

# A | *Appendix to Chapter 2*

## **Summary of review of empirical growth literature**

See Klomp and de Haan (2009) for a review of research exclusively on the determinants of macroeconomic volatility.

**Table A.1 Review of literature**

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Abrams and Lewis (1995)	Economic growth per capita	Regime (democratic/nondemocratic)	Democracy is positively correlated with growth through an intervening variable of liberty
Adams (2004)	Poverty (poverty line headcount, poverty gap index)		
Agenor <i>et al.</i> (2007)	Income growth per capita		
Aghion <i>et al.</i> (1999)	Economic growth, income inequality (use many measures for both)		
Alesina and La Ferrara (2004)	GDP per capita growth		
Alesina <i>et al.</i> (1992)	Per capita GDP growth		
Alfaro (2004)	Average annual per capita growth rate		

Almeida and Ferreira (2002)	Average annual per capita GDP growth rate, growth rate of real per capita GDP	Regime type (measured with Gastil Index and Polity III)	Authoritarian regimes have more variance in growth rates both within and across countries, more variance in policies, and both the highest and lowest growth rate countries are more likely to be autocracies than democracies
Ang and McKibbin (2007) Arayama and Miyoshi (2004) Aron (2000)	Financial development, economic growth Real GDP Real per-capita growth	Beri disaggregated business risk indicators; ICRG disaggregated business risk indicators; Business International disaggregated risk indicators; Gastil's political rights index; Putnam's Social Capital and Local Government and Institutional Performance Measures; Clague <i>et al.</i> 's Political Regime Indicator; DeVarrsay and Spindler's constitutional rights indicators	Finds an existent, but not robust, correlation between “institutional quality” and economic growth

Table A.1 (cont.)

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Awokuse (2005)	Real GDP growth		
Azam <i>et al.</i> (2002)	Economic growth (lit review)		
Bahmani-Oskooee and Niroomand (1999)	Real GDP		
Baier <i>et al.</i> (2006)	Average output growth per worker		
Balaguer and Cantavella-Jorda (2004)	Real domestic output		
Baqir <i>et al.</i> (2005)	Real GDP growth		
Barrell and Pain (1997)	Foreign direct investment (in \$ and as % of GDP)		
Barro (1995)	Real per capita GDP growth		
Barro (1996)	Real per capita GDP growth		
Barro and Lee (2003)	IMF lending and five-year growth rates of per capita GDP		
Barro and McCleary (2003)	Average growth rate of real per capita GDP		
Baum and Lake (2003)	Annual growth rate in real GDP	Regime type (derived from Polity 98)	Democracy increases life expectancy and education which in turn increases growth

Bekaert <i>et al.</i> (2001a)	Investment/GDP ratio and others	
Bekaert <i>et al.</i> (2001b)	Real per capita GDP growth	
Berend (2002)	Development (subjective definition)	
Berggren and Jordahl (2005)	Real per capita GDP Growth	Legal structure and property rights index (may or may not include institutional variables)
Bertocchi and Canova (1996)	Growth (average growth rate per capita)	
Bhattacharyya (2004)	Growth in income per capita	
Bjornskov (2005)	Decadal growth	
Blomstrom <i>et al.</i> (1996)	Five-year growth rate in per capita GDP	
Bloom and Sachs (1998)	Growth in GDP per capita	
Borensztein <i>et al.</i> (1998)	Average annual growth rate of per capita real GDP	Positive significant relationship with growth

Table A.1 (cont.)

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Breen (1997)	Economic performance, equality (modeled)		
Bruno and Easterly (1998)	Per capita growth rate, per capita growth rate differed from the world average		
Bueno de Mesquita <i>et al.</i> (2001)	Average annual real growth rate in per capita income	Size of selectorate (who can choose the leader), size of winning coalition (whose support is needed to stay in office) (both of these are correlates of democracy)	Democracy positively impacts growth
Burdekin <i>et al.</i> (2004)	Percent change in real GDP per capita (sometimes lagged)		
Butkiewicz and Yanikkaya (2005)	Growth rate in real GDP per capita	Democracy (regime type) (measured by the Gastil Index)	Gastil Index not significant
Campos and Coricelli (2002)	Growth rate in real GDP per capita	Rule of Law Index by Campos (includes type of law and non-institutional variables), Rule of Law Index by Karatnycky <i>et al.</i> (includes adoption of a constitution, constitutional rights, and non-institutional variables)	No results, article is literature review and stylized history (stylized is their self description)

