30	-2.37	52.84
Egypt, Arab Rep.	5.79	1.33	2.83	4.40	4.39	4.38	3.92	0.79	-0.52	0.60	0.40	0.40	-0.08	-0.24	0.89	0.84	0.85	0.85	0.84	0.82	0.64	-7.77	49.89
El Salvador	12.75	0.84	1.40	2.23	2.50	2.02	2.83	0.93	-0.25	0.86	0.92	0.94	0.16	-0.08	0.95	0.90	0.94	0.85	0.91	0.90	0.34	-8.92	59.14
Fiji	7.25	1.59	1.29	3.77	1.78	2.00	5.23	0.71	-0.34	0.74	0.29	0.62	-0.52	-0.56	0.82	0.65	0.65	0.77	0.61	0.70	0.57	-5.07	105.00
Gabon	17.98	0.83	1.27	1.99	1.57	1.56	9.61	-0.03	-0.25	0.75	0.80	0.80	0.04	0.17	0.87	0.43	0.63	0.63	0.83	0.76	0.50	13.58	94.17
Greece	11.01	0.93	1.23	4.25	1.95	1.45	1.73	0.42	0.04	0.50	0.74	0.83	0.12	-0.43	0.95	0.15	0.90	0.27	0.89	0.87	0.59	-9.52	44.89
Grenada	6.11	1.21	2.22	3.73	2.53	1.88	8.29	0.40	-0.04	0.41	0.34	0.42	0.12	-0.06	0.73	0.44	0.71	0.46	0.65	0.52	0.67	-23.21	102.36
Guatemala	7.47	0.77	2.42	3.33	3.15	3.33	2.52	0.95	0.28	0.77	0.82	0.77	-0.19	-0.31	0.95	0.91	0.86	0.80	0.88	0.85	0.50	-5.74	44.50
Hungary	13.83	1.08	1.35	1.83	2.05	2.03	3.24	0.95	-0.68	0.86	0.86	0.82	0.14	0.07	0.93	0.88	0.56	0.89	0.91	0.92	0.53	-0.87	91.17
Iran, Islamic Rep.	19.62	0.72	1.68	1.47	3.12	2.21	8.18	0.55	0.74	0.63	0.87	0.82	0.52	0.59	0.93	0.79	0.93	0.54	0.84	0.84	0.56	2.00	41.81
Israel	5.35	1.03	4.31	3.44	4.10	5.86	6.26	0.47	0.61	0.80	0.58	0.67	-0.63	-0.70	0.83	0.44	0.89	0.70	0.87	0.89	0.79	-11.19	77.62
Jordan	14.06	1.14	0.92	1.49	1.09	1.18	6.36	0.89	-0.18	0.45	0.54	0.63	-0.13	-0.59	0.89	0.85	0.77	0.65	0.74	0.74	0.53	-31.78	122.61
Korea, Rep.	6.09	0.92	1.75	2.39	3.67	2.56	3.44	0.75	-0.07	0.48	-0.62	-0.45	-0.03	-0.09	0.84	0.71	0.77	0.51	0.83	0.78	0.51	-2.42	59.61
Malaysia	5.05	1.08	1.96	4.20	3.56	3.94	5.97	0.62	-0.52	0.85	0.66	0.78	-0.40	-0.36	0.79	0.65	0.65	0.74	0.89	0.88	0.65	7.49	131.76
Malta	7.79	0.84	0.88	1.93	2.20	1.65	4.27	0.89	-0.49	0.34	0.81	0.77	0.59	0.44	0.89	0.85	0.84	0.48	0.84	0.73	0.58	-9.05	158.90
Mauritius	5.71	0.66	1.90	3.51	1.96	2.20	4.16	0.50	0.39	0.84	0.76	0.77	-0.14	-0.21	0.83	0.70	0.84	0.66	0.76	0.80	0.58	-5.02	117.98
Mexico	6.02	0.75	2.49	2.26	2.88	2.64	2.69	0.73	0.49	0.85	-0.20	-0.31	0.04	0.03	0.85	0.61	0.88	0.73	0.78	0.81	0.72	-0.69	35.46
