



Munich Personal RePEc Archive

**Neoliberalism's relationship with
economic growth in the developing
world: Was it the power of the market or
the resolution of financial crisis?**

Cohen, Joseph N

City University of New York, Queens College

15 February 2011

Online at <https://mpra.ub.uni-muenchen.de/28943/>

MPRA Paper No. 28943, posted 21 Feb 2011 18:13 UTC

The Neoliberal Economic Boom: The Power of the Market or the Resolution of a Financial Crisis?

Joseph Nathan Cohen
Dept. of Sociology
City University of New York, Queens College
65-30 Kissena Blvd.
Flushing, New York 11367
joseph.cohen@qc.cuny.edu
www.josephncohen.com

Abstract

Between 1995 and 2007, the world's economies embraced neoliberal reforms and prospered, a coincidence that is often taken as proof that liberal economies grow faster. A large body of econometric research shows that "freer" economies are more prosperous. I levy two methodological criticisms at this literature that ultimately render a very different picture of pro-market reforms' relationship with growth. My analysis suggests that neoliberal reforms did not significantly affect growth where they did not ease public financing or encourage foreign investment. The evidence does not suggest that the economic prosperity of the past 20 years is due to economic liberalism per se, but rather the developing world enjoying stabilized macrofinancial systems and a global investment boom. Neoliberal reforms may have helped produce this stability and investment, but systemic financial stabilization was only one of several goals that they pursued. A sober interpretation of the data finds little evidence for believing that economies will prosper as they embrace laissez-faire ideals.

Word Count (references, notes and abstract, excl. tables): 9,060

An economy is more “liberal” when its private sector owns and controls more of society’s economic activity. Over the last quarter-century, virtually all the world’s countries have liberalized their economies substantially. These reforms have included tax and spending cuts, deregulation, privatization, public program cutbacks, government downsizing and the easing of government-imposed barriers to international trade and capital movements. Liberalization (or “neoliberal”) economic reforms are widely believed to have helped countries prosper over the 1990s and 2000s (for reviews, see Yergin and Stanislaw 2002; Harvey 2007; Centeno and Cohen 2010). This belief is supported by several econometric studies.

This paper offers a critical reexamination of an active and well-publicized body of econometric research linking economic liberalism to faster economic growth. These studies, which are built on the Frasier Institute’s *Economic Freedom of the World* index (Gwartney and Lawson 2009), suffer from two methodological problems that are common among strong pro-market, anti-state policy postures. First, most analyses fail to differentiate a liberal policy environment from good governance or macroeconomic performance. Second, analysts often treat the relationship between economic liberalism and prosperity as time-invariant. Addressing these two criticisms leads to a very different picture economic liberalism’s relationship with prosperity.

Since 1980, the most prosperous developing countries have been those that attracted foreign direct investment and maintained sustainable public finances, and these two factors render the effects of economic liberalization insignificant. Liberalization reforms seem to have differentiated fast-from slow-growth countries in only one period: near the end of the Cold War. I will argue that liberalism’s strong but temporary relationship with growth is part of a complicated set of societal changes occurring around the end of the Cold War, including the containment of a global financial crisis, dramatic improvements in governance, and a boom in global investment.

Many analysts believe that liberalization reforms helped restore global prosperity because they put private markets in control of the economy, and markets are inherently superior modes of economic organization. Empirically, the relationship between growth and liberalism is weak, and requires several twists of reasoning.

These findings question the continuing benefits of hard pro-market, anti-interventionist policy postures. Neoliberal reforms proved effective in a particular historical context, and bore fruit with considerable interventions in financial markets. In some respects, our continuing commitment to neoliberal policy looks like an institutionalized belief that has been over-extended and possibly decoupled from the exigencies that they were originally designed to address. This continuing commitment is certainly not a product of a conservative interpretation of the data.

Market Liberalization & the Pursuit of Prosperity

Between WWII and the 1980s, the world's economies were governed by policy strategies in which governments played a comparatively active role in shaping the behavior of markets (Ruggie 1982; Centeno and Cohen 2010). These strategies materialized concretely in a wide range of "government interventions" in economic markets: high taxation and spending, active government investment, public ownership of economic enterprises and strategic resources, barriers on international trade and capital exchange, heavy domestic market regulation, high levels of public employment and a rich range of government-sponsored social programs. The government interventionism of the mid-20th century produced considerable global prosperity and stability during much of the 1950s and 1960s, but these systems fell into chronic recession, inflation, unemployment and fiscal problems during the 1970s and 1980s (Cohen 2011).

In the context of these problems, neoliberalism arose as an influential economic policy movement. *Neoliberalism* is a political and ideological movement that opposes governments'

expansive postwar economic roles, and its economic policy positions advocate a return to the small “hands-off” economic governance that prevailed prior to the World Wars. This movement became highly influential by the late-1980s, producing a range of reforms that came to define the organization of the world’s economies during the 1990s and 2000s (Harvey 2007; Centeno and Cohen 2010). Concretely, neoliberal economic reforms embraced globalization, deregulation, privatization, welfare state cutbacks, regressive taxation and overall government downsizing. They were secured during a period in which policy-makers came to see liberalization as important, if not necessary, to extricate their countries from the economic quagmires of the 1970s and 1980s.

Ultimately, these reforms appeared to have paid off in many ways (for details, see Cohen 2011). Over much of the 1970s and early -1980s, the world economy was prone to stagnant growth, frequent economic contract, high and volatile inflation, and worsening employment levels. Neoliberal reforms were adopted widely and aggressively between the mid-1980s and early-1990s, and were followed by worldwide improvements in growth and inflation containment. Since the mid-1990s, neoliberal economic reforms have been well-entrenched, and the world’s economies generally posted maintained stable positive growth rates until 2008.

What happened to produce these macroeconomic changes? In the 1970s, the concatenation of several (geo)political, economic and social problems caused the rich world to fall into an economic crisis characterized by high inflation, economic stagnancy, eroding public finances and high unemployment (see Block 1977; Barsky and Kilian 2001; Harvey 2007). In earlier phases of this crisis, developing countries’ economic insularity and massive deficit spending mitigated the immediate impact of the First World’s economic problems. Western banks fell into a sovereign lending mania, providing the developing world’s governments with abundant and cheap credit (Sachs 1989). With loose credit, policy-makers could prop up growth during this period, albeit at the expense of high inflation and eroding government creditworthiness. The scheme’s effectiveness

proved to be temporary. Countries amassed massive debts that became harder to roll over as global interest rates rose.

In 1982, Mexico threatened to default on its debts, triggering a panic in sovereign lending markets (Sachs 1989). The debt crisis left many developing world governments in a state of virtual bankruptcy, unable to borrow enough money to finance their operations and hampered in their efforts to negotiate financially-viable budgets by political gridlock (Acosta and Coppedge 2001). As a last resort, many of them printed money to sustain their operations, which exacerbated inflation to the point that prices could change daily (or even during a day). Government bankruptcy, policy-making paralysis and high inflation unleashed a wider range of problems that caused economic hardship in the developing world over the 1980s. In the absence of a functional government, working money and credit systems and stable access to foreign resources, economies tend not to work well.

Advocacy for deep liberalization reforms gained credence in this context, and this influence came from several quarters. One source of advocacy came from economists associated with the Chicago School, who often attacked government intervention as a faulty principle of economic governance. They characterized state economic interventions as ill-informed, ill-directed, ill-timed, ineffective and counter-productive (Hayek 1945; Friedman 1968; Kruger 1990). Government-managed economies were portrayed as being vulnerable to corruption or anti-economic political influences (Kruger 1974; Dornbusch and Edwards 1989). Regulations were said to waste resources (reviewed in Guash and Hahn 1999), and welfare to discourage work effort (see Gueron 1990). In this view, developing countries' economic problems were the result of their state-managed economies, which by nature fostered waste, corruption, indolence, mismanagement, inflexibility and stagnancy. The solution, they argued, was to liberalize the economy. Markets were portrayed

as intrinsically superior modes of organizing economic activity, with an inherent disposition to improve economic dynamism, innovation, adaptability, productivity and efficiency.

