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Preliminary

The big bend
Economic freedom and growth

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Abstract:

The relation between the economic freedom index from Fraser Institute and subsequent growth is analyzed. Economic theory and the usual assumptions regarding welfare enhancing governments predict that growth and economic freedom are positively correlated for "too much" government and negatively correlated for "too little" government. Hence, an "optimal" size of government should exist. It is demonstrated that the relationship between growth and economic freedom does have a bend as predicted. A significant positive correlation appears for low to moderate economic freedom, so that growth increases if public interventions are reduced. For moderate to high economic freedom, however, the two variables do not have the expected negative correlation, but are basically horizontal. Some implications of this finding is discussed.

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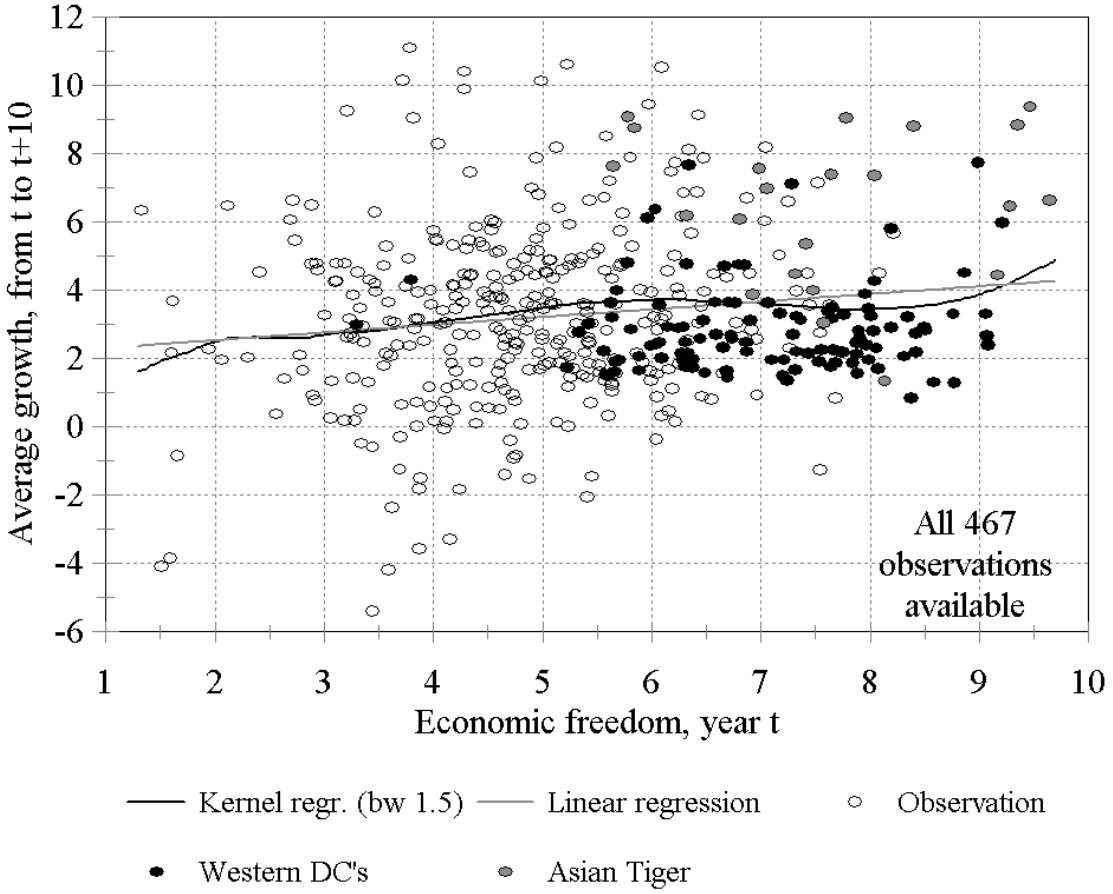
I. Introduction: A question and a process to search for an answer

From the start of political economy a central question has been: *What is the optimal amount of public regulation?* It is a large, multi-sided question, where no researcher can hope to reach *the* solution.

