The Effect of Control Corruption, Political Stability, Macroeconomic Variables on Asian Economic Growth

**APPENDIX**

**(1a) One-Step Model GMM**

Arellano-Bond dynamic panel-data estimation Number of obs = 644

Group variable: code Number of groups = 45

Time variable: tahun

 Obs per group:

 min = 6

 avg = 14.31111

 max = 15

Number of instruments = 129 Wald chi2(8) = 208.35

 Prob > chi2 = 0.0000

One-step results

-------------------------------------------------------------------------

 y | Coef. Std. Err. z P>|z| [95% Conf. Interval]

--------+----------------------------------------------------------------

 y |

 L1. | -.037856 .0331491 -1.14 0.253 -.102827 .0271149

 |

logycap | -14.50827 3.169494 -4.58 0.000 -20.72036 -8.296174

 cc | 5.462856 1.655483 3.30 0.001 2.21817 8.707542

 ps | -4.839105 1.042642 -4.64 0.000 -6.882646 -2.795565

 fdi | .0214149 .0205811 1.04 0.298 -.0189234 .0617533

 gov | -.3988563 .0639209 -6.24 0.000 -.5241389 -.2735737

 edu | -1.980974 .7972994 -2.48 0.013 -3.543652 -.4182956

 emp | .9829505 .2051299 4.79 0.000 .5809033 1.384998

 \_cons | 26.13648 14.4968 1.80 0.071 -2.276722 54.54969

-------------------------------------------------------------------------

Instruments for differenced equation

 GMM-type: L(2/.).y

 Standard: LD.y D.logycap D.cc D.ps D.fdi D.gov D.edu D.emp

Instruments for level equation

 Standard: \_cons

**(1b) Sargan Test**

Sargan test of overidentifying restrictions

 H0: overidentifying restrictions are valid

 chi2(120) = 746.5589

 Prob > chi2 = 0.0000

**(2a) Two-Step Model GMM**

Arellano-Bond dynamic panel-data estimation Number of obs = 644

Group variable: code Number of groups = 45

Time variable: tahun

 Obs per group:

 min = 6

 avg = 14.31111

 max = 15

Number of instruments = 129 Wald chi2(8) = 7923.88

 Prob > chi2 = 0.0000

Two-step results

-------------------------------------------------------------------------

 y | Coef. Std. Err. z P>|z| [95% Conf. Interval]

--------+----------------------------------------------------------------

 y |

 L1. | -.0444025 .0040203 -11.04 0.000 -.0522822 -.0365228

 |

logycap | -12.65245 1.847266 -6.85 0.000 -16.27303 -9.031878

 cc | 4.798169 .8708419 5.51 0.000 3.09135 6.504988

 ps | -4.181665 .4646843 -9.00 0.000 -5.092429 -3.270901

 fdi | .0265907 .013723 1.94 0.053 -.0003059 .0534873

 gov | -.393406 .0101062 -38.93 0.000 -.4132139 -.3735982

 edu | -2.46646 .3703806 -6.66 0.000 -3.192393 -1.740527

 emp | .9934331 .0810664 12.25 0.000 .8345459 1.15232

 \_cons | 21.27603 7.723432 2.75 0.006 6.138378 36.41368

-------------------------------------------------------------------------

Warning: gmm two-step standard errors are biased; robust standard

 errors are recommended.

Instruments for differenced equation

 GMM-type: L(2/.).y

 Standard: LD.y D.logycap D.cc D.ps D.fdi D.gov D.edu D.emp

Instruments for level equation

 Standard: \_cons

**(2b) Sargan Test**

Sargan test of overidentifying restrictions

 H0: overidentifying restrictions are valid

 chi2(120) = 39.84807

 Prob > chi2 = 1.0000

**(2c) AR Test**

Arellano-Bond test for zero autocorrelation in first-differenced errors

 +-----------------------+

 |Order | z Prob > z|

 |------+----------------|

 | 1 |-1.8455 0.0650 |

 | 2 |-1.8308 0.0671 |

 +-----------------------+

 H0: no autocorrelation

**(3) Two-Step Model GMM**

Dynamic panel-data estimation, two-step system GMM

-------------------------------------------------------------------------

Group variable: code Number of obs = 689

Time variable : tahun Number of groups = 45

Number of instruments = 143 Obs per group: min = 7

Wald chi2(8) = 39422.82 avg = 15.31

Prob > chi2 = 0.000 max = 16

-------------------------------------------------------------------------

 y | Coef. Std. Err. z P>|z| [95% Conf. Interval]

--------+----------------------------------------------------------------

 y |

 L1. | .2591961 .002963 87.48 0.000 .2533888 .2650035

 |

logycap | -5.696847 .4060595 -14.03 0.000 -6.492709 -4.900985

 cc | .6888968 .1883179 3.66 0.000 .3198004 1.057993

 ps | .6697924 .1539533 4.35 0.000 .3680495 .9715354

 fdi | .0294139 .0145446 2.02 0.043 .0009071 .0579207

 gov | -.0124643 .0130731 -0.95 0.340 -.038087 .0131584

 edu | .0881142 .0378564 2.33 0.020 .0139169 .1623115

 emp | -.0081202 .0134713 -0.60 0.547 -.0345235 .0182832

 \_cons | 26.22574 2.460992 10.66 0.000 21.40228 31.04919

-------------------------------------------------------------------------

Warning: Uncorrected two-step standard errors are unreliable.

Instruments for first differences equation

 Standard

 D.(y cc fdi gov edu emp ps)

 GMM-type (missing=0, separate instruments for each period unless collapsed)

 L(1/16).L.y

Instruments for levels equation

 Standard

 y cc fdi gov edu emp ps

 \_cons

 GMM-type (missing=0, separate instruments for each period unless collapsed)

 D.L.y

----------------------------------------------------------------------------------

Arellano-Bond test for AR(1) in first differences: z = -2.07 Pr > z = 0.038

Arellano-Bond test for AR(2) in first differences: z = 0.58 Pr > z = 0.560

----------------------------------------------------------------------------------

Sargan test of overid. restrictions: chi2(134) = 721.99 Prob > chi2 = 0.000

 (Not robust, but not weakened by many instruments.)

Hansen test of overid. restrictions: chi2(134) = 42.29 Prob > chi2 = 1.000

 (Robust, but weakened by many instruments.)

Difference-in-Hansen tests of exogeneity of instrument subsets:

 GMM instruments for levels

 Hansen test excluding group: chi2(119) = 40.61 Prob > chi2 = 1.000

 Difference (null H = exogenous): chi2(15) = 1.68 Prob > chi2 = 1.000

 iv(y cc fdi gov edu emp ps)

 Hansen test excluding group: chi2(127) = 38.33 Prob > chi2 = 1.000

 Difference (null H = exogenous): chi2(7) = 3.95 Prob > chi2 = 0.785





**Figure 1. Correlation Control Corruption Index and GDP per Capita Growth**

**Figure 2. Correlation Political Stability Index and GDP per Capita Growth**