Another source of advocacy, which includes the often-cited “Washington Consensus” (Williamson 1990), was more firmly oriented towards the resolution of the debt crisis itself. Despite portrayals this Consensus as a raw endorsement of free market reforms writ large, its reforms – fiscal austerity, tax reforms, easing capital market price controls, trade and inward investment liberalization, privatization, deregulation and property rights protection – were not being implied to secure long-term growth.¹ Likewise, they did not advocate wholesale cutbacks for government programs and power, allowing for education, health care and public infrastructure investment as appropriate subjects of state intervention. Rather, the Consensus was engaging the issue that developing countries’ governments were hemorrhaging money and their politicians could not agree on policy changes that would stop the bleed. Potential donor governments and private investors were reluctant to extend new loans to these governments out of fear that, without serious fiscal changes, such loans would be tantamount to pouring money down a black hole. As a result, capital rushed out of the country, governments often had to print money to cover their obligations, and confidence in the financial system was negligible.

By the end of the 1980s and the conclusion of the Cold War, the US government and international financial institutions developed programs in which distressed governments could have their debt issues underwritten in exchange for liberalization reforms (Edwards 1995; Kolodko 2000: 299 - 301; Dreher 2002; Babb and Carruthers 2008). These debt guarantees would help governments borrow again, and in turn forge policy with workable finances. Developing world

¹ “Dornbusch ... has recently raised the question of whether the Washington agenda described above can be relied on to restore growth once stabilization has been achieved. He points to the disappointing experiences of Bolivia and Mexico, where determined and effective stabilization has not yet resulted in a resumption of growth. If he is right in his contention that entrepreneurs may adopt a wait-and-see policy after stabilization rather than promptly committing themselves to the risks involved in new investment, the important question arises as to what must be added to Washington's policy advice in order to restore growth” (Williamson 1990)

politicians could also deflect some of the anger that would inevitably arise after spending cuts, tax changes and public sector cutbacks. They could shift blame to these donors, and portray themselves as having been strong-armed into reform. In so doing, the US and IMF provided political breathing space that allowed politicians to break the gridlock that kept their states in serious deficit.

With these debt-refinancing schemes, both public finances and macrofinancial systems stabilized, helping to make these countries viable investment outlets for foreign enterprises. These possibilities to attract foreign investment multiplied with a rapid boom in real investment after the Cold War's end. The result was hard currency inflows to developing countries, an easing of the debt crisis, and a newfound prosperity in many previously distressed countries.

This sequence of events offers a strong suggestion that neoliberal reforms ultimately saved the developing world's economies. The world's governments intervened in their economies actively during the 1970s and 1980s, and their economies were stuck in crisis. Once they deinstitutionalized these various forms of interventionism and put private markets back in control, inflation stabilized and economic growth resumed (although unemployment and equality generally worsened).

Probing the View that Markets Produce Prosperity

The previous section discussed two views of the relationship between liberalism and prosperity. Some observers suggest that market-organized economic activity is by nature more amenable to economic prosperity, compared to government-administered activity. Others see the resolution of the developing world's debt crises and the stabilization of their macrofinancial systems as essential to restoring economic stability and growth of the 1990s and 2000s. These two

explanations of the economic recovery experienced after the Cold War imply different guidelines for economic policy-makers today.

The first interpretation, that unfettered markets induce economic prosperity by nature, is manifest in policies favor tax cuts over public spending when trying to stimulate the economy, shy away from stringent regulation even when deregulated markets clearly fail to work well, or assume that public enterprises or investment initiatives will perform poorly compared to private ones. In contrast, the second view sees no fundamental problem with government efforts to steer their economies if states maintain sustainable budgets, monetary policy, reasonable balances of payments and no extreme imbalances in their private financial markets. By this second line of reasoning, there is no principle of good policy that would discourage a country from nationalizing its health care system, engaging in major public works programs or regulating markets. Problems arise when policies promote systemic financial risk.

Anyone reviewing the mainstream academic economic literature will have some difficulty assembling a substantial body of mainstream research that advocates *laissez-faire* with few conditions. Much of this literature outlines the benefits of intermediate policy goals for which neoliberal policies strive – like large trade sectors, deep private capital markets or adaptive labor markets– but does not establish a direct relationship between neoliberal *policy* and economic performance. In most corners of the academic economics literature, support for neoliberal policy is rather conditional. Surveys of academic economists suggest that orthodox *laissez-faire* attitudes are rare outside of trade policy, and most of them see moderate economic intervention as desirable (Klein and Stern 2007).

The strongest and least conditional advocacy of harder neoliberal positions comes from studies sponsored by conservative-leaning think tanks, like the Heritage Foundation/Wall St. Journal's *Index of Economic Freedom* (Miller and Holmes 2010) or the Frasier Institute's *Economic*

Freedom of the World (EFW) (Gwartney and Lawson 2009). Of these two think tank reports, the EFW has been examined most often in scholastic journals, in part because its index is reasonably rigorous and transparent. The EFW authors estimated in 2003 that this data has been used in over 200 scholarly articles (Gwartney and Lawson 2006: 5), and these lines of discussion have continued throughout this decade. Many of them support the conclusion that “freer” economies grow faster (for a review, see De Haan, Lundstrom, and Sturm 2006).

EFW-based studies that assess the relationship between economic growth and freedom have generally confirmed this relationship using a range of sophisticated regression methods and wide array of controls. At first glance, this relationship’s confirmation in multiple studies lends credence to the often-recited policy axiom that freer markets are more generally prosperous. However, there are two more basic methodological problems that unduly contribute to these confirmatory findings: (1) the validity of the EFW index as a measure of free market capitalism, and (2) ahistoricity in these analyses, whereby the EFW-growth relationship is assumed to be stable over time.

Purity of Measurement. Scholastic studies that use the EFW treat it as a proxy for a “market economy” (Berggren 2003), “liberalization” (De Haan, Lundstrom, and Sturm 2006), “neoliberal” economies (Tures 2003) or some cognate concept that suggests a more liberal capitalism. With this understanding of what is signaled by the EFW index, the index’s relationships with growth are thus taken as real world relationships between prosperity and liberalism.

In strict terms, EFW purports to measure “economic freedom”, which the study’s authors describe as “institutions and policies are consistent with economic freedom when they provide an infrastructure for voluntary exchange and protect individuals and their property from aggressors” (Gwartney and Hall 2009: 4). Empirically, this notion of “freedom” stresses (1) minimal government ownership or control of society’s economic resources and enterprises and (2) minimal state

interference in private sector activity. Roughly 80% of a country's "freedom" score is determined by the relative absence of government economic intervention.

Although it has much overlap with economic liberalism, the EFW's empirical construction incorporates additional factors. Cohen (2009) presents empirical evidence that the index's construction effectively measures the degree to which a country's national economic policy model resembles those of the English-speaking OECD and Switzerland, rich and well-governed countries that have pursued free market policies. Although it is true that "economic freedom", as defined by its authors, is a hallmark of the rich world overall, the non-Anglo-Swiss OECD's scores are buoyed by the EFW's *Legal Structure & Property Rights* sub-index, which shows a stronger relationship via confirmatory factor analysis to the World Bank's *Governance Indicators* (Kaufmann, Kraay, and Mastruzzi 2009) than other, more strictly *laissez-faire* related EFW sub-indices.

This discrepant EFW sub-index is argued by Cohen (2009) to be capturing what is typically understood as "good governance" (discussed in Burki and Perry 1998): the degree to which a political economic system is politically accountable, politically stable, ruled by law, non-corrupt and managed by a professional and competent civil service. Its inclusion in the EFW is tantamount to a conflation of two related but distinct concepts. While economic liberalism and good governance are often both present in the world's most advanced countries, many OECD national economic models maximize good governance without maximizing economic liberalism (see below). Distinguishing good governance from economic liberalism is not only a methodologically valid re-specification of a country's economic policy environment, but is also meaningful because it enables us to assess the relative effectiveness of Anglo-Swiss economic models *versus* other models used in the rich world.

A second issue is the possible conflation of "economic freedom" and macroeconomic performance (De Haan, Lundstrom, and Sturm 2006; Cohen 2009). Specifically, the EFW's *Access to Sound Money* sub-index uses inflation rates and variability as constituent measures. While a stable

money system is essential to a well-functioning market economy, and inflation can be the result of government actions (e.g., seigniorage, aggressive monetary policy or chronic deficit spending), the degree to which these metrics capture hands-off economic governance *versus* the success of macroeconomic policy merits questioning. Inflation can be pursued and influenced, but not completely controlled, by policy-makers, and in this sense resembles economic growth or unemployment rather than deregulation or tax reductions. Furthermore, there are situations in which “economically free” countries can be more vulnerable to inflation problems. For example, economic openness can make a country more vulnerable to price destabilization stemming from external price shocks not directly attributable to their own economic failings [for example, in global commodity price spikes or currency crises rooted in contagion or self-fulfilling prophecy (on the latter topic, see Flood and Marion 1999)].