Almost a decade ago a group of well-known researchers managed to embark an international network of 50 think tanks upon an effort to construct and compile the *Fraser Institute Index of Economic Freedom, n.*[3)] Consequently, data pertaining to measure economic freedom in the world every 5th year since 1970 are now available. For 1970 only 56 countries are covered, and for 1999 (the pt last year) the sample has reached 122 countries.

Figure 1. The big bend: Economic freedom, *n*, and economic growth



Note: The observations are for the economic freedom index in one year, *t*, and average economic growth the following 10 years. The non-parametric kernel regression (with bandwidth 1.5) is from Figure 6 in Section IV. The observations from the two sets of DC's (listed in the Appendix) are given special signatures. The kernel-regression is calculated on data where growth is for the next 5 years only.

3. The index is documented in Lawson, Gwartney & Block (1996). The full data set is available from Fraser Institute (netsources). The group of researchers includes Milton Friedman, Douglas North and Gary Becker. Most of the 50 think tanks listed make a point in proclaiming a *business or free market* orientation.

The index measures the amount of regulation on a dirigisme/liberalism-scale, where a traditional centrally planned economy is at 1.5, while a pure laissez-faire is 10.[4] The index treats redistribution as a public "intrusion" and takes inflation as a particularly arbitrary tax. The index is carefully collected and well documented. This paper takes it for granted,[5] and looks at the following relation:

(1) $g_{i,t/t+s} = 8(n_{i,t}, y_{i,t}, D_i)$, where $g_{i,t/t+s}$ is average growth for country i for period from t to $t+s$. $n_{i,t}$ is economic freedom. $y_{i,t}$ is the (log to the) GDP level, ie the PPP GDP per capita of the country. D_i are country dummies.

Figure 1 shows that the individual data-points ($g_{i,t/t+s}$, $n_{i,t}$) scatter very much. We intend to find the best average pattern. We argue economic theory predicts that the pattern has an optimum level: With "too" much government (for small n's) a liberalization increases growth, so that $M8/Mn > 0$. With "too" little government (for high n) more regulation increase growth, so that $M8/Mn < 0$.

The two curves on Figure 1 are a simple linear regression line and a non-parametric regression of growth on economic freedom. The linear regression has a (significant) positive slope, and the non-parametric regression demonstrates that the positive slope is mainly due to countries (all LDC's) with high levels of regulation. With economic freedom above 6 no clear tendency appears except for very high scores, and that may be due to the data from one very liberal Asian Tiger (Hong Kong).

At high levels of regulation the data thus seem to be consistent with theory, but it is dubious at low levels. However, from considering the positions of the points from the two types of DC's in the pattern (West and Tigers) it appears possible that the average pattern is due to the merger of data from too different country groups. Hence, it is important to control for the country composition of the sample. This is done with the D's in the model (1). We use three sets of D's: (c1) No controls are made by using the same D for all countries. (c2) Controls are made for the 9 country groups of Appendix by giving each group its own D. (c3) Full fixed effects, where each country has its own D.

It is important to recognize that people have strong priors on the subject matter of our study. The priors are related to political beliefs. Most economists will probably agree that the 8-curve ought to have a maximum – as drawn on Figure 2 below – but many political disagreements are based on priors related to the location of this maximum. We concentrate on the empirics trying to determine whether an optimum does appear, and where it is located.

Section II discusses theory, the literature and presents some stylized facts. Section III is an explorative analysis using parametric regression, while Section IV gives non-parametric regression results. Section V shows that our results resolve the old riddle about the relation between economic growth and the level of corruption. Finally, the results are summarized in Section VI.

4. In a laissez-faire the state provides law and order and a consistent, transparent and stable macro environment.

5. The scale for the n-index is chosen so that n increases when economic freedom rises, instead of rising with the amount of public interventions. We use the scale of the index even when some of the graphs, such as the ones on Figure 2, come to look a bit awkward.

II. The theory, previous research and some stylized facts

Three questions are discussed in this Section. What is the most likely shape 8-curve? What are the previous results? How does the n-data look?

