Online Appendices:

Re-examining the Middle-Income Trap Hypothesis (MITH): What to Reject and What to Revive?

Xuehui Han and Shang-Jin Wei*

Appendix Table 1. Panel A. Pair-Wise Correlation Matrix for Low-Income Countries

	Initial Income	Inflation	Schooling	Bottom 40% Share	Trade	Political Constr.	Conflicts	Pop 1564 Share	Debt	Power Gen.	Paved Road	Railway	Crisis	Oil exporter	Pop 15–64 growth	Global Growth	Credit to Private	Credit to Deposit	Lending-to-deposit Spread	FDI Inflow	Non-FDI Inflow	Sex Ratio Male to Female 0-29
Growth Rate	−0. 04	−0. 19	0. 21	0. 13	−0. 09	0. 19	0. 02	0. 28	−0. 28	0. 06	0. 13	0. 04	−0. 23	0. 15	0. 02	−0. 07	0. 15	0	0. 07	0. 21	−0. 21	0. 25
Initial Income		−0. 03	0. 34	0. 2	0. 04	0. 14	0. 03	0. 1	−0. 21	0. 22	0. 41	0. 31	−0. 03	0. 12	0. 2	0. 16	0. 27	0. 06	−0. 03	0. 03	−0. 04	0. 36
Inflation			0. 18	−0. 06	−0. 26	−0. 1	0. 04	0. 01	0. 5	0. 04	0. 01	0. 05	0. 56	0. 03	−0. 09	0. 11	−0. 14	−0. 24	0. 07	−0. 03	0. 32	−0. 09
Schooling				−0. 06	−0. 04	0. 21	−0. 04	0. 24	0. 19	0. 31	0. 17	0. 05	0. 34	0. 14	0. 03	−0. 36	0. 2	−0. 21	0. 37	0. 29	−0. 14	0. 22
Bottom 40% Share					−0. 4	0. 06	0. 14	0. 39	−0. 36	−0. 03	0. 08	−0. 06	−0. 06	0. 17	0. 14	−0. 08	0. 11	0. 01	−0. 09	−0. 18	−0. 25	0. 5
Trade						−0. 1	−0. 33	−0. 1	−0. 2	0. 12	0. 04	−0. 1	−0. 36	−0. 01	0. 08	−0. 08	0. 04	0. 09	0. 13	0. 41	0. 2	−0. 13
Political Constr.							0. 01	0. 15	−0. 29	0. 14	0. 1	−0. 03	−0. 1	−0. 17	0. 05	−0. 22	0	−0. 17	0. 15	0. 02	−0. 16	0. 22
Conflicts								0. 07	−0. 03	0. 01	−0. 04	0. 18	−0. 12	−0. 01	−0. 07	0. 32	0. 02	−0. 04	−0. 18	−0. 15	0	0. 16
Pop 1564 Share									−0. 12	0. 06	−0. 05	0. 11	0. 11	−0. 04	−0. 51	0	0. 24	0. 17	0. 05	0. 16	−0. 21	0. 39
Debt										0. 33	0. 19	−0. 16	0. 45	0. 06	0. 07	−0. 19	−0. 12	−0. 19	−0. 1	0. 32	0. 61	−0. 15
Power Gen.											0. 13	0. 19	0. 26	0. 4	0. 07	−0. 05	0. 03	−0. 06	−0. 05	0. 12	0. 01	0. 06
Paved Road												0. 1	−0. 02	0. 01	0. 02	−0. 01	0. 13	−0. 15	−0. 16	0. 07	0. 03	0. 23
Railway													0. 02	−0. 02	−0. 01	0. 29	−0. 05	0. 07	0. 06	−0. 03	0. 21	−0. 02
Crisis														−0. 14	0. 04	−0. 07	0. 16	0	−0. 31	−0. 1	0. 11	−0. 09
Oil exporter															0. 16	−0. 04	−0. 23	−0. 23	−0. 12	−0. 1	−0. 25	0. 12
Pop 15–64 growth																−0. 13	0. 04	−0. 15	−0. 03	−0. 21	0. 16	0. 02
Global Growth																	−0. 03	0. 2	−0. 47	−0. 39	0. 17	0. 1
Credit to Private																		0. 53	−0. 33	−0. 05	0. 04	0. 23
Credit to Deposit																			−0. 15	−0. 06	0. 1	−0. 04
Lending-to-deposit Spread																				0. 27	0. 05	−0. 08
FDI Inflow																					0. 03	−0. 01
Non-FDI Inflow																						−0. 2

Panel B. Pair-Wise Correlation Matrix for Middle-Income Countries

	Initial Income	Inflation	Schooling	Bottom 40% Share	Trade	Political Constr.	Conflicts	Pop 1564 Share	Debt	Power Gen.	Paved Road	Railway	Crisis	Oil exporter	Pop 15–64 growth	Global Growth	Credit to Private	Credit to Deposit	Lending-to-deposit Spread	FDI Inflow	Non-FDI Inflow	Sex Ratio Male to Female 0-29
Growth Rate	0. 05	−0. 08	0. 25	0. 25	−0. 07	0. 11	0. 05	0. 41	−0. 31	0. 06	0. 08	0. 03	−0. 29	0. 07	−0. 3	−0. 01	0. 09	0. 08	0. 2	0. 3	−0. 12	0. 09
Initial Income		−0. 05	0. 47	0. 25	−0. 05	0. 29	−0. 15	0. 52	−0. 09	0. 59	0. 44	0. 3	−0. 05	0. 05	−0. 44	−0. 07	0. 21	−0. 07	−0. 03	0. 18	0	0. 2
Inflation			0. 08	−0. 05	−0. 21	0. 06	0. 15	0	0. 19	−0. 02	−0. 12	−0. 04	0. 64	−0. 05	−0. 02	0. 04	−0. 17	0. 16	0. 15	−0. 33	0. 04	−0. 17
Schooling				0. 41	0. 16	0. 34	−0. 19	0. 61	0. 24	0. 49	0. 32	0. 21	0. 02	−0. 13	−0. 48	−0. 42	0. 14	−0. 1	0. 22	0. 39	−0. 02	0. 26
Bottom 40% Share					0. 09	−0. 08	−0. 14	0. 47	0. 24	0. 11	0. 28	0. 06	0. 05	0. 01	−0. 51	−0. 05	−0. 07	−0. 09	−0. 07	0	0	0. 45
Trade						−0. 1	−0. 4	−0. 01	0. 4	−0. 06	−0. 12	−0. 26	−0. 22	0. 05	0. 18	−0. 33	0. 25	−0. 06	−0. 27	0. 2	0. 11	0. 25
Political Constr.							0. 06	0. 25	−0. 1	0. 27	0. 16	0. 02	−0. 07	−0. 24	−0. 25	−0. 04	0. 11	−0. 12	0. 28	0. 15	−0. 17	0. 03
Conflicts								−0. 09	−0. 18	−0. 1	−0. 09	−0. 1	0. 06	−0. 03	0. 1	0. 17	−0. 16	0. 08	0. 04	−0. 22	−0. 08	−0. 04
Pop 1564 Share									0. 01	0. 33	0. 17	0. 12	−0. 08	−0. 09	−0. 78	−0. 26	0. 31	−0. 01	0. 13	0. 35	−0. 11	0. 19
Debt										−0. 1	0. 05	−0. 03	0. 11	0. 11	−0. 02	−0. 13	−0. 06	−0. 17	−0. 08	−0. 11	0. 11	0. 04
Power Gen.											0. 39	0. 34	−0. 05	0. 01	−0. 3	−0. 03	0. 15	−0. 11	0. 03	0. 08	−0. 03	0. 27
Paved Road												0. 42	−0. 21	−0. 12	−0. 3	0. 14	0. 04	−0. 18	−0. 09	0. 03	0. 05	0. 23
Railway													−0. 07	−0. 22	−0. 19	0. 28	−0. 11	−0. 07	0. 12	−0. 07	0	0. 08
Crisis														0. 08	0. 08	0. 01	−0. 18	0. 01	−0. 02	−0. 45	0. 03	−0. 21
Oil exporter															0. 24	−0. 08	−0. 14	−0. 02	−0. 03	0. 04	−0. 05	−0. 03
Pop 15–64 growth																0. 13	−0. 02	0. 07	−0. 24	−0. 29	0. 06	0. 07
Global Growth																	−0. 13	0. 08	−0. 35	−0. 55	0. 02	0
Credit to Private																		0. 28	−0. 29	0. 16	0. 04	0. 25
Credit to Deposit																			−0. 09	−0. 02	0. 11	0
Lending-to-deposit Spread																				0. 08	0. 03	−0. 19
FDI Inflow																					0. 13	0. 03
Non-FDI Inflow																						0. 01

Appendix Table 2. Conditional Inference Forest Results with 1000 Trees in the Forest and p≤0.05

Low-Income Group

Rank	Factors	Total frequency	Average split value	Difference of growth between nodes with higher / lower value than the splitting value (decade growth rate)	Frequencies of positive contributions / negative contributions (in %)
(1)	(2)	(3)	(4)	(5)	(6)
1	**Population share (15–64)**	**1089**	**53.29**	**1.76**	**84/16**
2	**Sex Ratio Male/Female Age 0–29**	**989**	**1.01**	**2.16**	**89/11**
3	**Paved Road (km/1,000 workers)**	**833**	**1.31**	**0.82**	**63/37**
4	**Power Generating Capacity**	**811**	**0.1**	**1.28**	**73/27**
5	**Population Growth (15–64)**	**704**	**0.24**	**2.3**	**87/13**
6	**Years of Schooling**	**621**	**2.91**	**2.09**	**88/12**
7	**Log Initial Income**	**610**	**6.93**	**-2.3**	**10/90**
8	**Global Growth Rate**	**581**	**0.02**	**1.1**	**74/26**
9	**Economic Freedom**	**561**	**4.41**	**3.76**	**95/5**
10	**FDI Inflow 3 Years**	**532**	**6.03**	**2.62**	**93/7**
11	**Inflation**	**503**	**11.96**	**-1.65**	**15/85**
12	Executive Constraints	469	2.16	1.52	85/15
13	No. of Government Crises	462	0.11	0.02	48/52
14	Log Conflicts Index	442	4.04	-0.69	37/63
15	Domestic Credit to Private Sector %	439	15.45	1.47	81/19
16	No. of Crises	405	1.55	-1.77	13/87
17	Bank Credit to Deposit Ratio	394	98.88	-1.01	29/71
18	Number of Changes in the Cabinet	373	0	-1.56	13/87

19	Government Debt Share	310	47.42	-1.46	6/94
20	Political Constraints	307	0.16	2.31	89/11
21	Railway (km/1,000 workers)	275	0.37	0.89	73/27
22	Democracy Scale	265	-4.07	0.03	55/45
23	Trade Share	265	60.97	-1.41	11/89
24	Non-FDI Inflow 3 Years	261	14.99	-1.87	7/93
25	Checks and Balance	170	1.46	1.25	85/15
26	Bank Lending-to-deposit Spread	103	8.34	0.73	61/39
27	Oil exporter or Not	101	0	4.23	90/10
28	Income Share of Bottom 40%	79	27.06	0.85	63/37
29	Political Stability and Absence of Violence/Terrorism	53	-0.86	2.17	96/4