With these two concerns in mind, the analysis that follows seeks to parse the EFW’s governance and inflation components from its other measures of “economic freedom”. This is done by separating the index into three different measures, whose empirical construction mirrors the agglomerative techniques used to construct the original EFW index.

Ahistoricity and Omitted Variables. The issue of ahistoricity in time series analysis is discussed in Isaac and Griffin (1989). Ahistorical analyses tend to ignore meaningful differences in the historical contexts modeled by their theories and measured by their quantitative data. In terms of our present discussion, ahistoricism produces the impression that liberalism’s relationship with economic activity operates in the same way over recent history. The effectiveness of these reforms is often understood as intrinsic to market- *versus* government-dominated economies, and not contingent on, for example, states’ fiscal crises during the 1980s and early-1990s, the boom in international investment that materialized after the Cold War’s end, or today’s ongoing global financial crisis. Neoliberalism took root at a time when developing countries were plagued by

public financial and money system problems during the 1980s, and neoliberal policy was implemented as part of a broader recovery package and set of historical circumstances that included public debt bailouts and an “emerging markets” investment mania in the rich world from the early-1990s.

Understanding the potential importance of the debt crisis from which neoliberal reforms emerged is important for several reasons. The debt crisis itself is a reason that developing countries performed so poorly in the 1980s, but claims about the economic benefit of liberalization often extend beyond the resolution of such macrofinancial crises. Any observed improvement in economic growth realized after 1990 is produced by comparing countries in the midst of a systemic financial meltdown *versus* those that returned to macrofinancial stability. If these improvements are the product of the developmental benefits conferred by neoliberal policies *per se*, as opposed to concurrent developments, then we can be better assured that free markets help countries grow.

The analysis below suggests that scholars’ common attribution of developing world prosperity may be confusing the effectiveness of free markets from the idiosyncratic political and economic factors that helped resolve a very specific historical crisis. When neoliberalism’s relationship with growth is examined on a period-by-period basis, the former exerts a predictive power around 1990, when developing countries were being rewarded by debt bailout programs and an emerging markets investment mania. Neoliberalism’s failure to differentiate fast- from slow-growth countries outside of this period suggests that countries are not engaged in some kind of trans-historical process that continually rewards the world’s most liberal countries with faster growth. Liberalism’s capacity to discern growth rates in a limited time frame suggests that some important set of variables is being omitted.

The EFW’s secondary literature has attempted to deal with this concern over omitted controls by using extreme bounds analysis (Levine and Renelt 1992), a method in which a

regression's key predictors' robustness is tested against the inclusion of tens of controls through thousands of regressions that use them in different combinations. This technique for dealing with omitted variable bias resembles a form of data mining, in which an analyst throws a bucket of controls at a relationship without making a large investment in discerning which of these controls may be of particular relevance, given the broader context in which these case studies unfolded. As such, potential controls that seem highly relevant – like the easing of public financial pressures or the boom in developing market investment – are included as one of many controls in a larger grab-bag of standard, off-the-shelf and often marginally successful other controls. When the threshold for accepting a hypothesis under sensitivity analysis is lowered to accept predictors that commonly, rather than strictly, maintain predictive power net of this grab bag of controls (Sala-i-Martin 1997), it can be less surprising that they pass the test. The vast majority of the controls included in the sensitivity analyses had non-compelling reasons for being included in the first place, and predictors that maintain significance net of these controls pass the test.

By paying close attention to periodicity (the potential that empirical relationships vary over time), an analysis can be alerted to the possibility that the relationships inhering in one context drive the overall findings obtained in larger panels. When these consequential historical moments are identified, they can be examined in depth to find controls that are more meaningful. Doing so in this analysis drew attention to the potential importance of financial concerns, which ultimately steered this examination to substantially different conclusions.

Data & Methods

The analyses presented below examine the relationship between economic growth and liberalization, with the intent of probing the often-cited proposition that economically “freer” countries are generally more prosperous. It engages existing literature on this topic with two methodological qualms: the measurement of liberalism and ahistoricity.

Units of Analysis. The data examines individual countries as a panel of six five-year periods from 1980 to 2007 (with the last period covering only three years). This panel design is the product of the EFW being assessed over five-year intervals prior to 2000. EFW scores represent the mean of each period's starting and end points, and data that is available on a yearly basis is presented as a within-period mean.

Dependent Variable. The study's dependent variable is the growth rate of *per capita* GDP (2005 \$PPP) from the World Bank (2010).

"Economic Freedom" Measures. Gwartney and Lawson's (2009) *Economic Freedom of the World index* is constructed as an average score of five sub-indices, each of which purports to capture some facet of "economic freedom" as its authors define the concept. These five sub-indices are listed below in Table 1. Each sub-index is, in turn, an averaging of standardized empirical indicators that suggest the presence or absence of its corresponding sub-domain of freedom. The empirical indicators are listed in the right column of Table 1, and further details are given in Gwartney, Hall and Lawson's methodological index.

[Insert Table 1 Here]

The EFW was deconstructed to parse out constituent measures that capture liberal policy from other components. The *Legal Structure & Security of Property Rights* sub-index is treated as an independent variable that captures "good governance" (along the lines of Burki and Perry 1998; Kaufmann, Kraay, and Mastruzzi 2009). Inflation rates are assessed as long-transformed GDP deflator change measures (from World Bank 2010). The remaining EFW measures are re-agglomerated using the same averaging of nested sub-indexes without the extricated measures, resulting in an assessment of "economic liberalism" that is separate from good governance and stable prices.

Easing the Strain of the 1980s Crisis. In this account, international investment and the stabilization of public finances play a potentially important role in shaping developing countries' economic fates during the 1990s and 2000s. The former concept is captured by measures of net inward foreign direct investment (% GDP). A country with higher scores in this measure is experiencing a higher influx of real investment in factories, infrastructure and business startups and expansions. The latter is captured by central government debt (% GDP) and fiscal (cash) surplus (% GDP). Governments with large cash deficits must secure loans on debt markets, and those with high debt levels are taken to face difficulties when borrowing, *ceteris paribus*.

Per Capita GDP. In addition to these measures, the analysis considers logged real per capita GDP (PPP) (from World Bank 2010) as a proxy for a society's aggregate wealth. Doing so enables us to distinguish the effects of being rich from being liberal, well-governed or price-stable.

REGRESSION MODELS

This paper asks whether economically liberal countries enjoyed faster economic growth, and whether this relationship varies across historical context.

Period-Wise Cross-Sectional Regressions. To assess the degree to which these factors differentiate high- from low-growth countries in individual historical periods, I employ a cross-sectional robust OLS regression of economic growth on its predictors in five-year intervals from 1980 to 2007. If economic liberalism is a timeless predictor across these periods, we can take neoliberal principles to be a strong general guide to policy. If it does not, then we have to examine what contextual changes led it to differentiate high- from low-growth countries when it did.

Cross-Sectional Time Series Regressions. These cross-sectional comparisons cannot capture the effect of a worldwide shift to more liberalism over time. To examine whether the global shift to more liberal markets helped all countries, I use an autoregressive panel corrected standard

error (PCSE) OLS (Beck and Katz 1995) with a lagged dependent variable to examine this relationship.

Pre- to Post-Neoliberal Transition Differences Model. Finally, as a parsimonious means of modeling growth changes over the neoliberal transition, and to capture unmeasured, unit-specific effects, I perform a cross-sectional regression of changes in pre- to post-1995 growth rates on the changes experienced in these predictors over the sample period. Doing so does not tell us whether more liberal, well governed or well-financed countries grew faster, but rather whether stronger departures from a country's own baseline predictor levels results in stronger growth.