Morocco	5.54	0.98	2.69	4.22	1.83	3.32	4.66	0.81	0.33	0.87	0.20	0.71	-0.65	-0.68	0.71	0.65	0.84	0.85	0.55	0.83	0.80	-5.87	53.89
Namibia	2.82	4.07	4.58	9.39	3.19	4.59	7.39	0.40	-0.21	0.20	0.35	0.29	-0.07	-0.09	0.54	0.28	0.59	0.50	0.41	0.37	0.12	-6.85	109.27
New Zealand	3.86	0.89	1.06	3.61	1.91	2.76	2.64	0.87	-0.31	0.88	0.39	0.57	-0.56	-0.55	0.82	0.77	0.70	0.72	0.68	0.67	0.44	-0.39	56.69
Panama	11.46	0.67	0.79	3.33	1.34	1.64	4.10	0.15	-0.15	0.36	0.24	0.24	-0.16	-0.11	0.92	0.21	0.65	0.67	0.78	0.74	0.30	6.58	154.91
Paraguay	9.01	1.04	1.58	2.33	2.77	2.78	3.42	0.91	-0.41	0.86	0.24	0.47	-0.36	-0.48	0.89	0.79	0.77	0.79	0.78	0.75	0.54	-5.34	62.77
Peru ∞	12.78	1.07	1.79	1.96	2.23	1.76	3.78	0.84	0.57	0.57	0.72	0.84	0.10	0.05	0.92	0.89	0.88	0.67	0.80	0.71	0.63	-0.92	36.65
Portugal	6.67	0.77	1.38	2.48	2.19	1.62	2.82	0.60	0.23	0.59	0.27	0.65	-0.28	-0.41	0.88	0.80	0.84	0.63	0.72	0.53	0.68	-7.41	55.92
Puerto Rico	6.61	0.58	1.39	4.23	1.17	0.90	3.93	0.54	0.12	0.67	-0.00	0.30	-0.17	-0.25	0.91	0.75	0.80	0.80	0.44	0.45	0.55	-12.10	121.93
Seychelles	7.00	2.52	1.54	4.91	1.74	2.05	9.27	0.53	-0.50	0.71	0.59	0.81	-0.36	-0.41	0.64	0.49	0.49	0.60	0.57	0.55	0.43	-7.18	151.04
South Africa	9.13	0.84	1.14	2.93	1.88	2.36	3.48	0.80	-0.19	0.96	0.70	0.87	-0.47	-0.42	0.96	0.83	0.89	0.89	0.86	0.84	0.65	2.52	52.46
Spain	6.43	0.67	0.58	2.37	1.96	2.44	1.98	0.72	-0.79	0.71	0.50	0.79	-0.57	-0.59	0.93	0.85	0.78	0.85	0.84	0.76	0.70	-1.84	38.12
St. Kitts and Nevis	5.90	1.61	2.87	3.30	2.49	1.69	7.34	-0.09	-0.19	0.67	0.67	0.61	0.29	0.09	0.78	0.48	0.66	0.53	0.64	0.52	0.48	-20.89	118.66
St. Lucia	7.42	1.73	1.16	2.38	2.12	2.10	6.35	0.84	-0.77	0.61	0.59	0.71	-0.25	-0.40	0.58	0.49	0.48	0.56	0.70	0.75	0.32	-13.81	132.20
St. Vincent and the Grenadines	8.88	1.23	1.21	1.40	1.30	1.38	8.35	0.30	-0.33	0.26	0.29	0.25	0.03	-0.02	0.76	0.35	0.54	0.44	0.43	0.63	0.35	-21.14	121.11
Suriname	6.26	4.09	2.07	3.95	3.33	4.40	8.04	0.72	-0.31	0.05	0.73	0.69	-0.28	-0.35	0.66	0.52	0.24	0.15	0.59	0.58	0.57	-6.67	93.68
Swaziland	6.11	2.06	2.71	3.15	2.75	1.91	12.85	0.20	-0.56	-0.27	0.38	-0.40	0.62	0.61	0.78	0.52	0.57	0.55	0.75	0.77	0.82	-7.66	143.17
Syrian Arab Republic	10.10	0.99	2.13	3.27	2.09	2.33	4.97	0.74	0.36	0.86	0.30	0.75	-0.60	-0.70	0.74	0.55	0.87	0.74	0.78	0.78	0.76	-5.95	54.37