Middle-Income Group

Rank	Factors	Total frequency	Average split value	Difference of growth between nodes with higher / lower value than the splitting value (decade growth rate)	Frequencies of positive contributions / negative positive contributions / negative contributions (in %)
(1)	(2)	(3)	(4)	(5)	(6)
1	**Population Share (15–64)**	**1907**	**59.41**	**2.13**	**96/4**
2	**No. of Crises**	**1354**	**2.41**	**-1.84**	**2/98**
3	**Government Debt Share**	**1299**	**42.26**	**-2.15**	**3/97**
4	**Log Initial Income**	**1235**	**8.59**	**-2.31**	**8/92**
5	**Inflation**	**892**	**12.51**	**-1.24**	**31/69**
6	**Sex Ratio Male/Female Age 0–29**	**663**	**3.64**	**-2.19**	**81/19**
7	**Years of Schooling**	**623**	**6.13**	**0.92**	**59/41**

8	**Bank Credit to Deposit Ratio**	**580**	**98.9**	**1.03**	**63/37**
9	**Political Constraints**	**542**	**0.32**	**1.03**	**78/22**
10	**Checks and Balance**	**540**	**2.11**	**1.59**	**95/5**
11	**Global Growth Rate**	**531**	**0.02**	**1.83**	**91/9**
12	**Log Conflicts Index**	**511**	**4.23**	**0.76**	**59/41**
13	Democracy Scale	397	4.53	-1.15	21/79
14	FDI Inflow 3 Years	381	10.7	1.61	94/6
15	Number of Changes in the Cabinet	352	0	0.62	69/31
16	Population Growth (15–64)	346	0.15	-0.38	34/66
17	Bank Lending-to-deposit Spread	333	7.14	1.15	86/14
18	Economic Freedom	314	5.8	0.93	76/24
19	Trade Share	311	59.4	-1.05	29/71
20	No. of Government Crises	298	0.11	1.76	87/13
21	Paved Road (km/1,000 workers)	297	3.61	1.4	79/21
22	Oil exporter or Not	273	0	1.58	87/13
23	Bank Credit to Deposit Ratio	237	26.61	0.73	62/38
24	Executive Constraints	232	4.31	-1.38	19/81
25	Power Generating Capacity	199	0.67	0.08	51/49
26	Paved Road (km/1,000 workers)	162	0.76	-0.22	41/59
27	Non-FDI Inflow 3 Years	143	13.04	-0.7	34/66
28	Income Share of Bottom 40%	120	25.56	1.06	69/31
29	Political Stability and Absence of Violence/Terrorism	33	-0.06	-1.69	3/97
30	Ideological polarization	27	0.22	0.18	48/52

Appendix Table 3. Real GDP per capita in 1960, 1980, and 2011 for 107 Economies

Economy	1960	1980	2011
Argentina	2,383	3,372	14,508
Australia	12,290	19,706	38,499
Austria	8,441	16,625	37,283
Burundi	470	602	490
Belgium	9,338	20,262	35,446
Benin	964	1,175	1,232
Burkina Faso	450	628	1,052
Bangladesh	1,323	1,085	1,554
Bolivia	1,360	1,972	4,167
Brazil	1,982	4,880	9,295
Barbados	7,672	11,653	20,642
Botswana	383	1,988	11,811
Central African Republic	993	719	617
Canada	11,758	22,108	35,345
Switzerland	17,055	26,582	44,824
Chile	4,543	6,370	15,243
China, People's Rep. of	928	1,324	8,069
Cote d`Ivoire	1,584	2,096	1,372
Cameroon	1,117	1,815	1,858
Congo, Dem. Rep.	926	771	291
Congo, Republic of	901	2,052	2,427
Colombia	3,200	6,466	8,408
Comoros	730	1,334	921
Cape Verde	709	943	4,126
Costa Rica	4,314	7,107	10,123
Cyprus	2,989	10,199	28,183
Germany	8,879	17,644	34,520
Denmark	11,050	20,150	35,641
Dominican Republic	2,125	4,122	8,727
Ecuador	2,134	4,616	6,828
Egypt	560	1,068	4,836
Spain	5,066	12,910	28,741
Ethiopia	458	621	783
Finland	8,069	17,220	33,747
Fiji	2,355	4,700	4,645
France	9,274	20,262	31,438
Gabon	2,609	11,876	12,403
United Kingdom	10,313	17,101	32,260
Ghana	2,108	1,637	2,522
Guinea	1,817	2,035	958
Gambia, The	1,192	1,128	1,236
Guinea-Bissau	860	950	907

Economy	1960	1980	2011
Equatorial Guinea	285	624	9,176
Greece	4,010	11,881	23,699
Guatemala	2,223	3,603	4,236
Hong Kong, China	3,322	13,154	38,569
Honduras	1,924	2,671	2,920
Indonesia	790	1,887	4,339
India	982	1,075	3,602
Ireland	5,670	11,792	36,705
Iran	2,100	3,546	11,818
Iceland	9,736	24,248	31,922
Israel	4,893	14,207	25,081
Italy	6,323	17,529	29,089
Jamaica	4,316	3,759	5,078
Jordan	2,652	4,061	5,092
Japan	3,889	17,075	30,427
Kenya	1,396	1,667	1,298
Korea, Republic of	1,074	4,340	27,522
Sri Lanka	2,365	1,623	4,701
Lesotho	396	790	1,488
Luxembourg	16,605	26,439	78,131
Morocco	1,249	2,364	3,647
Madagascar	1,149	989	759
Mexico	5,054	10,645	12,710
Mali	450	466	941
Malta	3,623	8,530	23,993
Mozambique	323	469	818
Mauritania	751	1,593	2,616
Mauritius	3,178	4,759	9,645
Malawi	604	767	802
Malaysia	2,252	5,700	13,469
Namibia	2,982	4,920	5,146
Niger	995	1,022	523
Nigeria	1,573	1,857	2,339
Netherlands	9,615	19,658	38,055
Norway	10,126	21,732	52,415
Nepal	690	692	1,185
New Zealand	12,184	14,965	26,667
Pakistan	965	1,613	2,473
Panama	2,514	5,662	12,155
Peru	2,416	3,677	8,924
Philippines	1,708	2,757	3,521
Portugal	3,657	8,935	22,290
Paraguay	1,426	3,021	4,351

Economy	1960	1980	2011
Romania	1,276	5,586	13,574
Rwanda	940	1,104	1,201
Senegal	2,052	1,489	1,412
Singapore	2,413	11,147	51,644
El Salvador	655	905	1,117
Sweden	11,377	18,391	36,101
Syria	1,692	2,394	3,919
Chad	1,028	724	1,851
Togo	676	1,215	947
Thailand	986	2,840	8,491
Trinidad & Tobago	6,422	21,266	20,196
Tunisia	1,381	3,719	6,632
Turkey	4,055	6,637	14,437
Taipei,China	1,881	7,782	28,414
Tanzania	899	1,322	1,269
Uganda	844	573	1,187
Uruguay	6,411	8,476	12,625
United States	15,220	25,021	42,646
Venezuela	7,224	9,397	10,343
South Africa	3,949	6,597	8,457
Zambia	3,039	1,459	2,052
Zimbabwe	1,805	2,303	4,348

Appendix Table 4. Factors Included in the Regression Tree Analysis

Indicators	Included in ADB's Eight Key Actions	Included in Washington Consensus	Other important factors for development
1. Political Stability: Domestic conflicts indicator, cabinet changes, and government crisis from Cross-National Time-Series database and government stability from International Country Risk Guide;	✓		
2. Macroeconomic stability: inflation, government debt share, and the number of crisis episodes (currency and banking crises);	✓	✓	
3. Investment in infrastructure: paved road, railway, and power generating capacity;	✓	✓	
4. Investment in human capital: average years of schooling from Barro-Lee database;	✓	✓	
5. An open trade and investment regime: trade share and share of FDI and non-FDI inflows in GDP;	✓	✓	
6. Good governance: political constraints indices by Henisz (2002), checks and balances and ideological polarization from DPI, executive constraint and democracy scale from Political IV project, economic freedom (Gwartney et al. 2015), and corruption perception index;	✓	✓	
7. Inequality: share of population with incomes belonging to the bottom 40%	✓		
8. Initial Income level;			✓
9. Demography: share of population aged 15–64, changes of log (population aged 15–64), and sex ratio of age 0–29;			✓
10. Global economic environment: growth rate of the leading economies;			✓
11. Financial development: domestic credit to private sector, bank credit to deposit, bank lending-to-deposit rate spread; and			✓
12. Oil exporter indicator.			✓

Note: In the eight key actions of ADB, one action is not covered in our analysis - a clear vision for the future since it is hard to find an appropriate indicator.

Appendix Table 5. Actual and Predicted Annual Growth Rates for Low Income Countries (for Country-Decades included in the Regression Tree Analysis)

Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Ghana	1980	-1.66	$1,637	-2.96	3	1.3
Nigeria	1980	-14.08	$1,857	-2.96	3	11.12
Syrian Arab Republic	1980	-7.9	$2,394	-2.96	3	4.94
Tanzania	1980	-4.47	$1,322	-2.96	3	1.51
Uganda	1980	0.88	$573	-2.96	3	3.84
Nigeria	1990	0.23	$407	-2.96	3	3.19
Sierra Leone	1990	-6.52	$1,408	-2.96	3	3.56
Syrian Arab Republic	1990	1.91	$1,051	-2.96	3	4.87
Tanzania	1990	-1.09	$836	-2.96	3	1.87
Uganda	1990	3.13	$625	-2.96	3	6.09
Zambia	1990	-3.01	$1,285	-2.96	3	0.05
Kenya	1970	1.23	$1,475	-0.77	7	2
Pakistan	1970	1.05	$1,453	-0.77	7	1.82
Tanzania	1970	0.26	$1,287	-0.77	7	1.03
Burundi	1980	-0.53	$602	-0.77	7	0.24
Congo, Rep.	1980	-1.93	$2,052	-0.77	7	1.16
Madagascar	1980	-0.67	$989	-0.77	7	0.1
Malawi	1980	-1.27	$767	-0.77	7	0.5
Niger	1980	-5.04	$1,022	-0.77	7	4.27
Pakistan	1980	2.04	$1,613	-0.77	7	2.81
Senegal	1980	2.41	$1,489	-0.77	7	3.18
Togo	1980	-2.33	$1,215	-0.77	7	1.56
Burundi	1990	-2.4	$571	-0.77	7	1.63
Central African Republic	1990	-1.23	$756	-0.77	7	0.46
Madagascar	1990	-1.06	$925	-0.77	7	0.29
Pakistan	1990	0.39	$1,974	-0.77	7	1.16
Rwanda	1990	-4.47	$1,069	-0.77	7	3.7
Burundi	2000	0.52	$448	-0.77	7	1.29
Ecuador	1960	1.73	$2,134	0.72	9	1.01
El Salvador	1960	2.23	$655	0.72	9	1.51
Guatemala	1960	2.66	$2,223	0.72	9	1.94
Honduras	1960	0.92	$1,924	0.72	9	0.2
Iran, Islamic Rep.	1960	3.73	$2,100	0.72	9	3.01
Kenya	1960	0.55	$1,396	0.72	9	0.17
Niger	1960	0.35	$995	0.72	9	0.37

Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Paraguay	1960	2.44	$1,426	0.72	9	1.72
Peru	1960	3.34	$2,416	0.72	9	2.62
Philippines	1960	1.97	$1,708	0.72	9	1.25
Rwanda	1960	0.33	$940	0.72	9	0.39
Syrian Arab Republic	1960	4.95	$1,692	0.72	9	4.23
Benin	1970	0.18	$1,154	0.72	9	0.54
Burundi	1970	0.76	$558	0.72	9	0.04
Congo, Rep.	1970	4.91	$1,271	0.72	9	4.19
Cote d'Ivoire	1970	-1.19	$2,363	0.72	9	1.91
El Salvador	1970	1.03	$817	0.72	9	0.31
Ethiopia	1970	1.1	$557	0.72	9	0.38
Honduras	1970	2.39	$2,109	0.72	9	1.67
Lesotho	1970	3.94	$537	0.72	9	3.22
Madagascar	1970	-2.89	$1,327	0.72	9	3.61
Malawi	1970	-0.1	$775	0.72	9	0.82
Mauritania	1970	-0.44	$1,665	0.72	9	1.16
Niger	1970	-0.08	$1,030	0.72	9	0.8
Paraguay	1970	5.23	$1,815	0.72	9	4.51
Philippines	1970	2.87	$2,076	0.72	9	2.15
Rwanda	1970	1.29	$971	0.72	9	0.57
Senegal	1970	-0.92	$1,634	0.72	9	1.64
Sudan	1970	0.71	$1,010	0.72	9	0.01
Thailand	1970	3.66	$1,982	0.72	9	2.94
Togo	1970	1.17	$1,082	0.72	9	0.45
Uganda	1970	-5.27	$985	0.72	9	5.99
Benin	1980	-1.16	$1,175	0.72	9	1.88
Burkina Faso	1980	-0.05	$628	0.72	9	0.77
Cameroon	1980	1.56	$1,815	0.72	9	0.84
Ethiopia	1980	0.18	$621	0.72	9	0.54
Gambia, The	1980	0.05	$1,128	0.72	9	0.67
Lesotho	1980	0.88	$790	0.72	9	0.16
Liberia	1980	-8.95	$1,378	0.72	9	9.67
Mali	1980	3.15	$466	0.72	9	2.43
Mozambique	1980	-3.28	$469	0.72	9	4
Rwanda	1980	-0.32	$1,104	0.72	9	1.04
Sierra Leone	1980	2.41	$1,109	0.72	9	1.69
Sudan	1980	0.55	$1,085	0.72	9	0.17
Burkina Faso	1990	1.44	$625	0.72	9	0.72
Cameroon	1990	-1.25	$2,120	0.72	9	1.97

Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Congo, Rep.	1990	0.75	$1,689	0.72	9	0.03
Ethiopia	1990	-3.67	$632	0.72	9	4.39
Gambia, The	1990	0.3	$1,135	0.72	9	0.42
Guinea	1990	-4.25	$1,920	0.72	9	4.97
Liberia	1990	-0.45	$539	0.72	9	1.17
Malawi	1990	-1.37	$675	0.72	9	2.09
Mali	1990	2.07	$635	0.72	9	1.35
Mauritania	1990	0.29	$1,340	0.72	9	0.43
Mozambique	1990	2.32	$336	0.72	9	1.6
Niger	1990	-1.68	$609	0.72	9	2.4
Senegal	1990	-2	$1,889	0.72	9	2.72
Sudan	1990	2.01	$1,147	0.72	9	1.29
Togo	1990	-1.63	$960	0.72	9	2.35
Burkina Faso	2000	3.55	$721	0.72	9	2.83
Cameroon	2000	-0.21	$1,870	0.72	9	0.93
Ethiopia	2000	5.68	$435	0.72	9	4.96
Gambia, The	2000	1.21	$1,169	0.72	9	0.49
Guinea	2000	-2.73	$1,244	0.72	9	3.45
Madagascar	2000	-0.8	$832	0.72	9	1.52
Niger	2000	0.25	$514	0.72	9	0.47
Rwanda	2000	5.3	$677	0.72	9	4.58
Sudan	2000	5.17	$1,399	0.72	9	4.45
Mauritania	1980	-1.71	$1,593	1.94	10	3.65
Benin	1990	1.17	$1,045	1.94	10	0.77
Lesotho	1990	1.69	$862	1.94	10	0.25
Benin	2000	0.41	$1,174	1.94	10	1.53
Malawi	2000	3.06	$588	1.94	10	1.12
Mali	2000	1.9	$780	1.94	10	0.04
Mozambique	2000	6.3	$423	1.94	10	4.36
Senegal	2000	-0.49	$1,543	1.94	10	2.43
Tanzania	2000	4.81	$750	1.94	10	2.87
Togo	2000	0.95	$815	1.94	10	0.99
Uganda	2000	3.27	$851	1.94	10	1.33
Ghana	1960	0.03	$2,108	-1.24	11	1.27
Ghana	1970	-2.53	$2,115	-1.24	11	1.29
Cote d'Ivoire	1980	-0.48	$2,096	-1.24	11	0.76
El Salvador	1980	-2.45	$905	-1.24	11	1.21
Kenya	1980	-0.28	$1,667	-1.24	11	0.96
Cote d'Ivoire	1990	-1.81	$1,997	-1.24	11	0.57
Kenya	1990	-1.9	$1,621	-1.24	11	0.66

Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Kenya	2000	-0.48	$1,337	-1.24	11	0.76
Dominican Republic	1960	2.45	$2,125	3.13	12	0.68
Malaysia	1960	2	$2,252	3.13	12	1.13
Morocco	1960	4.36	$1,249	3.13	12	1.23
Sri Lanka	1960	0.8	$2,365	3.13	12	2.33
Zimbabwe	1960	1.66	$1,805	3.13	12	1.47
Cape Verde	1970	-0.23	$966	3.13	12	3.36
Morocco	1970	2.13	$1,915	3.13	12	1
Tunisia	1970	5.39	$2,200	3.13	12	2.26
Zimbabwe	1970	0.79	$2,128	3.13	12	2.34
Cape Verde	1980	3.96	$943	3.13	12	0.83
Morocco	1980	3.8	$2,364	3.13	12	0.67
Zambia	1980	-1.26	$1,459	3.13	12	4.39
Zimbabwe	1980	5.05	$2,303	3.13	12	1.92
Cape Verde	1990	5.3	$1,391	3.13	12	2.17
Cape Verde	2000	5.74	$2,332	3.13	12	2.61
Zambia	2000	8.08	$946	3.13	12	4.95
Indonesia	1960	0.44	$790	0.12	14	0.32
Central African Republic	1970	-3.56	$1,033	0.12	14	3.68
Liberia	1970	-1.46	$1,596	0.12	14	1.58
Mozambique	1970	1.4	$408	0.12	14	1.28
Sierra Leone	1970	-0.64	$1,183	0.12	14	0.76
Central African Republic	1980	0.5	$719	0.12	14	0.38
Guinea	1980	-0.58	$2,035	0.12	14	0.7
El Salvador	1990	3.48	$707	0.12	14	3.36
Central African Republic	2000	-0.98	$668	0.12	14	1.1
El Salvador	2000	1.09	$994	0.12	14	0.97
Sierra Leone	2000	1.63	$717	0.12	14	1.51
Cameroon	1960	1	$1,117	1.18	17	0.18
China	1960	0.41	$928	1.18	17	0.77
India	1960	2.22	$982	1.18	17	1.04
Mali	1960	0.06	$450	1.18	17	1.12
Nigeria	1960	0.88	$1,573	1.18	17	0.3
Tunisia	1960	4.77	$1,381	1.18	17	3.59
Burkina Faso	1970	2.23	$504	1.18	17	1.05
Gambia, The	1970	-1.15	$1,267	1.18	17	2.33

Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Mali	1970	0.29	$452	1.18	17	0.89
Nepal	1970	-0.85	$754	1.18	17	2.03
Nepal	1980	2.88	$692	1.18	17	1.7
Cote d'Ivoire	2000	-0.74	$1,663	1.18	17	1.92
Lesotho	2000	3.32	$1,020	1.18	17	2.14
Nepal	2000	1.19	$1,036	1.18	17	0.01
Argentina	1960	2.16	$2,383	3.69	18	1.53
Nepal	1960	0.89	$690	3.69	18	2.8
Romania	1960	7.07	$1,276	3.69	18	3.38
Sri Lanka	1980	4.7	$1,623	3.69	18	1.01
China	1990	5.64	$2,041	3.69	18	1.95
Bangladesh	2000	2.47	$1,167	3.69	18	1.22
India	2000	6.48	$1,831	3.69	18	2.79
Kyrgyz Republic	2000	0.13	$2,077	3.69	18	3.56
Bolivia	1960	1.82	$1,360	4.3	19	2.48
Brazil	1960	4.63	$1,982	4.3	19	0.33
Congo, Rep.	1960	3.5	$901	4.3	19	0.8
Cote d'Ivoire	1960	4.08	$1,584	4.3	19	0.22
Egypt, Arab Rep.	1960	4.93	$560	4.3	19	0.63
Korea, Rep.	1960	5.89	$1,074	4.3	19	1.59
Mauritania	1960	8.29	$751	4.3	19	3.99
Pakistan	1960	4.18	$965	4.3	19	0.12
Senegal	1960	-2.25	$2,052	4.3	19	6.55
Singapore	1960	8.11	$2,413	4.3	19	3.81
Thailand	1960	7.23	$986	4.3	19	2.93
Togo	1960	4.82	$676	4.3	19	0.52
Bolivia	1970	1.93	$1,629	4.3	19	2.37
Cameroon	1970	3.94	$1,234	4.3	19	0.36
China	1970	3.19	$967	4.3	19	1.11
Egypt, Arab Rep.	1970	1.66	$905	4.3	19	2.64
India	1970	-1.28	$1,222	4.3	19	5.58
Indonesia	1970	8.62	$825	4.3	19	4.32
Korea, Rep.	1970	8.59	$1,904	4.3	19	4.29
Nigeria	1970	0.79	$1,716	4.3	19	3.51
Bolivia	1980	0.29	$1,972	4.3	19	4.01
China	1980	4.42	$1,324	4.3	19	0.12
Egypt, Arab Rep.	1980	5.51	$1,068	4.3	19	1.21
India	1980	1.25	$1,075	4.3	19	3.05
Indonesia	1980	3.8	$1,887	4.3	19	0.5
Bangladesh	1990	-0.56	$1,234	4.3	19	4.86

Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Bolivia	1990	3.32	$2,030	4.3	19	0.98
Egypt, Arab Rep.	1990	7.97	$1,826	4.3	19	3.67
Ghana	1990	1.83	$1,385	4.3	19	2.47
India	1990	4.17	$1,217	4.3	19	0.13
Nepal	1990	1.21	$919	4.3	19	3.09
Cambodia	2000	7.88	$1,023	4.3	19	3.58
Congo, Rep.	2000	2.71	$1,820	4.3	19	1.59
Ghana	2000	3.55	$1,661	4.3	19	0.75
Liberia	2000	-1.29	$516	4.3	19	5.59
Mauritania	2000	5.66	$1,380	4.3	19	1.36
Nigeria	2000	17.49	$417	4.3	19	13.19
Pakistan	2000	1.7	$2,053	4.3	19	2.6
Syrian Arab Republic	2000	12.29	$1,271	4.3	19	7.99
Vietnam	2000	6.18	$1,764	4.3	19	1.88

Appendix Table 6. Actual Annual Growth Rate and Predicted Growth Rate for Country-Decades included in the Regression Tree Analysis – Middle-Income Countries

Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Costa Rica	1960	2.36	$4,314	3.63	4	1.27
Iceland	1960	4.04	$9,736	3.63	4	0.41
Mauritius	1960	1.82	$3,178	3.63	4	1.81
Mexico	1960	3.21	$5,054	3.63	4	0.42
New Zealand	1960	1.51	$12,184	3.63	4	2.12
Panama	1960	6.3	$2,514	3.63	4	2.67
South Africa	1960	3.01	$3,949	3.63	4	0.62
Turkey	1960	3.52	$4,055	3.63	4	0.11
Venezuela, RB	1960	1.93	$7,224	3.63	4	1.7
Zambia	1960	2.45	$3,039	3.63	4	1.18
Colombia	1970	4.85	$4,025	3.63	4	1.22
Costa Rica	1970	2.7	$5,447	3.63	4	0.93
Dominican Republic	1970	4.3	$2,706	3.63	4	0.67
Ecuador	1970	6.18	$2,533	3.63	4	2.55
Guatemala	1970	2.23	$2,889	3.63	4	1.4
Malaysia	1970	7.58	$2,744	3.63	4	3.95
Mauritius	1970	2.26	$3,806	3.63	4	1.37
Mexico	1970	4.39	$6,930	3.63	4	0.76
Panama	1970	2.03	$4,630	3.63	4	1.6
Singapore	1970	7.8	$5,262	3.63	4	4.17
Guatemala	1990	1.68	$3,165	3.63	4	1.95
Chile	1960	3.38	$4,543	1.36	5	2.02
Colombia	1960	2.32	$3,200	1.36	5	0.96
Jamaica	1960	2.41	$4,316	1.36	5	1.05
Jordan	1960	0.19	$2,652	1.36	5	1.17
Trinidad and Tobago	1960	3.66	$6,422	1.36	5	2.3
Brazil	1970	4.59	$3,116	1.36	5	3.23
Chile	1970	0.05	$6,337	1.36	5	1.31
Iran, Islamic Rep.	1970	1.59	$3,028	1.36	5	0.23
Ireland	1970	3.79	$8,126	1.36	5	2.43
Jamaica	1970	-3.69	$5,474	1.36	5	5.05
Jordan	1970	4.16	$2,702	1.36	5	2.8
Peru	1970	0.91	$3,357	1.36	5	0.45
South Africa	1970	2.19	$5,312	1.36	5	0.83
Syrian Arab Republic	1970	-1.35	$2,743	1.36	5	2.71

Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Trinidad and Tobago	1970	8.74	$9,203	1.36	5	7.38
Turkey	1970	1.48	$5,732	1.36	5	0.12
Venezuela, RB	1970	0.72	$8,745	1.36	5	0.64
Brazil	1980	0.82	$4,880	1.36	5	0.54
Colombia	1980	-0.55	$6,466	1.36	5	1.91
Dominican Republic	1980	-0.65	$4,122	1.36	5	2.01
Gabon	1980	-4.17	$11,876	1.36	5	5.53
Guatemala	1980	-1.29	$3,603	1.36	5	2.65
Iran, Islamic Rep.	1980	-3.06	$3,546	1.36	5	4.42
Israel	1980	2.8	$14,207	1.36	5	1.44
Jamaica	1980	1.21	$3,759	1.36	5	0.15
Jordan	1980	-2.44	$4,061	1.36	5	3.8
Paraguay	1980	0.75	$3,021	1.36	5	0.61
Peru	1980	-1.62	$3,677	1.36	5	2.98
Philippines	1980	1.15	$2,757	1.36	5	0.21
South Africa	1980	-1.77	$6,597	1.36	5	3.13
Thailand	1980	4.45	$2,840	1.36	5	3.09
Turkey	1980	3.12	$6,637	1.36	5	1.76
Venezuela, RB	1980	-1.94	$9,397	1.36	5	3.3
Dominican Republic	1990	4.54	$3,862	1.36	5	3.18
Gabon	1990	-0.53	$7,757	1.36	5	1.89
Iran, Islamic Rep.	1990	9.08	$2,600	1.36	5	7.72
Jamaica	1990	1.51	$4,241	1.36	5	0.15
Jordan	1990	-0.06	$3,172	1.36	5	1.42
Mexico	1990	1.86	$9,102	1.36	5	0.5
Paraguay	1990	-0.31	$3,255	1.36	5	1.67
South Africa	1990	0.69	$5,520	1.36	5	0.67
Venezuela, RB	1990	-2.22	$7,721	1.36	5	3.58
Zimbabwe	1990	1.6	$3,769	1.36	5	0.24
Belize	2000	1.74	$6,154	1.36	5	0.38
Gabon	2000	6.38	$7,354	1.36	5	5.02
Guatemala	2000	1.15	$3,739	1.36	5	0.21
Jordan	2000	5.29	$3,152	1.36	5	3.93
Paraguay	2000	2.97	$3,156	1.36	5	1.61
Saudi Arabia	2000	3.63	$14,519	1.36	5	2.27
Swaziland	2000	-1.32	$4,519	1.36	5	2.68
Sri Lanka	1970	-4.46	$2,560	-1.34	7	3.12

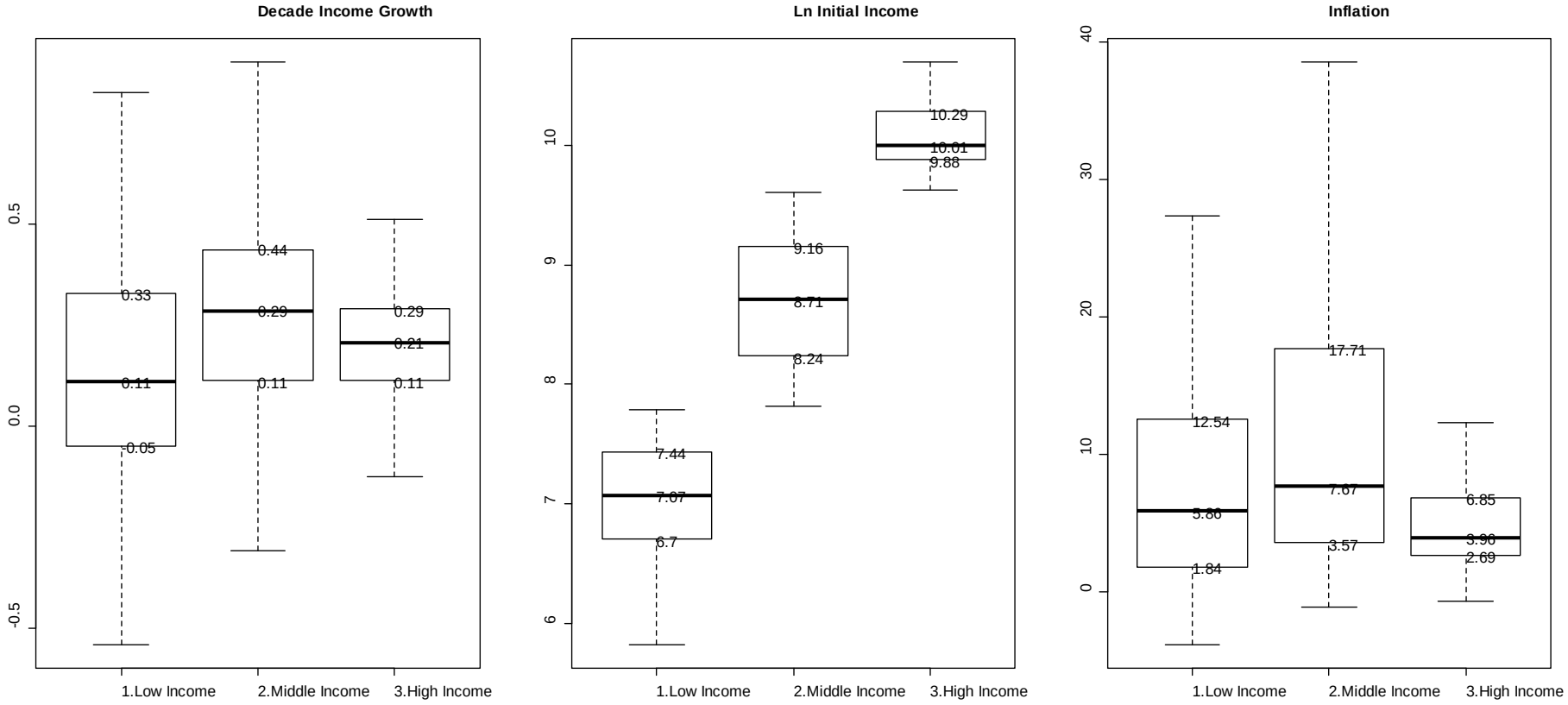
Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Zambia	1970	-9.3	$3,874	-1.34	7	7.96
Costa Rica	1980	-0.88	$7,107	-1.34	7	0.46
Ecuador	1980	-1.38	$4,616	-1.34	7	0.04
Honduras	1980	-0.68	$2,671	-1.34	7	0.66
Mexico	1980	-1.55	$10,645	-1.34	7	0.21
Ecuador	1990	0.27	$4,017	-1.34	7	1.61
Morocco	1990	-0.46	$3,433	-1.34	7	0.88
Peru	1990	3.68	$3,123	-1.34	7	5.02
Philippines	1990	0.78	$3,090	-1.34	7	2.12
Zimbabwe	2000	-0.79	$4,415	-1.34	7	0.55
Ireland	1960	3.66	$5,670	1.69	8	1.97
Malaysia	1980	0.93	$5,700	1.69	8	0.76
Panama	1980	0	$5,662	1.69	8	1.69
Tunisia	1980	2.4	$3,719	1.69	8	0.71
Honduras	1990	0.3	$2,496	1.69	8	1.39
Tunisia	1990	2.95	$4,713	1.69	8	1.26
Bolivia	2000	3.5	$2,814	1.69	8	1.81
Honduras	2000	1.12	$2,571	1.69	8	0.57
Philippines	2000	0.33	$3,340	1.69	8	1.36
Greece	1960	7.91	$4,010	6.92	11	1
Japan	1960	11.4	$3,889	6.92	11	4.49
Portugal	1960	6.41	$3,657	6.92	11	0.5
Spain	1960	6.55	$5,066	6.92	11	0.37
Argentina	1970	1.34	$2,951	6.92	11	5.58
Korea, Rep.	1980	9.42	$4,340	6.92	11	2.5
Argentina	1990	8.25	$4,604	6.92	11	1.34
Thailand	1990	3.48	$4,392	6.92	11	3.44
China	2000	8.07	$3,533	6.92	11	1.16
Peru	2000	6.32	$4,484	6.92	11	0.59
Gabon	1960	7.45	$2,609	4.86	12	2.59
Israel	1960	9.14	$4,893	4.86	12	4.28
Gabon	1970	8.3	$5,352	4.86	12	3.44
Hungary	1970	6.46	$4,940	4.86	12	1.6
Romania	1970	8.26	$2,526	4.86	12	3.4
Argentina	1980	3.16	$3,372	4.86	12	1.7
Mauritius	1980	5.58	$4,759	4.86	12	0.72
Brazil	1990	3.58	$5,297	4.86	12	1.28
Indonesia	1990	1.51	$2,738	4.86	12	3.35
Sri Lanka	1990	2.15	$2,569	4.86	12	2.71
Armenia	2000	6.75	$2,604	4.86	12	1.89