MISSING DATA REDRESSES

Any analysis that contemplates the causes of economic growth engages concepts whose data coverage can be limited both cross-sectionally and longitudinally. Limited data coverage poses several problems in the inference-making process, and is particularly problematic in analyses comparing political and economic variables across developing countries. Conventional methods for coping with missing data discard any country-year in which a single variable score is missing, which means that our model results (and in turn our inferences) tend to only incorporate the experiences of well-represented countries (like the OECD) or years (typically more recent ones), or the effects of well-represented predictors (e.g., *per capita* GDP or trade). If no such restrictions are made, there will be very little data left to analyze. These restrictions are cause for concern, as the results of cross-national political economic analyses may not to be robust to sample composition (Honaker and King 2010). One can sacrifice the use of poorly covered variables, but may avoid considering highly important controls in the process. The analysis below presents evidence that sample composition can affect the estimated effects of the variables we examine.

This concern suggests that it is important to capitalize on recent developments in analytical redresses to missing data. This analysis employs the multiple imputation framework advanced by

Gary King *et al.* (2001), which tends to render results that “will normally be better than, and almost always not worse than, listwise deletion.” (p. 51). An accessible introduction to multiple imputation with randomness is offered by Allison (2002). It was implemented using the Amelia II package (Honaker, King and Blackwell 2007)² and imputed as described in King *et al.* (2001).³ Diagnostics generally suggested credible results, although the imputations appear to underestimate extreme values on many indicators.⁴

Patterns of missing data initially led to concerns that the resulting analysis would remain biased, even with data corrections. The sample considers 161 countries over six periods, rendering a possible 966 country-periods to be analyzed. Table 2 (below) describes the data, and highlights variability in the representation of particular variables or countries in my set, along with basic descriptive statistics.

[Insert Table 2 about Here]

Central government debt and cash balance are not well-represented in this set. Both indicators were not measured before 1990 (but are represented in the 1985-1990 period by virtue of there being scores in 1990), and cover at most one-third of the sample in any given period. Ultimately, however, estimates involving these measures appear reasonable. First, our data

² Missing data are assumed to be missing at random (MAR), as opposed to missing completely at random (Allison 2002). In this analysis, the MAR assumption is rooted in the observation that other covariates examined here often offer reasonable predictors of missingness, particularly per capita GDP.

³ See Honaker, King and Blackwell (2007) for an extended explanation of the operation. In addition to the variables tested here, the data imputation model also used regional dummies, remittances, net capital account, external debt, principal arrears, interest expenditures, official debt grace period, grant on issues, debt maturity, public and public guaranteed debt service, bank credit, domestic credit provided to private sector, portfolio investment and education measures. Many of these variables attempted to capture the (dis)repair of public finances and access to international capital markets, or the general levels of development. Lags and leads were included for most variables in the model. Variable shifts and transformations were performed before the imputation process. A polynomial of time was specified at 2. Ten sets were imputed. An empirical prior of 50 was used. Random seed was set at 120.

⁴ Imputation diagnostics suggest that imputed values were generally reasonable estimates. Overimputation diagnostics suggest that the imputation model tends to estimate extreme values are more moderate (i.e., large and negative values were predicted to be negative, but only moderately large, and vice-versa for very large positive values), but there was a positive relationship between observed values and their imputed estimates in this diagnostic.

overimputation diagnostics suggest that the model estimates reported values well when they are extricated from the data and re-estimated by the imputation model. In part, this may be the result of the imputation process having used a wide battery of additional indicators that could be used to estimate public finances. Second, the analyses reported below suggest that the imputation process is probably not generating results. For example, central government debt is insignificant during earlier periods, when that indicator is measured more sparsely and hence involves more estimated data. Second, although cash balance does seem to be significant in earlier periods, this relationship shows up as significant in cross-sectional models that use listwise deletion.

A Second Look at the Data

The deconstructed EFW indices offer a different sense of countries' political-economic and policy environment compared to the original index. Table 3 (below) illustrates these changes by presenting the mean predictor scores by world regions, income groups, and among selected countries.

[Insert Table 3 about here]

While wealthier countries tend to be more liberal, better governed and more price stable, the rich world is more strongly distinguished from developing countries by their governance and price system stability than their liberalism. Some regions – notably Latin America – have made great strides towards *laissez-faire* without improving governance commensurately. Aggressive liberalization is more common in the English-speaking G7, while liberalism levels outside of that group approach the means of developing regions like Latin America or East Asia. Many non-Anglo G7 members maximize good governance instead of or in addition to economic liberalism, but their overall “economic freedom” scores may not diverge from highly liberal, less well-governed countries because liberalism indicators are strongly weighted in the EFW. In contrast, the BRIC economies are not outstanding in terms of liberalism or governance. Their distinguishing

characteristic is that they are large markets and hence attractive investment destinations because even a small market share in these economies can translate into sizeable profits.

At first glance, economic liberalism does not distinguish fast- from slow-growth countries. Latin America is roughly as liberal as Eastern Europe, even though the former tended to stagnate while the latter prospered. Both the former USSR and Middle East & North Africa are about as liberal as East Asia, but failed to grow quickly. Sub-Saharan Africa trails South Asia in economic growth, despite the fact that the former is slightly the more liberal of these two regions.

Comparing regional means obfuscates individual differences between countries' political-economic institutions and performance. Table 4 (below) presents the mean pairwise correlations, p-values and number of observations across the six periods examined in next section's regression models. On average, only governance correlates well with economic growth. This gives the impression that governance is of key consequences in resolving the puzzle of growth, but these relationships seem to vary over time.

[Insert Table 4 Here]

Governance's correlation with growth was relatively invariant over time. Other predictors' relationships with growth were variable. Figure 1 (below) depicts the pairwise correlation between economic growth and the six predictors mentioned above on a period-by-period basis.

[Insert Figure 1 Here]

During the early-1980s, governance, inflation and inward investment correlated strongly with growth. Liberalism tended to be stronger in well-governed, low inflation and high inward investment, but its correlation with growth itself is weak. Two clusters of countries play a role in producing these relationships. The first includes countries like Thailand, Malaysia and Singapore, who register strong governance scores and high growth. There are also countries whose

economies contracted while registering very low governance scores, including several Latin American/Caribbean and Sub-Saharan African countries. Many of them were plagued by war, civil disorder, state breakdowns and kleptocratic dictators. While the fast-growing Asian economies were relatively liberal, so were many crumbling Latin American/Caribbean and Persian Gulf economies.

In our 1985 – 1990 period, data on fiscal sustainability becomes available, and shows a strong and highly significant correlation with growth. The debt crisis continued to strain many developing countries' economies, and countries with budget surpluses and low debt levels found themselves in an advantageous position. This period is produced by averaging data from 1985 to 1990, inclusive, so it will capture countries' often dramatic shifts towards liberal economies.

Moving forward, the impact of cash balance diminishes while that of government debt fluctuates. Over the neoliberal era, credit markets generally remained quite loose compared to the 1980s or today, making it less troublesome for states to cover deficits. Baltic and East Asian countries grew quickly while carrying light debts, while many distressed countries' growth crumbled under high public debts. One possible explanation of debt's oscillating relationship with growth is that credit markets grew nervous about major credit risks during the epidemic of systemic crises during the late-1990s, but not during the credit boom of the early-1990s. Despite these moments of crisis, sovereign credit markets loosened in the long-term, making it less-and-less burdensome to finance budgetary shortfalls. By 2007, credit markets had become nervous, and high debt countries might have felt strain. After 2008, one might expect the costs of budget deficits and public debt to be very high. Sovereign lending is considerably tighter, and countries that wrestle with the prospect of a debt crisis are experience substantial slowdowns.

After peaking in the early-1990s, the correlation between liberalism and growth fades. This effect is partly produced by the fact that Latin America & the Caribbean was quite liberal, but often

faltered economically. Liberalism does retain some significance through the late-1990s and early-2000s, but these results are substantially influenced by particularly illiberal countries stagnating serious, like Zimbabwe, DR Congo, Central African Republic, Guinea-Bissau, Sierra Leone or Uganda. These were also countries with serious governance issues. By the late-2000s, liberalism's pairwise correlation with growth is not significant. Central government debt levels become strong correlates of growth, and, unlike previous period's growth correlates, debt does not seem to be related to per capita GDP, liberalism or governance.

Inflation also becomes a diminishing concern over time, as global inflation rates stabilize at low levels. Inflation is probably a positive correlate of growth today, in the post-2008 era, as many countries now grapple with the prospects of deflation.