Thailand	8.17	0.80	0.91	2.68	1.89	1.94	3.96	0.92	-0.71	0.82	0.72	0.82	-0.36	-0.42	0.90	0.79	0.77	0.76	0.86	0.75	0.57	-0.48	73.13
Tonga	3.20	2.00	2.41	4.80	5.29	2.94	6.23	0.49	-0.61	0.62	0.22	0.35	-0.05	-0.30	0.71	0.20	-0.00	0.59	0.25	0.35	0.30	-37.03	81.55
Trinidad and Tobago	16.90	0.92	1.58	2.00	1.31	1.23	8.53	0.53	0.22	0.65	0.72	0.59	0.27	0.39	0.96	0.54	0.88	0.78	0.80	0.70	0.55	8.32	91.43
Tunisia	6.59	1.29	1.13	2.50	2.17	3.42	3.22	0.86	-0.36	0.77	0.73	0.79	-0.51	-0.55	0.88	0.82	0.60	0.79	0.77	0.83	0.56	-1.98	72.59
Turkey	4.92	1.15	3.04	3.45	5.58	4.09	2.46	0.76	0.29	0.78	-0.41	0.04	-0.54	-0.58	0.68	0.72	0.86	0.51	0.72	0.54	0.41	-2.91	29.26
Uruguay	7.12	1.38	1.85	4.66	2.55	2.76	3.17	0.82	-0.09	0.51	-0.11	0.44	-0.67	-0.67	0.81	0.58	0.62	0.37	0.59	0.64	0.71	0.18	39.15
Venezuela, RB	9.25	1.25	2.24	3.87	2.03	2.50	6.47	0.47	0.12	0.82	0.26	0.78	-0.46	-0.36	0.84	0.74	0.61	0.67	0.45	0.60	0.35	6.91	47.48
Rich Countries																							
Australia	3.21	0.92	1.52	2.82	2.07	2.32	1.27	0.62	-0.41	0.78	0.24	0.12	0.04	0.03	0.85	0.84	0.84	0.64	0.42	0.49	0.30	-0.93	32.90
Austria	2.81	0.89	1.39	2.51	3.23	3.17	1.13	0.47	-0.34	0.41	0.84	0.88	0.10	0.09	0.83	0.67	0.88	0.58	0.80	0.74	0.55	0.49	71.41
Belgium	3.08	0.65	2.59	3.22	2.23	2.55	1.58	0.25	0.13	0.55	0.62	0.58	-0.11	-0.08	0.85	0.71	0.95	0.67	0.54	0.56	0.81	1.51	120.82
Canada	3.71	0.59	2.01	2.78	3.31	2.65	1.72	0.62	-0.17	0.80	0.34	0.36	0.12	0.14	0.86	0.70	0.93	0.69	0.85	0.78	0.76	1.35	55.43
Denmark	2.98	0.91	2.20	4.23	2.18	2.74	1.95	0.71	-0.49	0.89	0.24	0.43	-0.28	-0.25	0.72	0.62	0.93	0.67	0.62	0.62	0.73	1.08	72.33
Finland	5.35	0.90	0.91	3.39	2.59	2.59	2.86	0.86	-0.65	0.94	0.45	0.75	-0.42	-0.37	0.84	0.80	0.86	0.78	0.81	0.78	0.83	1.68	58.26
France	3.08	0.59	1.17	2.65	3.19	3.65	1.29	0.50	-0.55	0.57	0.65	0.73	-0.31	-0.30	0.89	0.77	0.92	0.59	0.78	0.74	0.76	0.08	42.03
Germany	1.93	0.87	2.43	4.34	4.28	5.24	1.10	0.57	-0.38	0.79	0.15	0.17	-0.07	-0.06	0.54	0.67	0.89	0.66	0.65	0.73	0.68	0.50	54.83
Hong Kong SAR, China	6.29	1.01	1.30	3.05	2.00	1.98	4.93	0.85	-0.62	0.67	0.78	0.88	-0.14	-0.09	0.78	0.77	0.83	0.71	0.80	0.77	0.82	3.82	237.14