Cannon (2000)	Review of Frankel piece on economic growth		
Carlsson and Lundstrom (2001)	GDP growth	Legal structure and property rights index	Significant and positive
Castello and Domenech (2002)	Gini coefficient, average growth rate per capita		
Chang (2002)	GDP		
Chang and Caudill (2005)	Real GDP per capita		
Chatterjee <i>et al.</i> (2003)	GDP		
Chen and Feng (2000)	Per capita GDP growth		
Choe and Moosa (1999)	Real GDP		
Chong and Zanforlin (2004)	Per capita GDP Growth	Institutional Quality Index (including independence of bureaucracy, and other variables)	Index is significant but not robust to changes in specification
Chow and Ioh Lin (2002)	Real GDP		
Coclanis and Doshi (2000)	Economic Performance (case studies)		

Table A.1 (cont.)

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Collier (2000)	Average per capita GDP growth	Interaction between regime type and ethnic fragmentation (regime measured with Gastil Index)	Democracy is positively correlated with growth. Democracy mitigates the negative effects of ethnic fragmentation on growth
Collins <i>et al.</i> (1996)	Growth of per capita GDP		
Crafts (2004)	GDP per capita purchasing power parity, international inequality		
Crenshaw <i>et al.</i> (1997)	Real GDP per capita growth		
Crotty and Lee (2001)	Economic growth (measured in wide variety of ways)		
Dakurah <i>et al.</i> (2001)	GNP		
Davoodi and fu Zou (1998)	Per capita GDP growth	Fiscal decentralization	Decentralized fiscal power is not correlated with growth in developed countries, in developing countries it is negatively correlated with growth
Dawson and Hubbard (2004)	GDP at market prices, gross capital formation		

de Haan and Siermann (1998)	GDP per capita	Gastil Civil Rights Index (put into an index of economic freedom)	The effect of economic freedom on growth depends on what you use to measure economic freedom
de Haan and Stürm (2000)	Average growth of per capita GDP	Civil rights indexes (put into indexes of economic freedom)	Economic freedom will speed a nation to its steady state of economic growth, but not alter that steady state of economic growth
Demetriades and Hussein (1996)	Real GDP		
Demetriades and Luintel (1996)	Real GDP per capita		
Demurger (2001)	GDP growth rate		
Devarajan <i>et al.</i> (1996)	Five-year forward moving average of per capita rel GDP		
Dougherty and Jorgenson (1996)	GNP		
Dudley (1999)	Economic growth (modeled)		
Dunning (2005)	Economic performance (per capita GDP, real per capita GDP, and other indicators)		
Durham (1999)		Regime type/discretion (number of effective parties and constitutional framework measure)	Discretion decreases growth in advanced areas, inhibits investments in poor (not advanced) areas. Single-party dictatorships have higher investment ratios

Table A.1 (cont.)

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Easterly (1991)	Per capita GDP (PPP where available)		
Easterly (2007)	Change in per capita GDP		
Edwards (2001)	Average real GDP growth		
Ehrlich and Lui (1999)	Real per capita GDP	Communist regime	Communist regime has negative impact on growth
Evans and Rauch (1999)	Total growth of real GDP per capita from 1970–90	Weberian bureaucratic structure (use of meritocracy, predictable career ladder)	Weberian bureaucratic structure contributed to increased growth. It also tends to pattern by region
Ezcurra (2007)	Annual growth rate		
Fagerberg <i>et al.</i> (2007)	Real GDP growth		
Fatas (2000)	GNP average growth rate		
Fedderke <i>et al.</i> (1999)	Economic growth (not specifically measured, goal of the article is to define social capital in a way that shows how it contributes to economic growth)		

Feiock <i>et al.</i> (2008)	Economic development (discussed)	Quality of governance	Level of governance matters for the shape of economic development. Quality of regional governance can spread economic development more evenly, preventing “spikes” but not achieving complete “flatness” (geographically speaking)
Feng (1997)	Real per capita GDP growth	Regime type (Gurr’s Index, Bollen Index, Gastil Index), regularity of government change	Irregular government change negatively effects growth, democracy indirectly acts through regular government change to improve growth, but its direct effect is negative
Fidrmuc (2003)	Growth rate of GDP		
Fogel (2005)	(Not an empirical article/no causal argument)		
Fosu (2002)	Mean annual percent growth rate of GDP		
Freire-Seren (2002)	Gross value added (regional output)		
Frye (2002)	Real rate of year to year change in GDP	Regime type (Freedom House)	With proper controls, democracy has no impact on growth

Table A.1 (cont.)