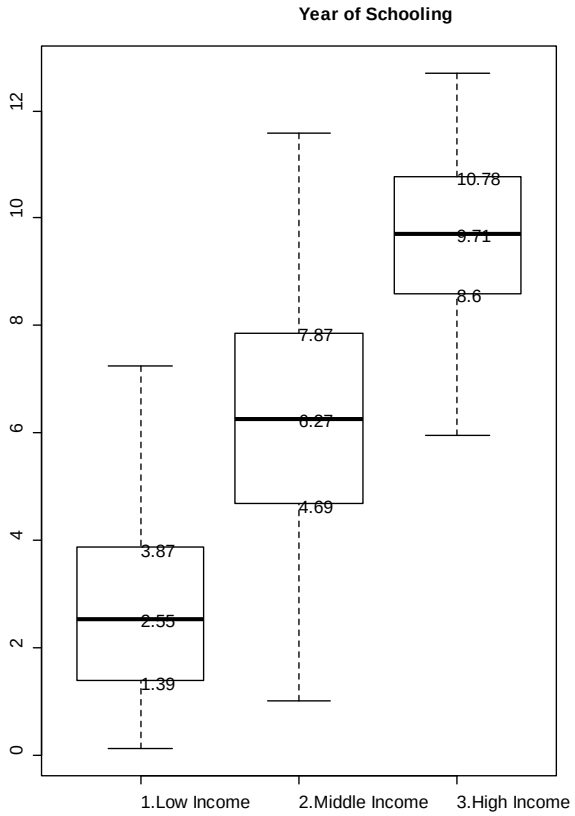
Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Ecuador	2000	4.66	$4,125	4.86	12	0.2
Egypt, Arab Rep.	2000	1.82	$3,931	4.86	12	3.04
Indonesia	2000	2.48	$3,181	4.86	12	2.38
Jamaica	2000	0.27	$4,929	4.86	12	4.59
Kazakhstan	2000	9.94	$5,440	4.86	12	5.08
Morocco	2000	0.88	$3,278	4.86	12	3.98
Sri Lanka	2000	3.27	$3,178	4.86	12	1.59
Ukraine	2000	6.65	$3,877	4.86	12	1.79
United Kingdom	1960	2.35	$10,313	1.84	15	0.51
Uruguay	1960	0.95	$6,411	1.84	15	0.89
Portugal	1970	2.76	$6,807	1.84	15	0.92
Uruguay	1970	1.86	$7,049	1.84	15	0.02
Chile	1980	0.61	$6,369	1.84	15	1.23
New Zealand	1980	2.25	$14,965	1.84	15	0.41
Portugal	1980	3.62	$8,935	1.84	15	1.78
Uruguay	1980	-0.53	$8,476	1.84	15	2.37
Chile	1990	3.41	$6,770	1.84	15	1.57
Colombia	1990	-0.17	$6,120	1.84	15	2.01
Portugal	1990	4.51	$12,756	1.84	15	2.67
Trinidad and Tobago	1990	0.56	$10,291	1.84	15	1.28
Turkey	1990	1.3	$9,021	1.84	15	0.54
Uruguay	1990	1.79	$8,035	1.84	15	0.05
Argentina	2000	2.76	$10,176	1.84	15	0.92
Botswana	2000	3.46	$8,129	1.84	15	1.62
Colombia	2000	2.63	$6,014	1.84	15	0.79
Dominican Republic	2000	3.62	$6,018	1.84	15	1.78
Mauritius	2000	-1.06	$10,486	1.84	15	2.9
Mexico	2000	1.26	$10,944	1.84	15	0.58
Tunisia	2000	0.8	$6,306	1.84	15	1.04
Italy	1960	5.78	$6,323	3.88	16	1.9
Japan	1970	4.08	$11,451	3.88	16	0.2
Brazil	2000	1.8	$7,528	3.88	16	2.08
Chile	2000	4.31	$9,468	3.88	16	0.43
South Africa	2000	3.15	$5,914	3.88	16	0.73
Thailand	2000	3.39	$6,184	3.88	16	0.49
Trinidad and Tobago	2000	5.49	$10,878	3.88	16	1.61
Turkey	2000	3.04	$10,262	3.88	16	0.84

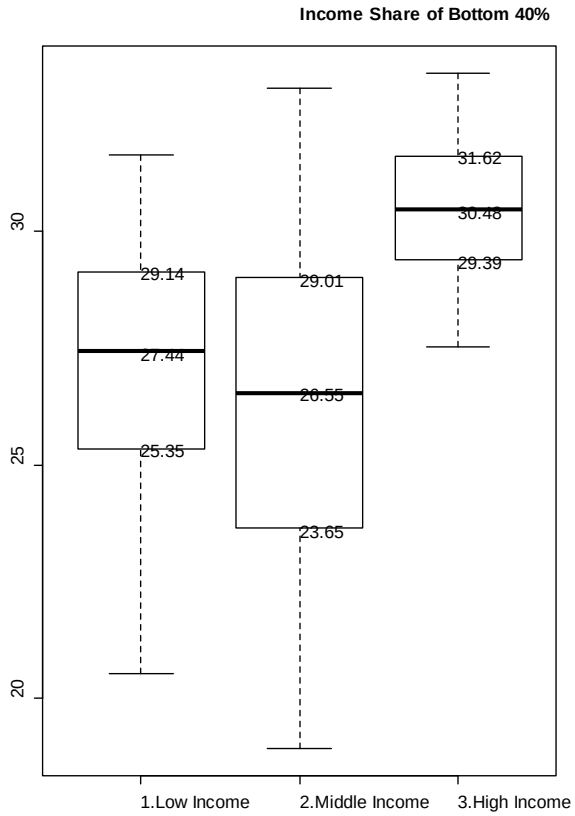
Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Austria	1960	3.93	$8,441	4.06	18	0.13
Denmark	1960	4.39	$11,050	4.06	18	0.33
Finland	1960	4.97	$8,069	4.06	18	0.91
France	1960	4.58	$9,274	4.06	18	0.52
Norway	1960	3.94	$10,126	4.06	18	0.12
Austria	1970	2.97	$12,407	4.06	18	1.09
Belgium	1970	3.58	$14,253	4.06	18	0.48
Finland	1970	2.77	$13,099	4.06	18	1.29
France	1970	3.39	$14,513	4.06	18	0.67
Greece	1970	3.3	$8,588	4.06	18	0.76
Iceland	1970	5.3	$14,467	4.06	18	1.24
Norway	1970	3.85	$14,900	4.06	18	0.21
Spain	1970	3.06	$9,549	4.06	18	1
Spain	1980	1.93	$12,910	4.06	18	2.13
Korea, Rep.	1990	6.26	$10,679	4.06	18	2.2
Malaysia	1990	4.67	$6,251	4.06	18	0.61
Romania	1990	0.91	$6,057	4.06	18	3.15
Bulgaria	2000	5.47	$7,372	4.06	18	1.41
Romania	2000	7.15	$6,633	4.06	18	3.09
Venezuela, RB	2000	4.83	$6,170	4.06	18	0.77
Australia	1960	3.14	$12,290	2.84	20	0.3
Canada	1960	3.17	$11,758	2.84	20	0.33
Netherlands	1960	4.45	$9,615	2.84	20	1.61
Israel	1970	1.94	$11,729	2.84	20	0.9
Italy	1970	4.68	$11,090	2.84	20	1.84
Netherlands	1970	2.84	$14,861	2.84	20	0
New Zealand	1970	0.56	$14,158	2.84	20	2.28
United Kingdom	1970	2.78	$13,005	2.84	20	0.06
Greece	1980	1.73	$11,881	2.84	20	1.11
Hungary	1980	2.05	$9,239	2.84	20	0.79
Ireland	1980	3.25	$11,792	2.84	20	0.41
Romania	1980	0.81	$5,586	2.84	20	2.03
Costa Rica	1990	2.66	$6,507	2.84	20	0.18
Panama	1990	3.28	$5,661	2.84	20	0.44
Costa Rica	2000	1.65	$8,458	2.84	20	1.19
Iran, Islamic Rep.	2000	6.27	$6,202	2.84	20	3.43
Malaysia	2000	2.8	$9,866	2.84	20	0.04
Panama	2000	3.79	$7,820	2.84	20	0.95
Uruguay	2000	2.18	$9,591	2.84	20	0.66
Sweden	1960	3.8	$11,377	4.08	21	0.28

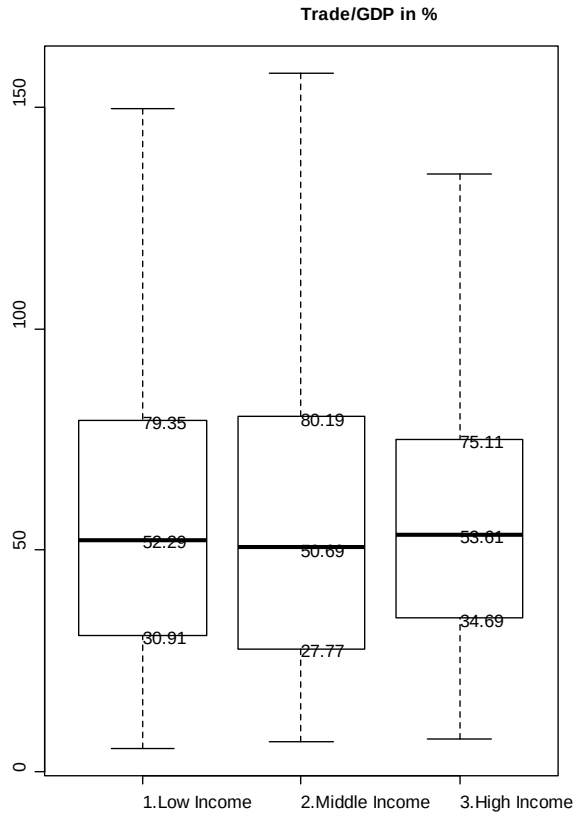
Economy	Decade Start	Actual Annual Growth	Initial Income	Predicted Growth	End Node Number	Absolute Value of Predicted Error
(1)	(2)	(3)	(4)	(5)	(6)	abs[(3)–(5)]
Cyprus	1980	5.29	$10,199	4.08	21	1.21
Malta	1980	3.02	$8,530	4.08	21	1.06
Singapore	1980	5.1	$11,147	4.08	21	1.02
Bulgaria	1990	-0.36	$7,646	4.08	21	4.44
Greece	1990	3.69	$14,099	4.08	21	0.39
Hungary	1990	1.95	$11,314	4.08	21	2.13
Malta	1990	6.03	$11,488	4.08	21	1.95
Mauritius	1990	2.5	$8,194	4.08	21	1.58
Poland	1990	5.34	$7,114	4.08	21	1.26
Croatia	2000	3.64	$12,016	4.08	21	0.44
Estonia	2000	5.16	$11,340	4.08	21	1.08
Hungary	2000	3.17	$13,727	4.08	21	0.91
Latvia	2000	4.77	$9,350	4.08	21	0.69
Lithuania	2000	4.76	$10,286	4.08	21	0.68
Poland	2000	4.11	$11,967	4.08	21	0.03
Russian Federation	2000	6.42	$9,256	4.08	21	2.34
Slovak Republic	2000	5.09	$12,800	4.08	21	1.01

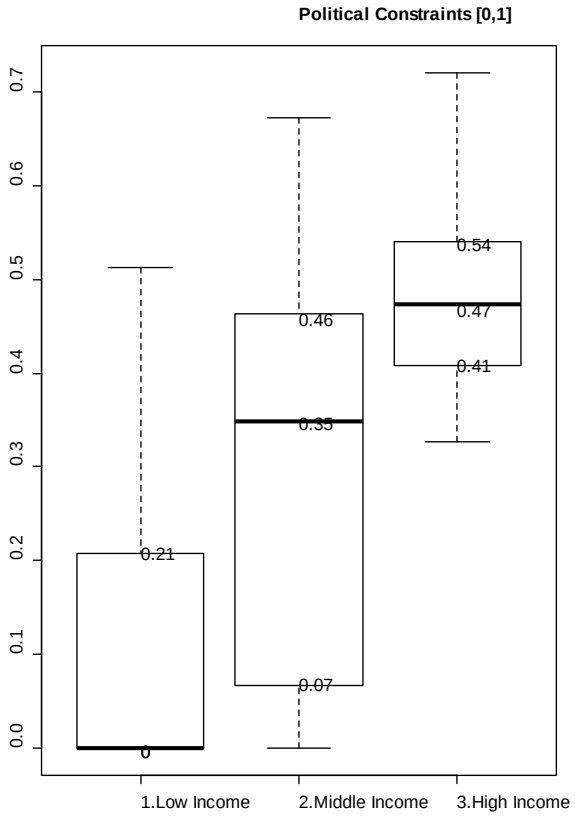
Appendix Figure 1. Box Whisker Plots for Selected Variables