II.1 The good government view: The 8-curve is 1-shaped, ie it has an optimum

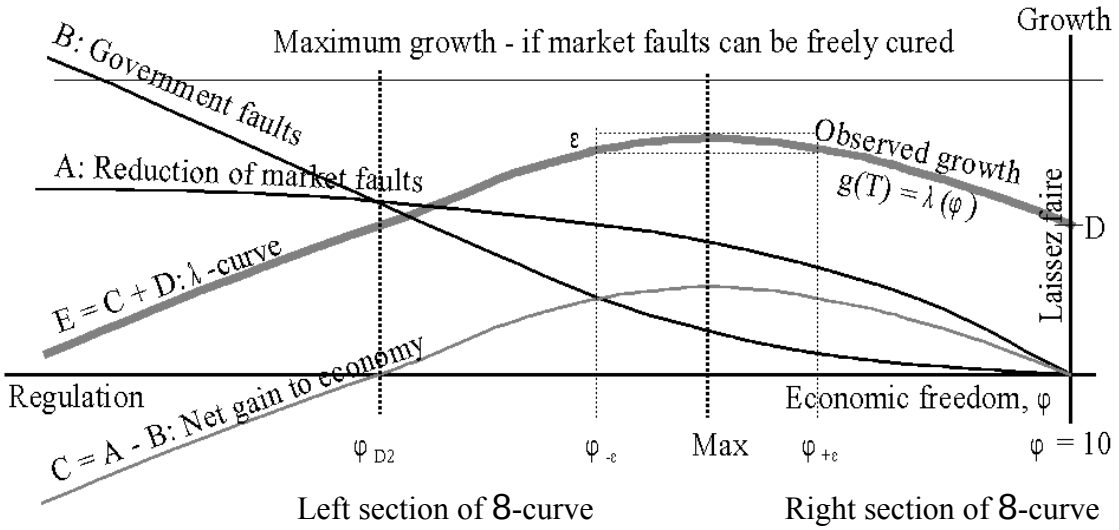
Two types of assumptions are necessary when discussing the shape of the 8-curve: Assumptions about what governments *can do*, and assumptions about what governments *will do*:

The first set of assumptions is the least controversial: By now all economists recognize the existence of *market faults* and *government faults*. A great many market faults have been found, both in theory and in practice. Also, it has often been demonstrated that policies have negative side effects relative to declared purposes.

Given that these faults exist, the next question is: How will governments react? The majority of economists probably holds the optimist view of the present Sub-section. The alternative pessimist view is presented in the next Sub-section.

The optimist view is that most governments are either inherently *good* or forced to be so by the political system.[6)] A long tradition exists for treating governments as agents *maximizing aggregate social welfare* or (at least) the welfare of the median voter. They try to remedy market faults and to evade government faults. Governments thus behave as *benevolent dictators* would do.

Figure 2. Market faults and government faults with good government



6. This view is shaped by Tinbergen (1964). Especially for democratic government a strong argument has been made by Wittman (1995) that governments are forced to behave as if they were "good" by the political system.

Under the good government assumption the two types of faults lead to Figure 2, where the axes are chosen to tally with Figure 1. Imagine that governments start to steer the economy from the laissez-faire:[7] They try to make the regulations where they get the largest net effect on market faults first. Gradually they reach policies, where marginal improvements decrease. Also, governments try to make as few government faults as possible, but gradually it gets harder to evade such faults.

Curve A for market faults has deceasing returns to scale: as the amount of regulation increases (n decreases) curve A becomes flatter. Curve B has the reverse form: It becomes steeper as n decreases. The net effect C = A – B must have an optimum. Since we use observed growth as the goal variable, and since the net effect is relative to growth at the laissez-faire (D), we reach the observable curve by shifting the net effect curve, C, upward to start at point D, as shown.

Basic economic theory plus the optimist view of governments therefore predicts that the general form of the θ-curve is $\cap$-shaped like the bold grey curve termed E on Figure 1. The Max-point divides the θ-curve in a left section with a positive slope, where liberalizations are needed,[8] and a *right section* with a negative slope, where more restrictions are needed.