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Galor and Moav (2002)	Economic growth (output per capita, and others)		
Galor and Tsiddon (1997)	Output growth (modeled)		
Gao (2005)	World growth rate (modeled)		
Gapinski (1996)	Output growth (a function of real GDP and labor)		
Garrison and Lee (1995)	Growth of per capita real GDP		
Gerring <i>et al.</i> (2006)	Percentage change in real GDP per capita in constant dollars	Regime type, democratic stock (regime since 1900)	The higher a country's democratic stock, the higher its growth rate
Ghirnmay <i>et al.</i> (2001)	Real GDP		
Glaeser <i>et al.</i> (1995)	GDP per capita growth, urban growth		
Gounder (2004)	Economic growth, political stability	Regime type, rule of law, quality of institutions (Gastil Index)	(Case study) democracy, rule of law, and quality of institutions increases growth
Gradstein and Justman (2002)	Individual income (modeled)		
Granato <i>et al.</i> (1996)	Mean rate of per capita economic growth		

Gregorio and Guidotti (1995)	GDP per capita		
Greiner (1996)	Economic growth (modeled)		
Greiner <i>et al.</i> (2004)	Wage inequality (wage premium, college premium)		
Grier (1999)	Average real GDP growth		
Gupta and Sommers (1999)	GNP per capita		
Guseh (1997)	Logged annual rates of growth		
Gyimah- Brempong (2002)	GDP, per capita income, income inequality		
Haggard (2005)	Economic growth (lit review style)	Regime type, property rights, ability to credible commitment	Institutions effect economic growth by solving collective action problems. Many different institutions could solve the same problem.
Haile <i>et al.</i> (2003)	Ten-year average GDP growth per capita		
Hall and Jones (1999)	Output per worker		
Hall and Leeson (2007)	GDP per capita PPP		

Table A.1 (cont.)

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Hanushek and Kim (1995)	Average annual growth in real per capita GDP		
Hazan and Berdugo (2002)	Economic development (modeled)		
Henderson (2003)	Output per worker (in purchasing power parity)		
Henisz (2000)	Real per capita GDP growth	Political Constraints Index	Institutions that allow credible commitment increase growth rates
Henry (2003)	Economic development (growth rate of output per worker, growth rate of capital stock)		
Heo (1998)	Growth in GDP		
Heo (1999)	Growth in GDP		
Heo and DeRouen (1998)	Growth in GDP		
Hojman (2002)	Economic and political performance	Quality of institutions	(case study)
Holtz-Eakin <i>et al.</i> (2004)	Public spending (modeled)		

Isaham <i>et al.</i> (2005)	Per capita growth rate	Rule of law, law and order tradition, civil liberties, quality of bureaucracy, political rights, rule-based governance	All institutional variables have positive and significant coefficients.
Islam (1995)	Growth convergence (constructed with log of per capita GDP)		
Iwata <i>et al.</i> (2003)	Percent growth of output, capital, and labor		
Jalilian <i>et al.</i> (2007)	GDP per capita growth		
Jones (1995a)	Per capita GDP, annual growth rate, total factor productivity growth		
Jones (1995b)	US total factor productivity growth rate		
Jones (2002)	Stability of US growth rate		
Jorgenson and Stiroh (1999)	Total factor productivity growth		
Jorgenson and Stiroh (2000)	Real output (created for this paper)		
Kalaitzidakis (2001)	Per capita GDP growth		
Kalemli-Ozcan (2002)	Population growth		

Table A.1 (*cont.*)