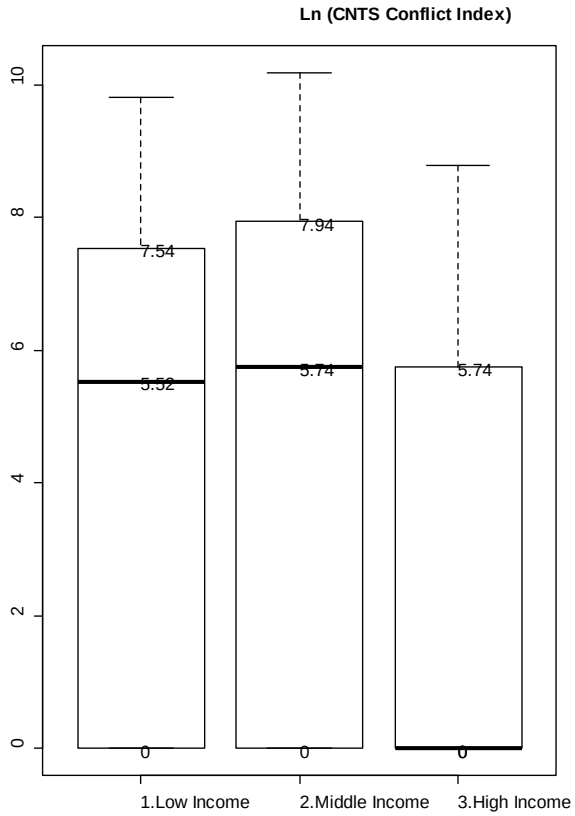


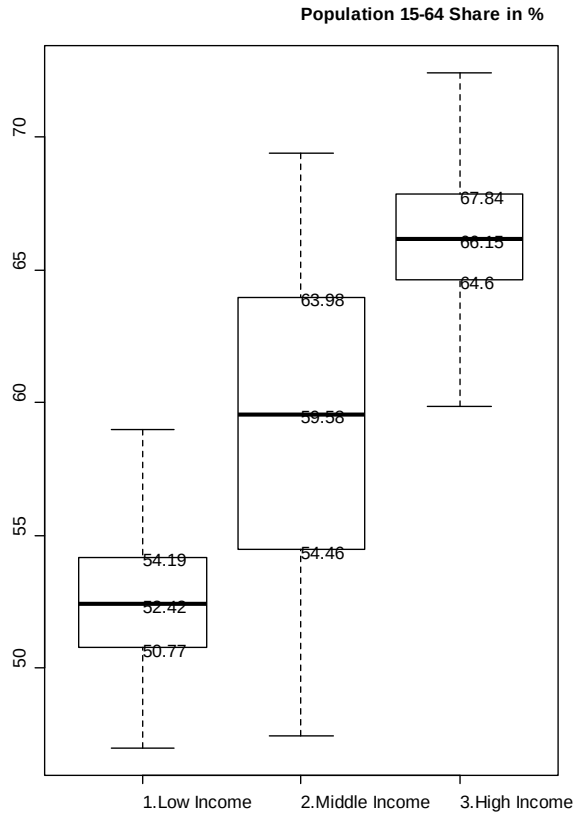

Year of Schooling
0
2
4
6
8
10
12
10.78
9.71
8.6
7.87
6.27
4.69
3.87
2.55
1.39
1.Low Income
2.Middle Income
3.High Income

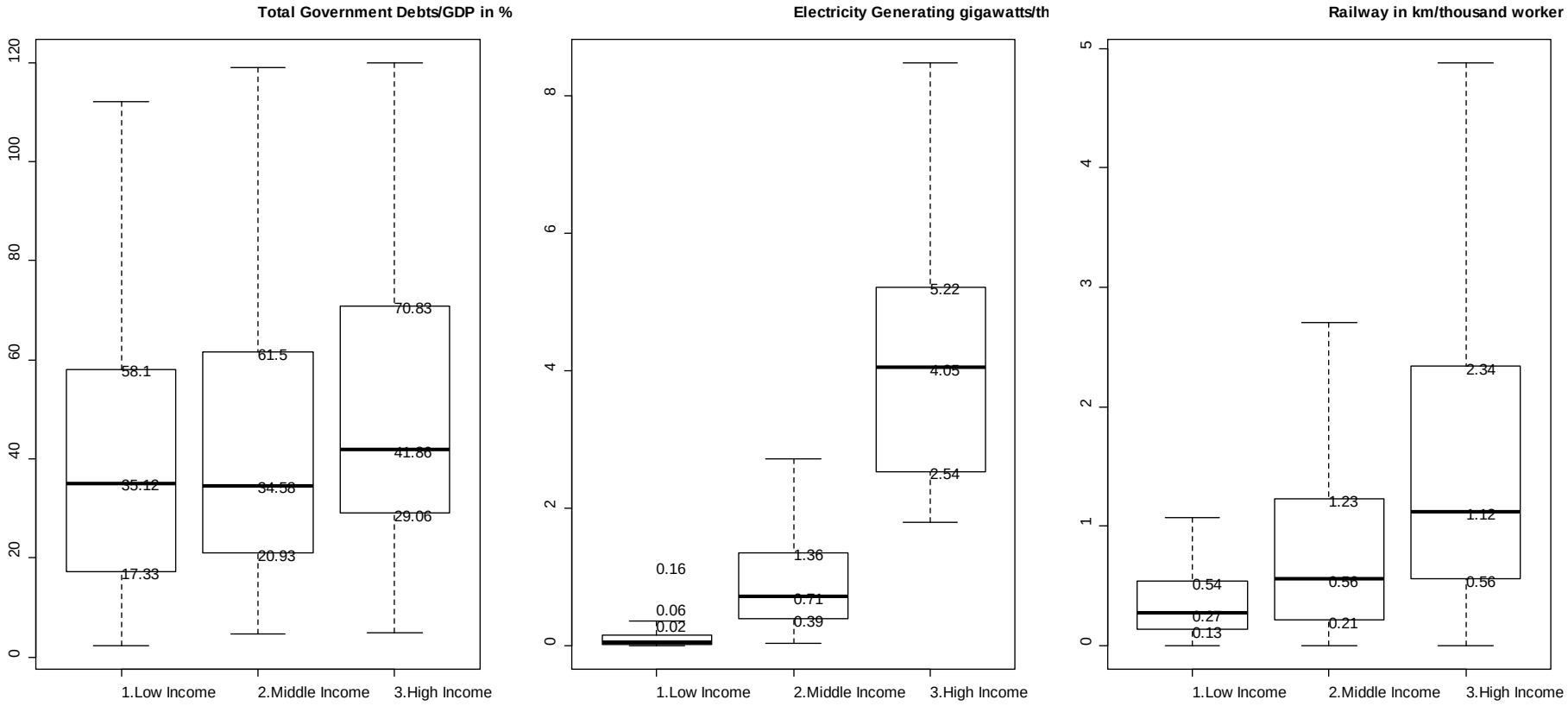

Income Share of Bottom 40%
20
25
30
31.62
30.48
29.39
29.14
27.44
25.35
29.01
26.55
23.65
1.Low Income
2.Middle Income
3.High Income

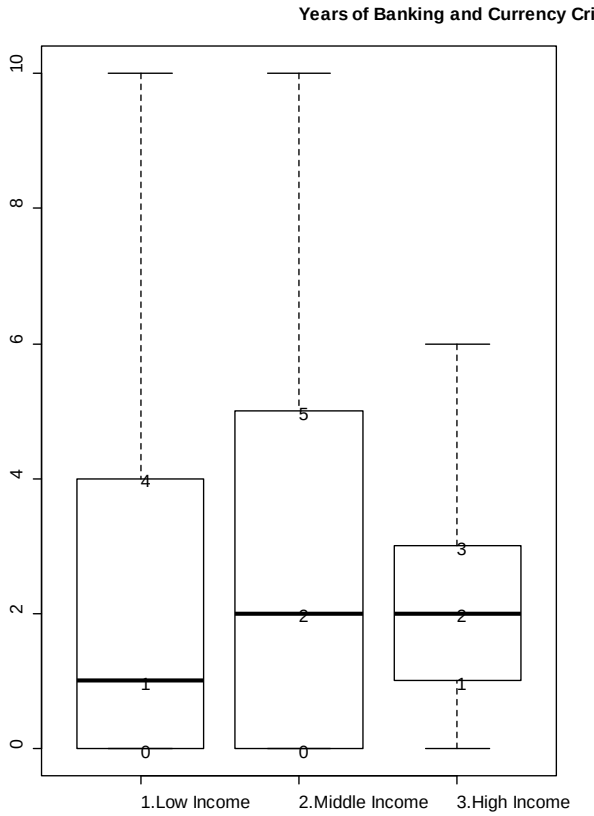

Trade/GDP in %
0
50
100
150
79.35
52.29
30.91
80.19
50.69
27.77
75.11
53.61
34.69
1.Low Income
2.Middle Income
3.High Income

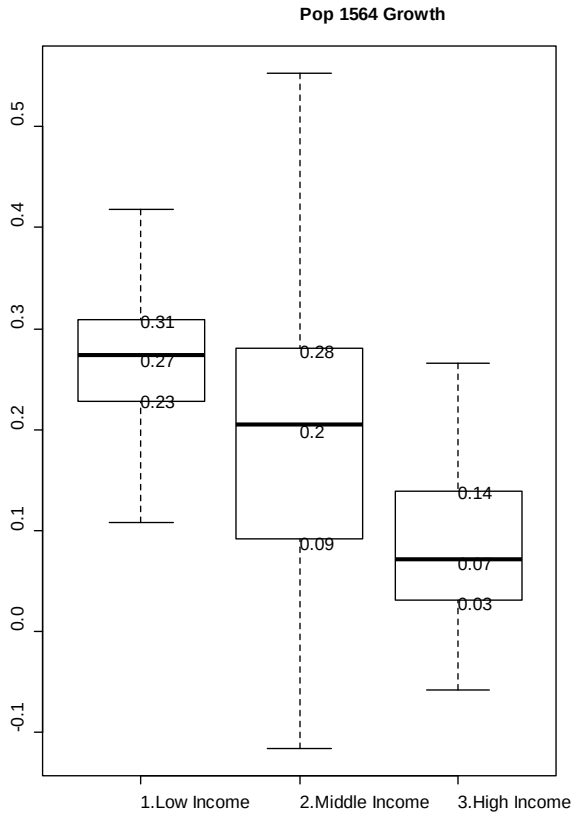

Political Constraints [0,1]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.21
0
0.46
0.35
0.07
0.54
0.47
0.41
1.Low Income
2.Middle Income
3.High Income

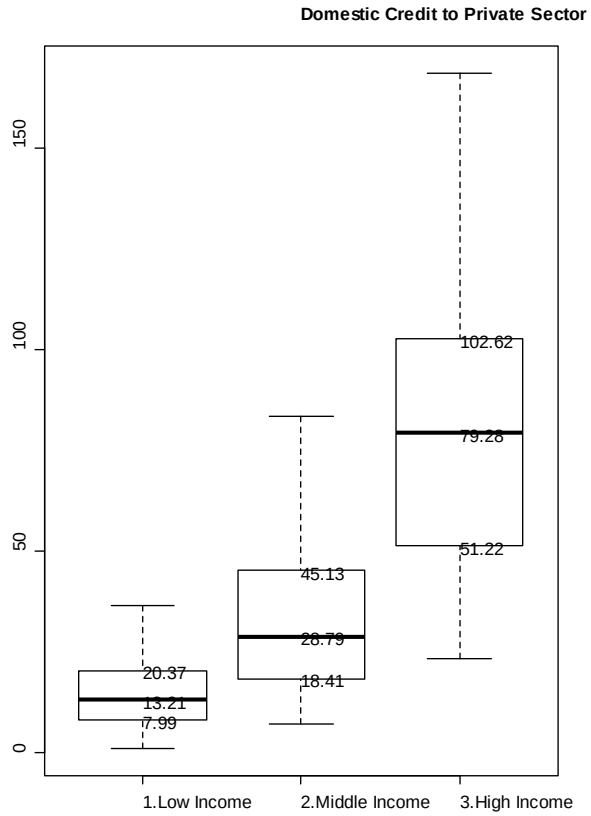

Ln (CNTS Conflict Index)
0
2
4
6
8
10
7.54
5.52
0
7.94
5.74
0
5.74
0
1.Low Income
2.Middle Income
3.High Income