Over time, faster-growth countries were well-governed, maintained strong public finances and tended to attract FDI. As the following section shows, governance is one "freedom" indicator that retains a significant relationship with growth, unlike liberalism and inflation control. Governance's relationship with growth is diminished once public financial and FDI controls are included. Net inward FDI grew dramatically and across-the-board during the period under study, and public finances generally improved over this period. Governance, in contrast, saw no major improvement worldwide after the late-1990s. In many instances, governance quality eroded during the early-2000s, although it improved afterward.

Analysis

The analysis that follows begins with an attempt to discern whether the often-observed relationship between economic growth and "freedom", as conceived by Gwartney and Lawson (2009), is dependent on (1) the "freedom" index's conflation of liberalism, governance and inflation and (2) the ahistoricity of prior analyses. The results suggest that economic growth exhibits no

significant, trans-historical relationship with economic liberalism proper. Then, a second analysis pursues the hypothesis that changes in developing countries' macrofinances were important determinants of growth, net of the effects of liberalism, governance and wealth. The "freedom" index's inflation component touches on macrofinancial concerns, but we add measures for international investment and sustainable public finances to the regression. The results suggest that macrofinances are important explanations of prosperity, and their inclusion wipes away what remains of liberalism's relationship with growth.

Deconstructing the "Economic Freedom" Index. Table 5 (below) presents twelve cross-sectional robust regressions between economic growth and "economic freedom." Each of the six five-year period is presented twice, with a regression of growth on the original (top row) and deconstructed (bottom row) EFW. The bottom row of regressions also includes a *per capita* GDP control, as both economic freedom and its components are strongly related to wealth.

[Insert Table 5 Here]

We are able to examine 52 countries with complete data across all periods examined here, and this sample is predominantly Latin American and Sub-Saharan Africa. Within this group, "economic freedom" is continuously significant, and thus a possibly timeless predictor of growth. However, deconstructing the "freedom" index reveals that different constituent measures drove the combined index's results in different periods. In the early 1980s, well-governed countries with low inflation tended to prosper. As noted in the previous section, many comparatively liberal countries suffered from financial crisis and severe recession. In the late-1980s and early-1990s, liberalism's relationship with growth is significant. Around 1990, developing countries were enjoying financial stabilization while liberalizing, sometimes in return for having government debt issues underwritten. In the late-1990s and early-2000s, governance is again an important predictor.

Between 2005 and 2007, a new pattern emerges, in which growth is fastest in richer countries and inflation correlates *positively* with growth.⁵

So the EFW's strong cross-sectional relationship with growth is partly because "freedom" encapsulates a bundle of potentially important country characteristics that may help growth. Since 1980, good governance, freer markets, controlled prices and high wealth have driven the positive relationship between "freedom" and growth in changing measures. There is no indication that "freedom" in terms of "free market capitalism" is a time-consistent growth predictor. Freer market economies have only stood out as particularly prosperous in one period, near the end of the Cold War. This was an era in which countries simultaneously embraced liberalism, saw governance improve, had their price systems stabilized, enjoyed a restoration of government credit, saw a nascent boom in investment, and experienced a wide range of other changes. Cross-sectional comparisons tell us what distinguished high- from low-growth countries in a particular year. It cannot tell us the effects of the whole world making a collective step towards liberalism, better governance, and so on. This question can be addressed through cross-sectional time series analysis, to which we turn next.

Cross-Sectional Time Series Results. Table 7 (below) presents three clusters of regression models, comprised of three models each. The first model in each cluster assesses all six periods, the second considers only periods in which liberalism was diffusing and economies were transitioning (1980 – 1995), and the third assesses periods after neoliberal reforms diffused globally and became firmly entrenched in countries' policy environments.

⁵ What about the macrofinancial stability and inward investment variables? Unfortunately, missing data made the task of creating a sizable group that could be compared over several periods difficult. There is some indication that these variables are often significant in regressions that handle missing data through listwise deletion, but multiply-imputed sets render results that are almost across-the-board null in cross-sectional regressions. If pushed to interpret these results, it would be that the evidence offers no clear indication that any of these indicators differentiate fast- from slow-growth countries on a year-by-year basis. However, the next set of regressions will show that longitudinal, collective changes in macrofinances rendered collective improvements in growth.

[Insert Table 7 Here]

The first cluster (Models 1-1 to 1-3) looks at the relationship between the original “economic freedom” index and growth. Model 1-1 reproduces a commonly-rendered ahistorical model. As with previous studies, “freedom” is a significant predictor of growth, even with a lagged dependent variable and base-year GDP control. However, Models 1-2 and 1-3 suggest that “freedom’s” ability to predict growth is largely confined to the period before neoliberal reforms diffused widely. Something caused “freedom” to lose its predictive power.

In the second cluster, I unparcel “freedom” into its three constituent measures. This cluster shows that, of the “freedom” components, only governance served as a significant predictor before and after the neoliberal transition (Models 2-2 and 2-3). Curiously, the liberalism component is significant when considering all periods simultaneously (Model 2-1), but not within individual pre- and post-reform subsets. I interpret these results to be suggesting that the developing world’s collective transition to freer market capitalism near the Cold War’s end was consequential in producing across-the-board improvements in growth. In other words, it is not that the world’s most liberal countries outgrow others in most periods. Instead, something in the world’s global transition to neoliberalism rendered more prosperity worldwide.

The third cluster of model adds the macrofinancial stability and international investment indicators. Their inclusion diminishes the effect of liberalism, rendering it insignificant. Governance maintains predictive power, but it is principally concentrated in the latter era of neoliberalism (Model 3-3). These models suggest that investment and macrofinancial stability are highly significant predictors. Cash balance’s effect diminishes over time, as short-term sovereign credit markets loosened. The effect of net inward FDI decays as well, but remains significant. Central government debt is a very strong predictor that is undoubtedly related to the systemic stability concerns that materialized in the late-1990s and right before the 2008 crisis.

Pre- to Post-1995 Differences Model. Our pre- to post-1995 differences model suggests that fiscal balance improvements and inflation containment were most important. Table 6 (below) presents the results of these regressions.

[Insert Table 6 Here]

Model 4-1 suggests that countries grew faster if they embraced more dramatic liberalization reforms, although the R-Squared suggests that the transition to liberalism does not render a model with strong explanatory power. Model 4-2 renders a substantially better-fitting model, and suggests that inflation control and liberalism helped propel greater improvements in growth rates. However, Model 4-3 suggests that the inclusion of a fiscal deficit measure erases liberalism's significance, although inflation control maintains some importance. Overall, this contrast suggests that countries did not experience sharper gains in growth rates when they adopted liberalization reforms more aggressively.

Fixed-effect models like these ask whether countries tended to improve as they became more liberal relative to their own idiosyncratic baseline liberalism levels, as opposed to whether comparatively liberal or financially stable countries were more prosperous. The world's most prosperous region (East Asia) was more systemically stable and had better public finances during the crisis of the 1980s. As a result, they may have enjoyed strong growth while having realized more modest changes in macro-level finances – they didn't need the kinds of dramatic changes required of, for example, Latin America.

Judging Neoliberal Reform

How should these results be interpreted? For “economic freedom” alone to be considered an empirically-supported growth predictor, analysts must ignore two things. First, they must accept the blending of liberalism, governance and inflation as a productive way of characterizing

policy. Doing so is problematic, in part because some countries maximize governance while others maximize liberalism, and in part because blending these different concepts can mislead audiences into thinking that the benefits of good governance or controlled prices are benefits of freer markets. Second, they must believe that liberalism's benefits exist across historical context. Doing so makes audiences think that, because liberalism might have helped us prosper in the late-1980s and early-1990s, it should help us prosper in the 2000s. The evidence suggests that this is not the case. "Freedom" worked well when its early adopters were embracing it, but not when it became the policy of the world-at-large. If we deconstruct this "freedom" index, the analysis suggests that the governance indicator is its strongest predictor. When we isolate the effects of liberal policies more specifically, their effects on growth are more tenuous.

However, macrofinances and real international investment are clearly stronger growth predictors, whose inclusion wipes out most of the effects of any "freedom" measure. According to these models, a developing country's surest bet of securing long-term economic growth was to maximize international direct investment and to minimize exposure to public deficit or debt concerns. Developing countries prosper when (generally rich) foreigners want to start up factories and businesses inside their territories, and/or when the government seems secure in its ability to avoid systemic financial crises.