While the basic expected $\cap$-shape of the curve is thus clear, it is also clear that people have very different intuitions about the relative sizes of the two types of faults. This is precisely where political ideologies enters: Left wingers tend to believe that market faults are large, and government faults are small, so that the Max-point occurs for small values of n. Right wingers have the reverse beliefs. If the approximate location of the Max-point can be established this will be an important finding.[9]

From the concept of a maximum follows that the θ-curve is flat around the Max-point. For any small g, we thus expect that growth is within g from g_{Max} for a substantial interval (n_{-g}, n_{+g}) for n. Countries need not hit n = Max exactly to get an almost optimal growth outcome.

II.2 A more pessimist view of government: The right section of the θ-curve has no negative slope

The public choice school claims that the *benevolent-dictator-model* is a bad description of the typical government. Politics is a complex process where the interests of the actors generate equilibria in the short run. This does not only apply to governments and parties, but also to the bureaucracies implementing the policies. When the whole decision process is considered it is unlikely that long run variables, such as the real growth rate influence the decisions made.

It appears that both views of governments predict that too much government harms the growth rate as this generates excess government faults. Therefore, it is important to try to determine as well as possible the point where government faults come to dominate. However, the optimist theory of

7. Obviously the optimist view on government assumes that path dependency can be handled marginally, so that governments always reduce policies that generate an excess of government faults and increase policies where there are an excess of market faults.

8. The Bretton Woods Institutions term a reform that shifts an economy to the right on Figure 2 a *structural adjustment*. To the extent a positively sloped left section of the curve can be established, it divides the countries needing such a cure from those, who do not.

9. From the reports (Lawson & Gwartney, 1996, and Lawson et al, 2001) it appears that many of those, who have thought out and compiled the index believed that the max-point is close to the laissez-faire. However, it is not obvious that these beliefs have affected the actual data.

government predicts that a section of the curve exists to the right – between the max-point and the laissez-faire *where the 8-curve has a negative slope*. The pessimist view of government suggests that no such section occurs. The existence of a negatively sloped section of the 8-curve at the right-hand side on the figure is thus important. It can be analyzed empirically using the economic freedom data.

From Figure 1 it appears likely that we can identify a left section of the 8-curve with a positive slope as predicted. However, it is not equally promising that a negatively sloped section can be identified to the right. The right side looks like containing an "extra" hollow and peak, but this may be an artefact due to the merging of very different countries, as already suggested.

II.3 Previous research: The modesty and the robustness problem

In the reports presenting the index (see note 3) it is demonstrated – by aggregation and cross tabulation – that there is a clear connection between the index and growth as well as wealth. That is, the quartile of the countries with the lowest economic freedom are the poorest and have least growth. The next quartile is the next also as regards to wealth and growth etc. It is well known that, eg child mortality and corruption fall with increasing wealth of the country, they are consequently also falling with economic freedom, as has been demonstrated (see Lawson et al, 2001, and Paldam, 2002a).

Apart from the work of the group constructing the index only a couple of articles have been published analyzing the effect of economic freedom on growth. Easton & Walker (1997) shows that increased economic freedom causes increased growth, and that the coefficient is robust to a number of relevant variables. However, Haan & Sturm (2000) subject the relations between growth and economic freedom to a more thorough robustness test. They report two findings: (1) A positive, but not robust, slope on the 8-curve, and (2) a positive and robust relation between changes in the freedom index and growth. Hence, liberalizations lead to more growth in a 5-year perspective. The available evidence thus shows that there is a positive connection, though surely it is one part in a more complex pattern.