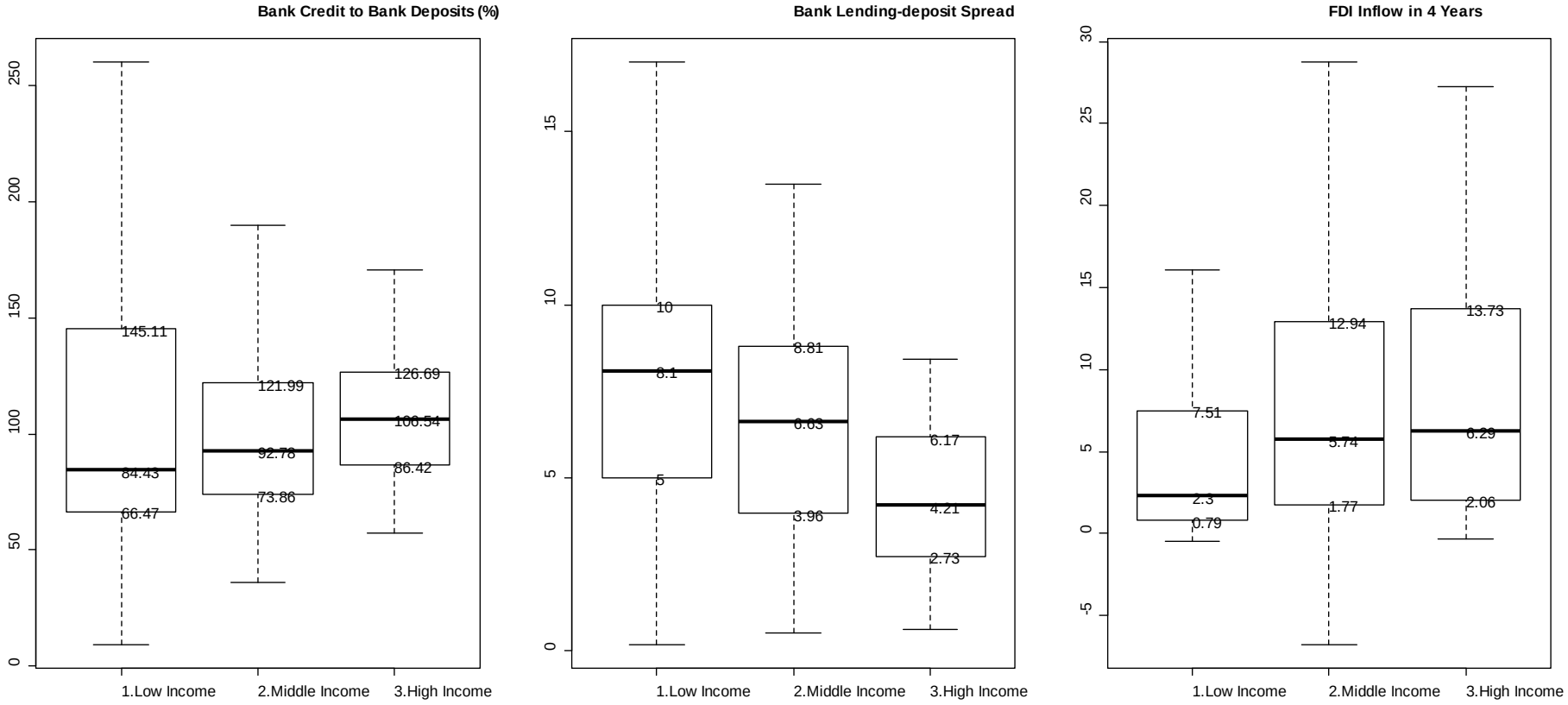

Population 15-64 Share in %
50
55
60
65
70
54.19
52.42
50.77
63.98
59.58
54.46
67.84
66.15
64.6
1.Low Income
2.Middle Income
3.High Income

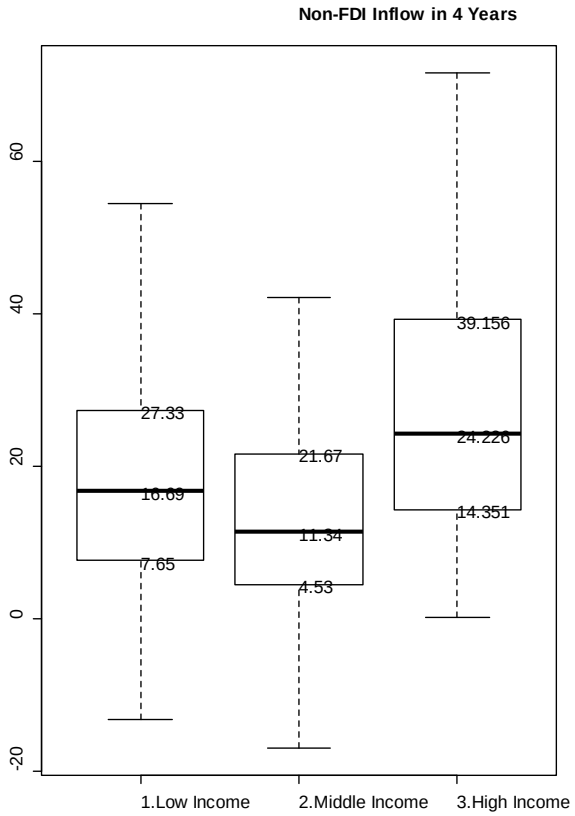

Total Government Debts/GDP in %
120
100
80
60
40
20
0
58.1
35.12
17.33
61.5
34.58
20.93
70.83
41.86
29.06
1.Low Income
2.Middle Income
3.High Income
Electricity Generating gigawatts/th
8
6
4
2
0
0.16
0.06
0.02
1.36
0.71
0.39
5.22
4.05
2.54
1.Low Income
2.Middle Income
3.High Income
Railway in km/thousand worker
5
4
3
2
1
0
0.54
0.27
0.13
1.23
0.56
0.21
2.34
1.12
0.56
1.Low Income
2.Middle Income
3.High Income

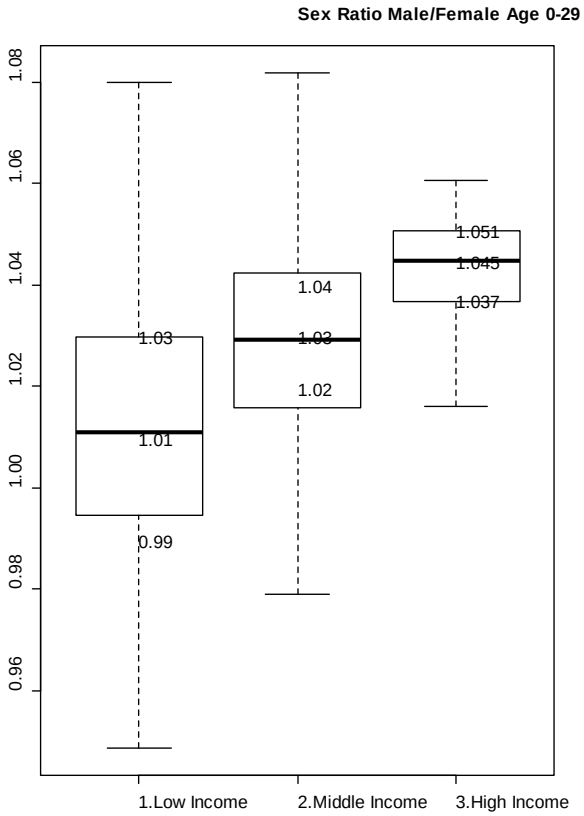

Years of Banking and Currency Cri
0
2
4
6
8
10
4
1
0
5
2
0
3
2
1
1.Low Income
2.Middle Income
3.High Income


Pop 1564 Growth
-0.1
0.0
0.1
0.2
0.3
0.4
0.5
0.31
0.27
0.23
0.28
0.2
0.09
0.14
0.07
0.03
1.Low Income
2.Middle Income
3.High Income

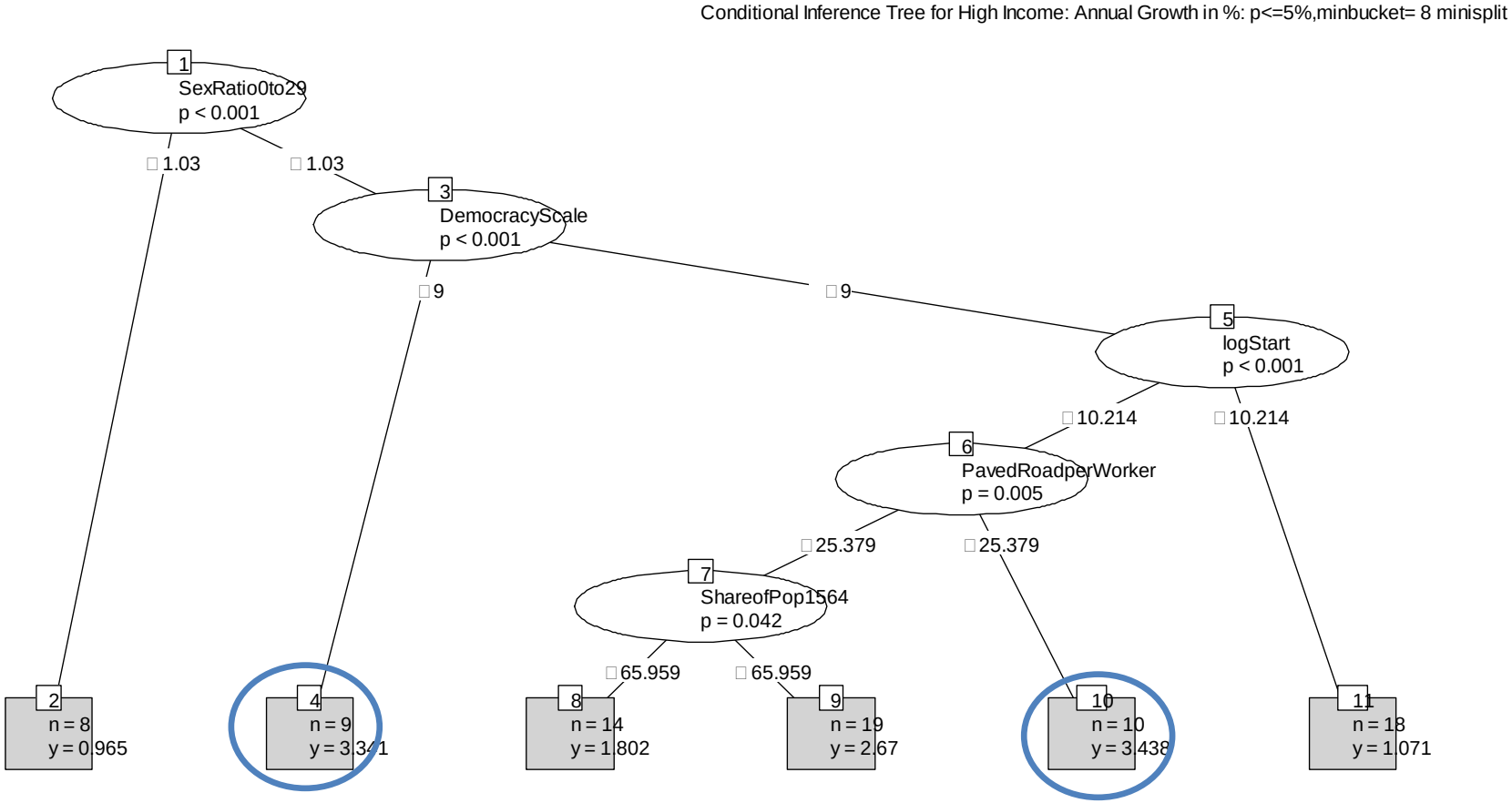

Domestic Credit to Private Sector (
0
50
100
150
20.37
13.21
7.99
45.13
28.79
18.41
102.62
79.28
51.22
1.Low Income
2.Middle Income
3.High Income