Liberalism's relationship with growth is confined to one particular historical context, and it disappears when we consider the systemic financial stabilization and global investment boom that occurred concurrently. The idea that liberal economies are intrinsically superior modes of organizing the economy looks very weak. Liberalism has no significant relationship with growth once governance, stabilization and international investment are considered. If liberalism conferred the vast range of economic benefits that Chicago School proponents argued to exist – better

decision-making, economic responsiveness, control of corruption and so on – why does it have no residual effect on growth after these controls are included in a model?

A market fundamentalist might argue that neoliberalism helped produce these financial changes, which is probably true to some degree. However, the key question is how did these reforms help countries? The second perspective on post-1980s' crisis reform stressed the importance of fiscal balance and systemic stability. Liberalism helped provide an ideological justification for cutting government expenditures, which were necessary to reestablish financial stability. Government cutbacks alone did not help. In fact, Western governments intervened on international credit markets on behalf of beleaguered governments, and did so again after 2008. The story that emerges from this study is that conservative fiscal and macrofinancial management are important, as well as being an attractive investment destination, but a government can intervene in markets actively while keeping fiscal surplus and being an attractive investment outlet.

The main point that emerges from this study is that the often-recited policy axiom that freer markets generate prosperity is not a strong one. Obviously, people are much more skeptical about market fundamentalism after the 2008 crisis. These findings suggest that free market reforms' payoffs were tenuous even during neoliberalism's heyday. Liberalization reforms were one part of a wider set of political-economic changes that occurred during the late-1980s and 1990s. Many analysts latch on this one aspect of political-economic change as a decisive factor in delivering the prosperity of the past 20 years. The evidence presented here suggests that this belief may be an institutionalized policy axiom, which may have been highly pragmatic at one point in time, but has not been a product of skeptical, pragmatic policy in a long while.

Works Cited

- Acosta, A. M. and Coppedge, M. (2001) 'Political Determinants of Fiscal Discipline in Latin America, 1979-1998'. In *International Congress of the Latin American Studies Association, Marriot Wardman Park Hotel, Washington, DC*, pp. 5-8.
- Allison, P. D. (2001) *Missing Data*, Sage Publications, Inc.
- Babb, S. L. and Carruthers, B. G. (2008) 'Conditionality: Forms, Function, and History', *Annual Review of Law and Social Science*, **4**, 13-29.
- Barsky, R. B. and Kilian, L. (2001) 'Do We Really Know That Oil Caused the Great Stagflation? A Monetary Alternative', *NBER Macroeconomics Annual*, **16**, 137-183.
- Baum, C. F., Cox, N. J. and Wiggins, V. (2001) 'Tests for Heteroskedasticity in Regression Error Distribution', *Stata Technical Bulletin*, **10**.
- Beck, N. and Katz, J. N. (1995) 'What to Do (and Not to Do) with Time-Series Cross-Section Data', *American Political Science Review*, **89**, 634-647.
- Berggren, N. (2003) 'The Benefits of Economic Freedom', *Independent Review*, **8**.
- Block, F. L. (1977) *The Origins of International Economic Disorder: A Study of United States International Monetary Policy from World War II to the Present*, University of California Press.
- Bruton, H. J. (1998) 'A Reconsideration of Import Substitution', *Journal of economic literature*, **36**, 903-936.
- Burki, S. J. and Perry, G. (1998) *Beyond the Washington Consensus: Institutions Matter*, World Bank Publications.
- Centeno, M. A. and Cohen, J. N. (2010) *Global Capitalism*, Polity.
- Cohen, J. N. and Centeno, M. A. (2006) 'Neoliberalism and Patterns of Economic Performance, 1980 - 2000', *Annals of the American Academy of Political and Social Science*, **606**, 32 - 67.
- Cohen, J. N. (2009) *Is "Economic Freedom" Strictly Free Market Capitalism? A Decompositional Analysis of the Economic Freedom of the World Index*, Working Paper at Munich Personal RePEc Archive. University Library of Munich, Germany.
<http://ideas.repec.org/p/pramprapa/22437.html>
- Cohen, J. N. (2010) *How Prosperous was the World Economy in the Age of Neoliberalism?* Working Paper at Munich Personal RePEc Archive. University Library of Munich, Germany.
<http://ideas.repec.org/p/pramprapa/22437.html>
- De Haan, J., Lundström, S. and Sturm, J. E. (2006) 'Market-Oriented Institutions and Policies and Economic Growth: A Critical Survey', *Journal of Economic Surveys*, **20**, 157-191.

- De Hoyos, R. E. and Sarafidis, V. (2006) 'Testing for Cross-Sectional Dependence in Panel-Data Models', *Stata Journal*, **6**, 482-496.
- Drukker, D. M. (2003) 'Testing for Serial Correlation in Linear Panel-Data Models', *Stata Journal*, **3**, 168-177.
- Edwards, S. (1995) *Crisis and Reform in Latin America: From Despair to Hope*, Oxford University Press US.
- Fischer, S., Sahay, R. and Vegh, C. A. (2002) 'Modern Hyper- and High Inflation', *Journal of Economic Literature*, **15**, 837-880.
- Flood, R. and Marion, N. (1999) 'Perspectives on the Recent Currency Crisis Literature', *International Journal of Finance & Economics*, **4**, 1-26.
- Friedman, M. (1968) 'The Role of Monetary Policy', *The American Economic Review*, **58**, 1-17.
- Guasch, J. L. and Hahn, R. W. (1999) 'The Costs and Benefits of Regulation: Implications for Developing Countries', *The World Bank Research Observer*, **14**, 137.
- Gueron, J. M. (1990) 'Work and Welfare: Lessons on Employment Programs', *The Journal of Economic Perspectives*, **4**, 79-98.
- Gwartney, J. and Larson, R. (2009) *Economic Freedom of the World: 2006 Annual Report*, Vancouver, Fraser Institute.
- Harvey, D. (2007) *A Brief History of Neoliberalism*, Oxford University Press.
- Hayek, F. A. (n.d.) 'The Uses of Knowledge in Society', *American Economic Review*, **35**, 519 - 530.
- Honaker, J. and King, G. (2010) 'What to Do About Missing Values in Time-Series Cross-Section Data', *American Journal of Political Science*, **54**, 561-581.
- Isaac, L. W. and Griffin, L. J. (1989) 'Ahistoricism in Time-Series Analyses of Historical Process: Critique, Redirection, and Illustrations from US Labor History', *American Sociological Review*, **54**, 873-890.
- Kaufmann, D., Kraay, A. and Mastruzzi, M. (2009) *Governance Matters VIII: Aggregate and Individual Governance Indicators, 1996-2008*, Washington, World Bank.
- King, G. (2001) 'Analyzing Incomplete Political Science Data: An Alternative Algorithm for Multiple Imputation', *American Political Science Review*, **95**, 49-69.
- Klein, D. B. and Stern, C. (2007) 'Is There a Free-Market Economist in the House? The Policy Views of American Economic Association Members', *American Journal of Economics and Sociology*, **66**, 309-334.
- Kołodko, G. W. (2000) *From Shock to Therapy: The Political Economy of Postsocialist Transformation*, Oxford University Press.

- Krueger, A. O. (1974) 'The Political Economy of the Rent-Seeking Society', *The American Economic Review*, **64**, 291–303.
- Krueger, A. O. (1990) 'Government Failures in Development', *The Journal of Economic Perspectives*, **4**, 9–23.
- Levine, R. and Renelt, D. (1992) 'A Sensitivity Analysis of Cross-Country Growth Regressions', *The American Economic Review*, **82**, 942–963.
- Miller, T. and Holmes, K. R. (2010) *2010 Index of Economic Freedom*, The Heritage Foundation/The Wall Street Journal.
- Pesaran, M. H. (n.d.) 'General Diagnostic Tests for Cross Section Dependence in Panels'.
- Sachs, J. (ed) (1989) 'Introduction'. In *Developing country debt and the world economy*, University of Chicago Press, pp. 1 - 34.
- Sala-i-Martin, X. X. (1997) 'I Just Ran Two Million Regressions', *The American Economic Review*, **87**, 178–183.
- Tures, J. A. (2003) 'Economic Freedom and Conflict Reduction: Evidence from the 1970s, 1980s, and 1990s.', *The Cato Journal*, **22**, 533–543.
- White, H. (1980) 'A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity', *Econometrica: Journal of the Econometric Society*, **48**, 817–838.
- Williamson, J. (1990) 'What Washington Means by Reform'. In *Latin American Adjustment: How Much Has Happened?*, Washington, Institute for International Economics.
- Wooldridge, J. M. (2002) *Econometric Analysis of Cross Section and Panel Data*, MIT Press.
- World Bank (2010) *World Development Indicators*, Washington, World Bank.
- Yergin, D. and Stanislaw, J. (2002) *The Commanding Heights: The Battle for the World Economy*, Simon & Schuster.