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Kaneko (2000)	Interaction between specialization and growth rate		
Kentor (1998)	GDP per capita		
Kentor (2001)	Income inequality, fertility rates, population growth, economic development (GNP per capita, GNP per capita growth)		
Kentor and Boswell (2003)	Growth in GNP per capita		
Khatkhate (1997)	(lit. review of other works)		
King (1998)	Welfare provision		
Kirkpatrick and Weiss (1995)	GNP per capita		
Kneller (2007)	GDP growth five-year average		
Koren and Tenreyro (2007)	Real GDP per capita		
Krebs (2003)	Average growth rate		
Krueger and Lindahl (2001)	Annualized change in log GDP		

Krusell <i>et al.</i> (1997)	Economic growth (modeled)			
Kurtz and Schrank (2007)	GDP per capita growth, government effectiveness	Government effectiveness	Growth causes the changes/improvements in government effectiveness, government effectiveness does not cause growth	
Kurzman <i>et al.</i> (2002)	Annual log difference of real GDP per capita	Democracy	Democracy has a statistically significant indirect and generally positive effect on economic growth. Democracy shows no long-term, direct effect on growth	
Le and Suruga (2005)	Five-year forward moving average of per capita real GDP			
Leblang (1996)	Per capita growth rate	Regime type (Polity II)	Democracy affects growth indirectly through property rights	
Leblang (1997)	Ten-year average growth rate	Regime type (Polity II)	Democracy increases growth	
Levine (1997)	Real GDP per capita			
Levine (1998)	Real per capita GDP growth			
Levine (1999)	Real per capita GDP growth			
Levitt and Poterba (1999)	Growth rate of real per capita personal income (US Satesa)			
Li and Liu (2005)	GDP Growth			

Table A.1 (cont.)

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Liu <i>et al.</i> (2002)	GDP (calculated with gross industrial output)		
Lundberg and Squire (2003)	Growth (GDP growth) and inequality (adjusted Gini Index)		
Mah (2005)	Real GNP growth rate		
Mangeloja (2005)	GDP per capita growth		
Martin (2000)	Per capita growth rate		
Mauro (1995)	GDP growth	Bureaucratic efficiency index (bureaucracy and red tape, judiciary efficiency, and corruption)	Bureaucratic efficiency is positively correlated with GDP growth
Mauro (2004)	Corruption persistence (modeled)		
Mazumdar (1996)	Per capita real GDP		
Mazur and Alexander (2001)	Growth in real per capita GDP, real per capita GDP		
Mello (2002)	GDP		
Milbourne <i>et al.</i> (2003)	Output		
Mintz and Stevenson (1995)	Economic growth		

Miwa and Ramseyer (2002)	Economic growth (stock market capitalization divided by firm accounting equity)		
Mo (2001)	GDP growth rate		
Monte and Papagni (2001)	Per capita GDP growth		
Moon (1998)	Real GDP per capita growth		
Mulligan <i>et al.</i> (2004)	Policy differences across regimes	Regime type (polity scores)	
Murdoch and Sandler (2002)	Income per capita growth		
Murdoch and Sandler (2004)	Income per capita growth		
Nahar and Inder (2002)	Convergence		
Nelson (2007)	Economic growth (descriptive)	Institutions and technologies supported by those institutions	The field does not have a coherent view of institutions, and this definition needs to be developed. There is not one set of institutions that is the be-all and end-all for growth, but rather the details of the institutions and how they support technologies that lead to economic growth must be studied

Table A.1 (cont.)

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Neusser (2001)	Total factor productivity		
Nunn (2004)	Log of real per capita GDP		
Oliva and Rivera-Batiz (2002)	Real per capita annual GDP growth	Quality of democracy (Polity IV), rule of law (Kaufmann Index)	Democracy affects growth through promoting education, rule of law affects growth through increasing FDI
Onafowora and Owoye (1998)	Co integration vectors of real output, investment, exports, and trade policy		
Ozlu (1996)	Output		
Palmer and Whitten (1999)	Vote choice		
Parai (2003)	Per capita domestic capital, consumption		
Pedersen and Elmer (2003)	Real GDP		
Peretto (2003)	Growth (modeled)		
Peretto (2007)	Growth (modeled)		
Petrucci (2003)	Growth (modeled)		