Iceland	6.43	1.12	1.20	3.75	2.02	1.94	5.27	0.82	-0.01	0.66	0.35	0.71	-0.32	-0.33	0.83	0.76	0.83	0.72	0.75	0.76	0.61	-1.23	75.30
Ireland	9.44	0.68	0.86	3.22	1.52	1.74	4.80	0.90	-0.58	0.92	0.82	0.80	-0.06	0.19	0.93	0.79	0.85	0.88	0.90	0.85	0.83	1.67	115.31
Italy	2.26	0.99	1.86	3.70	4.62	6.12	1.68	0.88	-0.43	0.73	0.29	0.35	-0.17	-0.17	0.64	0.63	0.81	0.50	0.77	0.74	0.67	0.45	41.11
Japan	4.99	0.39	0.89	2.01	3.27	4.13	0.99	0.79	-0.62	0.86	0.17	0.07	0.10	0.15	0.85	0.62	0.88	0.79	0.79	0.77	0.49	1.11	22.23
Luxembourg	6.74	1.12	0.89	2.71	1.45	1.37	4.56	0.43	-0.67	0.72	0.75	0.61	0.24	0.46	0.87	0.52	0.70	0.76	0.70	0.70	0.60	16.75	205.14
Macao SAR, China	11.17	0.23	0.60	3.87	0.97	1.12	5.24	-0.29	-0.86	0.80	0.70	0.47	0.09	0.56	0.84	0.22	0.58	0.85	0.63	0.69	0.52	28.89	176.97
Netherlands	4.39	0.94	1.86	2.04	1.60	1.51	1.27	0.62	0.01	0.46	0.45	0.47	0.02	0.12	0.90	0.89	0.95	0.77	0.58	0.52	0.57	3.60	108.67
Norway	2.89	1.65	1.34	4.57	2.80	2.47	3.82	0.42	-0.54	0.31	0.52	0.42	0.14	0.19	0.84	0.68	0.50	0.74	0.62	0.64	0.60	4.84	73.25
Singapore	5.39	2.20	1.75	3.72	2.19	2.31	4.29	-0.11	-0.38	0.43	0.46	0.53	-0.34	-0.28	0.71	0.39	0.79	0.73	0.75	0.73	0.55	6.62	336.50
Sweden	4.44	0.57	1.71	2.61	2.33	2.48	1.44	0.75	-0.03	0.75	0.58	0.66	-0.20	-0.09	0.87	0.77	0.96	0.65	0.78	0.72	0.66	2.95	64.99
Switzerland	2.34	0.54	1.37	3.60	2.62	3.32	0.98	0.40	-0.34	0.94	0.70	0.71	-0.24	-0.16	0.74	0.72	0.77	0.67	0.61	0.66	0.56	4.35	77.53
United Kingdom	3.36	1.39	2.02	3.17	2.71	2.86	1.40	0.83	-0.32	0.89	0.22	0.51	-0.55	-0.57	0.80	0.86	0.92	0.67	0.78	0.69	0.68	-0.78	51.21
United States	2.94	1.02	1.93	3.52	3.49	3.24	0.94	0.90	-0.32	0.80	-0.10	0.31	-0.51	-0.54	0.75	0.82	0.91	0.67	0.75	0.63	0.79	-1.54	18.89

Note. The variables y, c, g, i, x, m, and $tb \equiv (x - m)$, denote, respectively, output, total private consumption, government spending, investment, exports, imports, and the trade balance. All variables are real and per capita. The variables y, c, g, i, x, and m are detrended in logs and expressed in percent deviations from trend. The variables tb/y, and g/y are detrended in levels. The variable tb is scaled by the secular component of y and detrended.