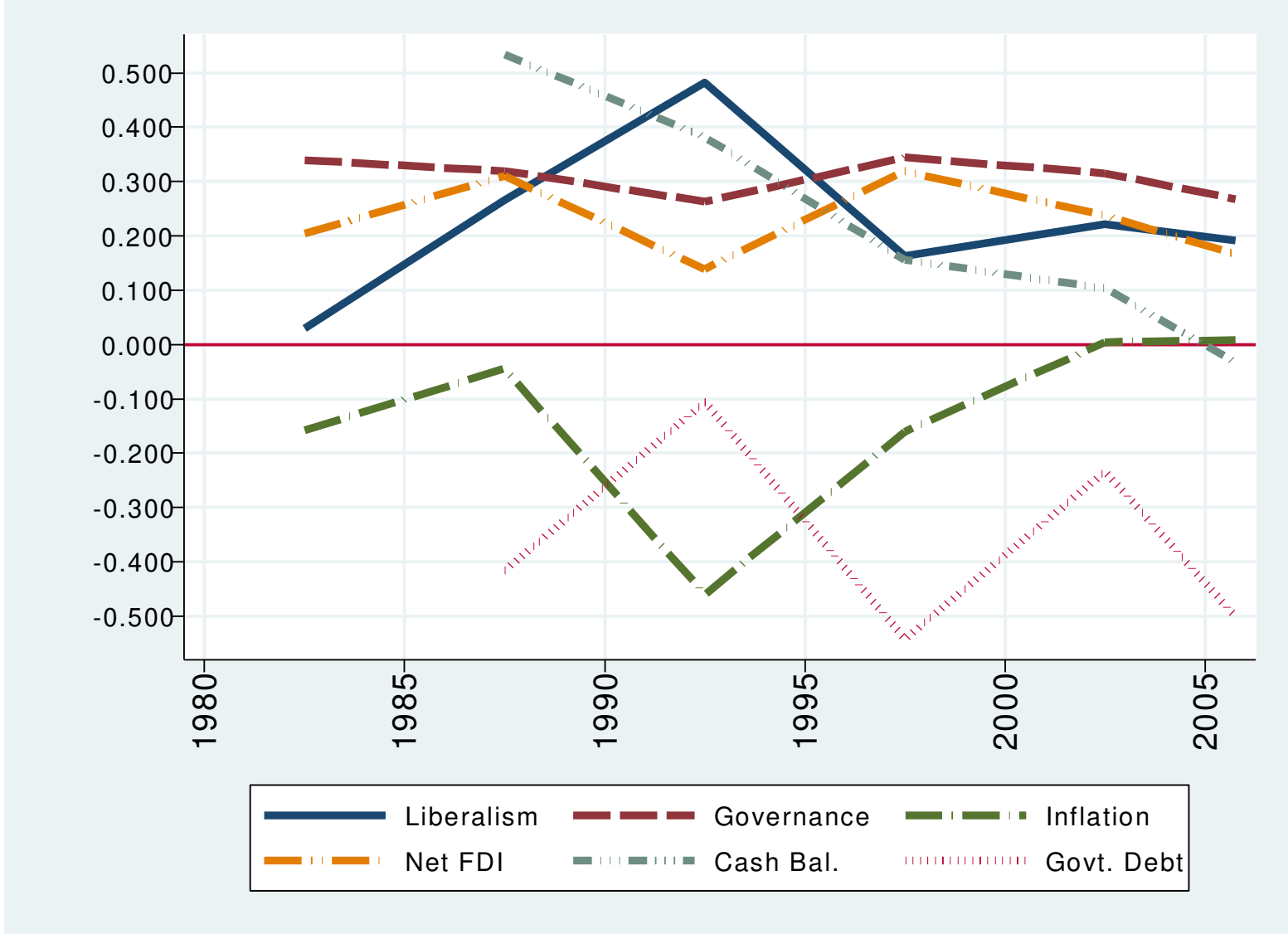


FIGURE 1: CROSS-SECTIONAL CORRELATION BETWEEN GROWTH AND ITS PREDICTORS, ALL AVAILABLE DATA, EARLY-1980S TO LATE-2000S

TABLE 1: CONSTITUENT SUB-INDICES OF ECONOMIC FREEDOM OF THE WORLD INDEX

<i>Component</i>	<i>Conditions that Enhance "Freedom"</i>
<i>Size of Government Expenditures, Taxes and Enterprises</i>	Low government consumption, transfers, subsidies, investment and enterprise ownership, and low taxes.
<i>Freedom to Trade Internationally</i>	Low and invariant tariffs, low regulatory trade barriers, formal market-determined exchange rates, relatively large trade sectors, low capital market controls
<i>Regulation of Credit, Labor and Business</i>	Private banking, openness to international banking, private sector-directed credit, low interest rate controls, minimum wages, regulatory compliance costs, prevalence of centralized collective bargaining, price controls, need to pay bribes or military conscription.
<i>Access to Sound Money</i>	Low and invariable inflation, low growth in M1 money supply, no restrictions on foreign currency bank accounts
<i>Legal Structure & Security of Property Rights</i>	Independent judiciary, impartial courts, protection of property rights, no military interference in politics or courts, rule of law, legal enforcement of contracts, low regulation on real estate

Source: Gwartney and Lawson (2009)

TABLE 2: DESCRIPTION OF VARIABLES EXAMINED HERE, OECD EXCLUDED

Variable	Obs	Missing	Mean	SD	Min	Max	Notes
Per Capita GDP	849	12%	1.9	4.5	-25.1	28.1	
"Economic Freedom"	555	43%	5.8	1.0	2.7	8.7	Under-representation of countries with lower incomes and less economic integration with West (e.g., socialist Soviet-allied countries)
Economic Liberalism	588	39%	5.8	1.3	0.0	8.8	
Governance	543	44%	4.9	1.4	2.0	8.4	
Inflation	870	10%	14.0	19.7	-6.2	100.0	
Per Capita GDP	872	10%	2,883	4,509	84	36,949	
Net FDI	764	21%	2.9	4.3	-7.5	40.0	
Cash Balance	344	64%	-1.4	4.8	-35.5	19.1	No pre-1990 data.
Central Govt. Debt	207	79%	51.3	36.5	0.2	244.0	

TABLE 3: ORIGINAL & MODIFIED EFW INDEX & SUB-INDEX SCORES BY WORLD REGION AND INCOME GROUP AND FOR SELECTED COUNTRIES, 2005 - 2007

	Econ. Freedom	Econ. Liberalism	Governance	Inflation	Per Capita GDP	GDP Growth
<i>OECD</i>	7.6	7.5	8.2	2.8	\$35,069	2.1
<i>Eastern Europe</i>	6.9	7.1	5.9	5.8	\$14,306	3.1
<i>Latin America & Caribbean</i>	6.7	7.0	5.1	7.6	\$8,722	1.8
<i>East Asia & Pacific</i>	6.6	6.6	5.7	6.8	\$9,115	2.7
<i>Ex-USSR</i>	6.6	6.7	5.5	16.1	\$5,693	1.8
<i>Middle East & North Africa</i>	6.6	6.6	6.3	10.9	\$17,751	1.3
<i>South Asia</i>	6.0	5.8	4.6	7.5	\$2,534	4.0
<i>Sub-Saharan Africa</i>	5.9	6.0	4.4	15.1	\$3,299	1.2
<i>High Income</i>	7.6	7.4	7.9	4.3	\$34,749	2.0
<i>Upper-Middle Income</i>	6.9	7.0	6.1	8.1	\$13,908	2.8
<i>Lower-Middle Income</i>	6.4	6.5	5.2	8.7	\$5,427	2.2
<i>Low Income</i>	5.9	6.0	4.3	14.4	\$1,444	1.1
<i>United States</i>	8.1	8.2	7.7	2.8	\$42,556	1.9
<i>United Kingdom</i>	8.0	7.9	8.4	2.5	\$33,623	2.2
<i>Canada</i>	8.0	7.9	8.5	3.2	\$35,786	1.7
<i>France</i>	7.2	7.1	7.6	2.4	\$30,317	1.5
<i>Germany</i>	7.6	7.2	8.7	1.2	\$32,643	1.9
<i>Japan</i>	7.5	7.3	8.0	-0.9	\$31,094	2.1
<i>Italy</i>	7.0	7.2	6.2	2.3	\$28,439	1.5
<i>China</i>	6.3	6.2	6.0	5.5	\$4,800	8.8
<i>India</i>	6.5	5.9	6.3	5.1	\$2,492	4.4
<i>Russia</i>	6.4	6.3	5.7	16.9	\$13,327	0.8
<i>Brazil</i>	6.0	5.9	5.2	5.7	\$8,978	1.0
Total (incl. OECD)	6.6	6.7	5.7	9.4	\$11,941	1.9