Pfeifer <i>et al.</i> (1999)	(discussion of economic situation and possible courses of action in the Middle East)		
Pickering and Kisangani (2006)	GDP per capita, GDP per capita growth	Political competition and regime type (Polity 98)	While political competition does affect the sources of growth, the substantive effect in the short run is small. A long-run approach may be needed
Pinto and Timmons (2005)	Sources of growth (factor capital accumulation, human capital accumulation, and productivity)		Level of democracy has a U-shaped relationship with growth (growth is highest with mid-levels of democracy)
Plumper and Martin (2003)	GDP per capita growth PPP	Level of democracy (Polity 98)	Democracy creates stronger growth by punishing the government for economic volatility
Quinn and Woolley (2001)	Real per capita GDP growth	Regime type (Gastil Index)	Investment is higher with merit-based civil service, investment is lower with commission or manager form of government
Ran <i>et al.</i> (2007)	Output growth		
Rauch (1995)	Share of infrastructure expenditure in total municipal expenditure	Merit-based civil service, city manager form of government, commission form of government	
Rivera-Batiz (2001)	Economic growth (modeled)		

**Table A.1** (*cont.*)

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Rivera-Batiz (2002)	Total factor productivity, growth in GDP per capita	Regime type	Democracy increases total factor productivity, and GDP per capita growth
Roberts and Rodriguez (1997)	Economic growth (modeled)		
Rodriguez and Rodrik (1999)	Economic progress (growth of GDP per capita, convergence)		
Rodrik (1997a)	Economic growth (per worker output, total factor production, growth rate, change in growth rate)		
Rodrik (2003a)	Per capital GDP growth	Economic principles (liberalization of agricultural markets, abolition of the state order system, privatization of land, tax reform, etc.) Institutions Rule of law, bureaucratic quality	Economic principles that contribute to economic success to not map on to one set of institutions, rather many different institutions can embrace the same principles
Rowley (2000)	Economic growth Rate		Case studies
Sachs and Warner (1995)	Real GDP		Both significant and positive

Savvides (1995)	Per capita growth rate		
Scarpetta <i>et al.</i> (2000)	GDP per capita growth, GDP per capita growth disparities		
Schatz (1996)	Economic performance		
Schofer <i>et al.</i> (2000)	Annualized growth of real GDP per capita	Political democracy Index (Polity III)	Democracy has no direct impact on economic growth
Scruggs (2001)	Real average GDP growth, average per capita GDP growth		
Scully (2002)	Inequality (Gini coefficient), economic growth (real growth rate in per capita GDP)	Economic Freedom Index (Gwartney, Lawson and Block)	Economic Freedom increases economic growth and reduces inequality
Scully (2003)	GDP growth rate		
Senhadji (2000)	GDP per capita		
Shan (2005)	GDP		
Stafford (1999)	Real wage growth		
Stern <i>et al.</i> (1996)	Environmental degradation		

Table A.1 (*cont.*)

Authors	Dependent variable	Political-institutional variables (if any)	Political-institutional findings
Stiglitz (2000)	Economic growth and stability		
Stokey (1998)	Growth, capital accumulation (modeled)		
Storm and Naastepad (2005)	Economic growth (per capita GDP)		
Strauss and Thomas (1998)	Wages and productivity		
Stürm and de Haan (2001b)	Average GDP per capita growth		
Swank (1996)	GDP per capita growth	Communitarian politics (Confucian states, social corporatist states)	Confucian states and social corporatist states have higher growth rates, but more work needs to be done
Tang and Hedley (1998)	Average GNP growth rate		
Teboul and Moustier (2001)	Per capita income growth		
Teles (2005)	Per capita GNP		

Temple and Johnson (1998)	Log difference GDP per capita	
Ventura (1997)	Economic growth (modeled)	
Voitchovsky (2005)	Five-year difference in real GDP per capita	
Wahab (2004)	Government expenditure	
Weede (1996)	GDP growth	
Whiteley (2000)	Mean GDP growth rate	
Wu and Davis (1999)	Real per capita GDP, real per capita GDP growth	Economic Freedom Index, Political Freedom Index
Yao (2006)	GDP, exports, FDI	
Yoo (2003)	Real GDP per person of working age in purchasing power parity	
Yu (1997)	Growth rate of money aggregates, bank credit, industrial output, retail price index	Economic freedom contributes to economic growth. Political freedom is higher the higher the level of income.