Bank Credit to Bank Deposits (%)
250
200
150
100
50
0
145.11
84.43
66.47
121.99
92.78
73.86
126.69
106.54
86.42
1.Low Income
2.Middle Income
3.High Income
Bank Lending-deposit Spread
15
10
5
0
10
8.1
5
8.81
6.63
3.96
6.17
4.21
2.73
1.Low Income
2.Middle Income
3.High Income
FDI Inflow in 4 Years
30
25
20
15
10
5
0
-5
7.51
2.3
0.79
12.94
5.74
1.77
13.73
6.29
2.06
1.Low Income
2.Middle Income
3.High Income

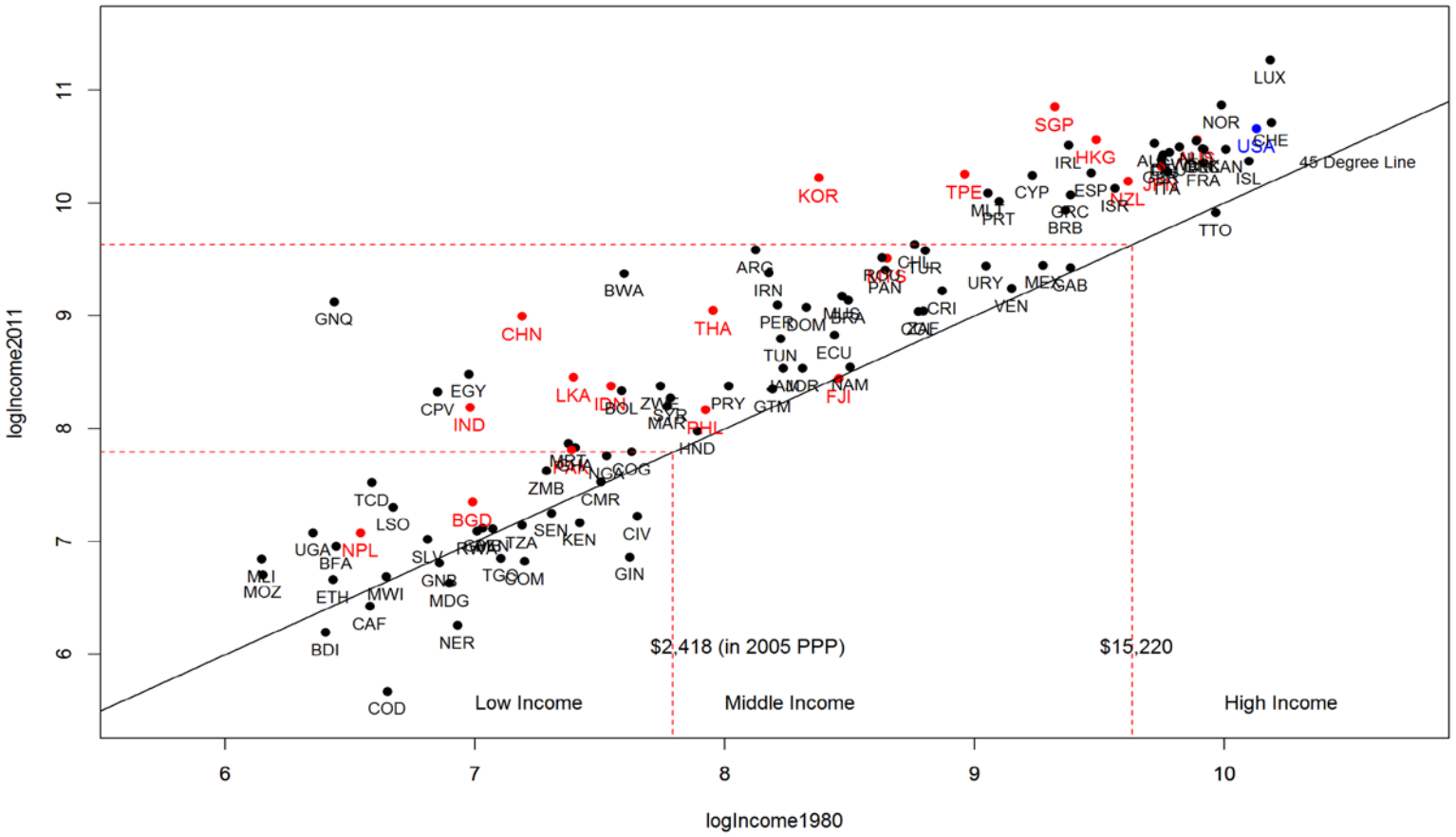

Non-FDI Inflow in 4 Years
60
40
20
0
-20
27.33
16.69
7.65
21.67
11.34
4.53
39.156
24.226
14.351
1.Low Income
2.Middle Income
3.High Income


Sex Ratio Male/Female Age 0-29
1.08
1.06
1.04
1.02
1.00
0.98
0.96
1.03
1.01
0.99
1.04
1.03
1.02
1.051
1.045
1.037
1.Low Income
2.Middle Income
3.High Income

Appendix Figure 2. Growth Correlates for High-Income Countries



Appendix Figure 3: Income Transition from 1980 to 2011



Appendix B: Concordance between Our and the World Bank's Income Group Classification

The World Bank classifies countries according to the following thresholds in 2013 US dollars (Atlas method):

Low-income countries (L): GNI per capita (Atlas method) ≤ $1045
Lower-middle-income countries (LM): $1045 < GNI per capita (Atlas method) ≤ $4125
Upper-middle-income countries (UM): $4125 < GNI per capita (Atlas method) < $12746
High-income countries (H): GNI per capita (Atlas method) ≥ $12746

We use data on GDP per capita in 2005 purchasing power parity (PPP) terms from the Penn World Tables 8.0. To make the World Bank thresholds, which are in GNI per capita (Atlas method) terms, compatible with our data in 2005 PPP, we use the ratios of the average GNI in Atlas method for 2013 to that in 2005 PPP per country group (i.e., L, LM, UM, H) and apply them to the thresholds in GNI Atlas method to get the equivalent thresholds in 2005 PPP.

Group Averages in Different Units

	Atlas method (2013 US dollars)	PPP (2005 international dollars)
L	664	1,536
LM	2,068	5,152
UM	7,540	11,494
H	39,312	34,800

H = high; L = low; LM = lower-middle; UM = upper-middle

Sources: World Bank country classification; World Bank, World Development Indicators (downloaded 29 August 2014).

The resulting thresholds in 2005 PPP are as follows:

L: GNI per capita (2005 PPP) ≤ $2,418
LM: $2418 < GNI per capita (2005 PPP) ≤ $10,276
UM: $10276 < GNI per capita (2005 PPP) < $19,429
H: GNI per capita (2005 PPP) ≥ $19,429

However, using the revised thresholds, the US would be classified only as a middle-income country in 1960. As this appears to be too strict, an adjustment was effected to make the US income as the threshold for classifying high-income countries. In addition, another category was included, extremely low-income countries, which comprise countries with per capita income below $3/day in 2005 PPP or $1,096/year in 2005 PPP terms. Furthermore, the threshold for lower- and upper-middle-income countries was also calibrated so that there are about the same number of countries in the lower- and upper-middle-income categories in 1960.

The final thresholds used are as follows:

Extremely low-income countries: GNI per capita (2005 PPP) ≤ $1,096
Low-income countries: $1,096 < GNI per capita (2005 PPP) ≤ $2,418
Lower-middle-income countries: $2418 < GNI per capita (2005 PPP) ≤ $5,500
Upper-middle-income countries: $5,500 < GNI per capita (2005 PPP) < $15,220
High-income countries: GNI per capita (2005 PPP) ≥ $15220

Appendix C: Transition Matrix

Extension 1. Transition trend based on decade-specific transition matrix

Looking at the probability of transition from one income group to the next level in each of the corresponding decades is another way of examining the transition trends. We examine the transition matrix for each decade and find that:

(1) the probabilities for the extremely low-income to stay in the extremely low-income group decreased sharply in the decade 2000–2010 while there was no clear rising or declining trend in the probabilities for the low-income to stay in the low-income group, but also with a peak value for the decade 1990–2000;
(2) for decades 1970–1980, 1980–1990, and 1990–2000, the probabilities for extremely low-income countries to stay extremely low-income are higher than those for low-income countries to stay low-income;
(3) the probabilities for those in the low-income level to fall back to the extremely low-income group were lower in the decade 1990–2000/2000–2010 than in the decade 1970–1980/1980–1990; and
(4) in terms of moving up to the next higher income level, decade 2000–2010 is the best decade for extremely low-income to low-income, while decade 1960–1970 is the best for the low-income to move up to lower-middle-income, with the decade 2000–2010 as second best. The decade 1980–1990 stands out as one with the least probability for countries in the lower-middle-income group to move up to upper-middle-income status, followed by the decade 2000–2010, for which the upper-middle-income had the highest probability of remaining in the same group. For lower-middle-income countries, the decade 1980–1990 is the hardest decade to move up while for upper-middle-income countries, the decade 2000–2010 is the most difficult.

Given the very low probability for upper-middle-income countries to move up to the high-income group in the decade 2000–2010, it will take 15 decades for 50% of them to become high-income countries. Take note that this transition estimate is only for 50% of those countries. Meanwhile, the transition durations for the extremely low-income and low-income for the decade 2000–2010 were short compared with the other decades: moving from extremely low-income to low-income takes 2 decades, while moving from low-income to lower-middle-income group takes 3 decades.

Extension 2. Effects of financial crisis

One possible reason that led to longer transition duration (15 decades) for upper-middle-income countries to move up to the high-income group was the 2008 financial crisis. To isolate the effect of the 2008 financial crisis, we construct a transition matrix for 2000–2007 and another transition matrix for 2007–2010. It shows that the probability of transition from extremely low to low-income and low-income to middle-income are relatively closer between the two transition matrices than those from the middle-income to

high-income group. For the period 2007–2010, the probability for upper-middle-income countries to stay in the same income level is 1. The same period also shows a 0.04 probability for a high-income country to fall back to upper-middle-income status. To make the two transition matrices comparable, we simulate 21-year duration matrices based on these two implied growth rates. Interestingly, with the 2007–2010 period implied growth rate, the extremely low-income experienced higher growth rate than that implied by the 2000–2007 period, i.e., 0.21 probability to stay in the same income group with the crisis-period implied growth rate compared to 0.41 probability to stay in the same income group for the 2000–2007 period implied growth rate. However, the upper-middle-income and high-income groups experienced much slower growth rates. The resulting probability of 1 for upper-middle-income countries staying put even for the transition matrix with duration of 21 years is because of the implied assumption that in the 21 years, growth performance of all countries takes the same speed as in 2007–2010. As suggested by the above-mentioned results, the 2008 financial crisis damaged the growth speeds of middle-income countries much more severely. The growth progress of low-income countries was “immune” to this crisis.