TABLE 4: MEAN PAIRWISE CORRELATIONS BETWEEN STUDY'S FOCAL VARIABLES, NON-OECD COUNTRIES ACROSS SIX TIME PERIODS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Economic Growth	1.000 141.5							
(2) Economic Liberalism	0.226 94.2	1.000 98.0						
(3) Governance	0.308 ** 86.8	0.339 ** 90.3	1.000 90.5					
(4) Inflation (<i>logged</i>)	-0.135 140.8	-0.309 * 95.7	-0.167 88.3	1.000 145.0				
(5) Cent. Govt. Debt (<i>logged</i>)	-0.359 33.8	-0.175 28.0	-0.195 26.2	0.079 34.0	1.000 34.5			
(6) Cash Balance	0.228 56.0	0.328 46.0	0.247 44.0	-0.009 56.7	-0.313 ^ 31.2	1.000 57.3		
(7) Net FDI	0.233 123.3	0.255 ^ 89.8	0.253 ^ 82.8	-0.121 125.2	0.003 32.8	0.111 54.2	1.000 127.3	
(8) Per Cap. GDP at Base Year	0.012 117.3	0.455 *** 85.8	0.496 *** 79.8	-0.121 117.0	-0.249 28.3	0.205 45.7	0.128 105.5	1.000 118.0

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^ $p < 0.10$.

Reported pairwise correlations, p-values and N's represent averages over all six periods examined in this study.

TABLE 5: ROBUST REGRESSION OF GROWTH ON "FREEDOM" AND ITS COMPOSITE MEASURES, FIVE-YEAR PERIODS BEGINNING IN 1980 - 1985

Period	'80 - '85	'85 - '90	'90 - '95	'95 - '00	'00 - '05	'05 - '07
Model	1-1	1-2	1-3	1-4	1-5	1-6
<i>EFW</i>	0.956* (0.431)	1.181** (0.365)	1.496*** (0.370)	0.630* (0.273)	0.976** (0.288)	1.126*** (0.300)
<i>Constant</i>	-4.821* (2.209)	-5.496** (1.913)	-6.848** (2.091)	-2.170 (1.663)	-4.020* (1.800)	-3.529^ (1.950)
N	57	57	57	57	57	56
R-Squared	0.08	0.16	0.23	0.09	0.17	0.21
Model	2-1	2-2	2-3	2-4	2-5	2-6
<i>Liberalism</i>	-0.352 (0.455)	0.934* (0.404)	0.882* (0.393)	0.173 (0.261)	0.120 (0.270)	0.343 (0.276)
<i>Governance</i>	0.802* (0.317)	0.583^ (0.324)	0.087 (0.425)	0.577* (0.256)	0.376^ (0.198)	0.108 (0.253)
<i>Inflation</i> †	-1.687* (0.823)	0.529 (0.560)	0.021 (0.705)	-0.308 (0.579)	0.418 (0.746)	2.085^ (1.108)
<i>Per Cap GDP</i> †	0.247 (0.414)	-0.657^ (0.391)	0.488 (0.389)	-0.164 (0.252)	0.187 (0.220)	0.690** (0.232)
<i>Constant</i>	2.255 (3.661)	-3.908 (2.889)	-7.509* (3.210)	-0.195 (2.644)	-2.940 (2.865)	-10.020* (3.853)
N	57	57	57	57	56	56
R-Squared	0.19	0.17	0.26	0.12	0.15	0.32

***p<0.001, **p<0.01, *p<0.05, ^p<0.10

†logged

Standard error estimates in parentheses under coefficient estimates

TABLE 6: BECK-KATZ PANEL CORRECTED STANDARD ERROR OLS OF ECONOMIC GROWTH IN DEVELOPING COUNTRIES, SIX FIVE-YEAR INTERVALS FROM 1980 - 2007

Model	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3
<i>Years</i>	'80-'07	'80 - '95	'95 - '07	'80 - '07	'80 - '95	'95 - '07	'80 - '07	'80 - '95	'95 - '07
<i>Per Capita GDP Growth (lagged)</i>	0.235 (0.172)	0.137 (0.240)	0.224 (0.302)	0.232 (0.170)	0.129 (0.234)	0.228 (0.212)	0.197 (0.154)	0.136 (0.214)	0.187 (0.179)
“Economic Freedom”	1.375*** (0.369)	1.387** (0.374)	0.751 (0.454)						
Economic Liberalism				0.690* (0.300)	0.567 (0.374)	0.325 (0.333)	0.411 (0.269)	0.248 (0.353)	0.301 (0.299)
Governance				0.486* (0.203)	0.512* (0.237)	0.665* (0.243)	0.344^ (0.192)	0.265 (0.218)	0.656** (0.226)
Inflation†				-0.927 (0.623)	-1.251^ (0.648)	0.231 (0.835)	-0.846 (0.631)	-1.188^ (0.657)	0.230 (0.847)
Central Govt. Debt (% GDP)†							-0.654* (0.303)	-0.603 (0.378)	-0.988*** (0.266)
Cash Balance (% GDP)							0.134*** (0.037)	0.128** (0.048)	0.086 (0.054)
Net Inward FDI (% GDP)†							0.213** (0.070)	0.313*** (0.090)	0.162* (0.075)
<i>Per Capita GDP at Base Year</i> †	-0.395** (0.151)	-0.432* (0.179)	-0.325* (0.156)	-0.417** (0.168)	-0.482* (0.213)	-0.551** (0.191)	-0.512** (0.187)	-0.515* (0.243)	-0.638** (0.215)
Constant	-3.536* (1.907)	-3.618* (1.642)	0.540 (1.885)	1.389 (2.565)	2.691 (2.691)	0.709 (3.339)	5.790* (2.691)	7.527* (3.118)	4.519 (3.938)
Mean R-Squared	0.202	0.134	0.126	0.209	0.152	0.130	0.300	0.262	0.265
N	966	644	483	966	644	483	966	644	483
N(groups)	161	161	161	161	161	161	161	161	161

***p<0.001, **p<0.01, *p<0.05, ^p<0.10

†logged

Standard error estimates in parentheses under coefficient estimates

Coefficient and R-Squared estimates represent mean of ten models on ten imputed sets.

See Allison (2002) for details on the calculation of standard errors from these imputed sets.

TABLE 7: PRE- VERSUS POST-1995 DIFFERENCES
MODEL OF MEAN GROWTH RATES

Model	4-1	4-2	4-3
“Economic Freedom”	1.107* (0.531)	--	--
Economic Liberalism	--	1.021* (0.493)	0.762 (0.573)
Governance	--	-0.039 (0.553)	0.168 (0.542)
Inflation†	--	-1.756* (0.820)	-1.566^ (0.917)
Central Govt. Debt (% GDP)†	--	--	0.063 (0.066)
Cash Balance (% GDP)	--	--	0.393* (0.181)
Net Inward FDI (% GDP)†	--	--	0.216 (0.235)
<i>Per Capita</i> GDP at Base Year†	0.058 (0.266)	0.161 (0.284)	0.310 (0.402)
Constant	0.878 (2.128)	-0.756 (2.307)	-2.297 (3.553)
Mean R-Squared	0.049	0.175	0.328
N	161	161	161

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^ $p < 0.10$; †logged

Standard error estimates in parentheses under coefficient estimates. Coefficient and R-Squared estimates represent mean of ten models on ten imputed sets. See Allison (2002) for details on the calculation of standard errors from these imputed sets.