The research cited is a (small) part of the large research effort during the 1990s trying to explain the cross-country pattern of economic growth. The research is using increasingly complex regression techniques, and has tried a broad range of explanatory variables. Barro (1997) is a (fairly) recent survey by one of the pioneers. This research has two main characteristics/problems:

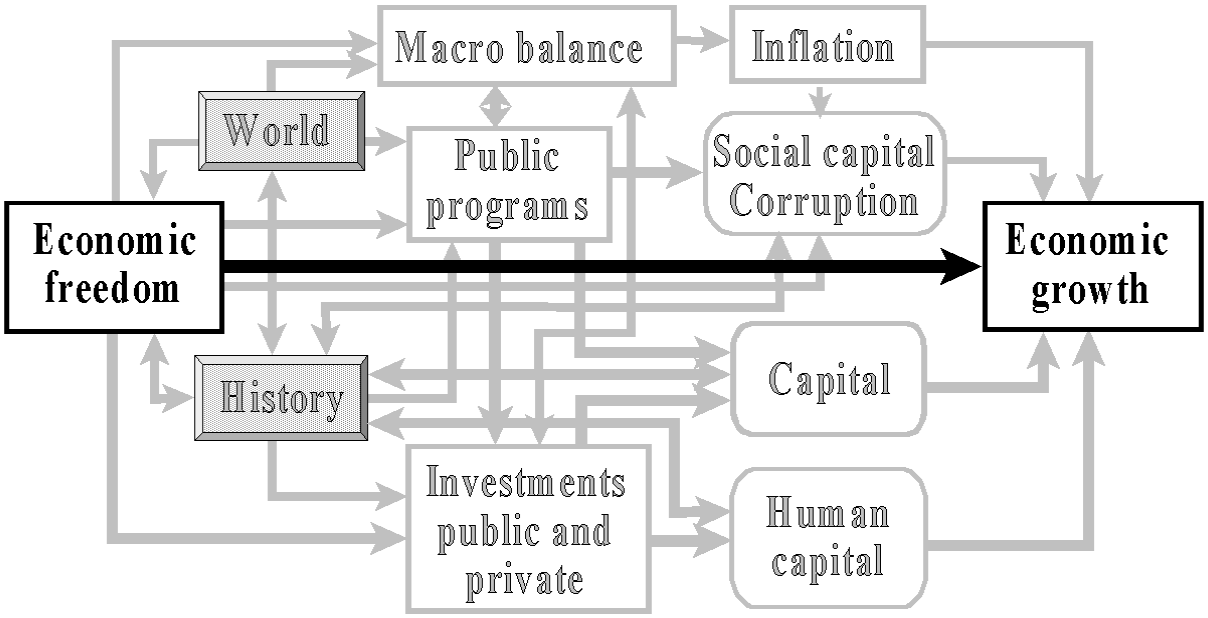
Modesty: Many significant variables have been found in growth regressions, but they rarely contribute with as much as) $R^2 = 0.1$. However, this research has so many data points that even small effects may become very significant. The results are therefore of a limited value as policy guides (see Easterly, 2001). We also explain a small part of the variance only, and we do consider the policy implications. The reader should be aware of the small fraction of the variance explained.

Robustness: The cross-country pattern is generated by the grand dynamics of the transition from a poor LDC to a rich DC and by short-run international interaction as well. Therefore the process involves complex relations between many variables – both historically and internationally. Attempts to estimate the relevant relations are thus inevitably plagued by colinearity, causing all estimated coefficients to be highly dependent upon the other variables included in the model. This is known as the robustness problem in this literature. Authors have reacted differently to this challenge – our reaction follows from the following observation:

Economic freedom does not influence economic growth directly, but through many channels.

Figure 3 shows a possible picture of the whole web of possible connections between economic freedom and growth. It is easy to add variables and likely arrows. They are likely to differ between countries, and to change over time. Consequently, the more channels included in the model the more likely it is that the effect becomes weak and wobbly.

Figure 3. The causal web between economic freedom and growth – an illustration



However, prior theorizing tells us that economic freedom is *a political choice*, and that economic growth is *an outcome* that is affected by the choice. The main causal direction consequently runs from economic freedom to economic growth in the following period, and therefore it makes sense to study the *reduced form* given by equation (1) and the bold black arrow on Figure 3.

Political choice is restricted by many background variables. In principle they can all be treated as country differences, which are controlled for as fixed effects in panel regressions, as mentioned – see items (c2) and (c3) in the introduction.

II.4 Some stylized facts

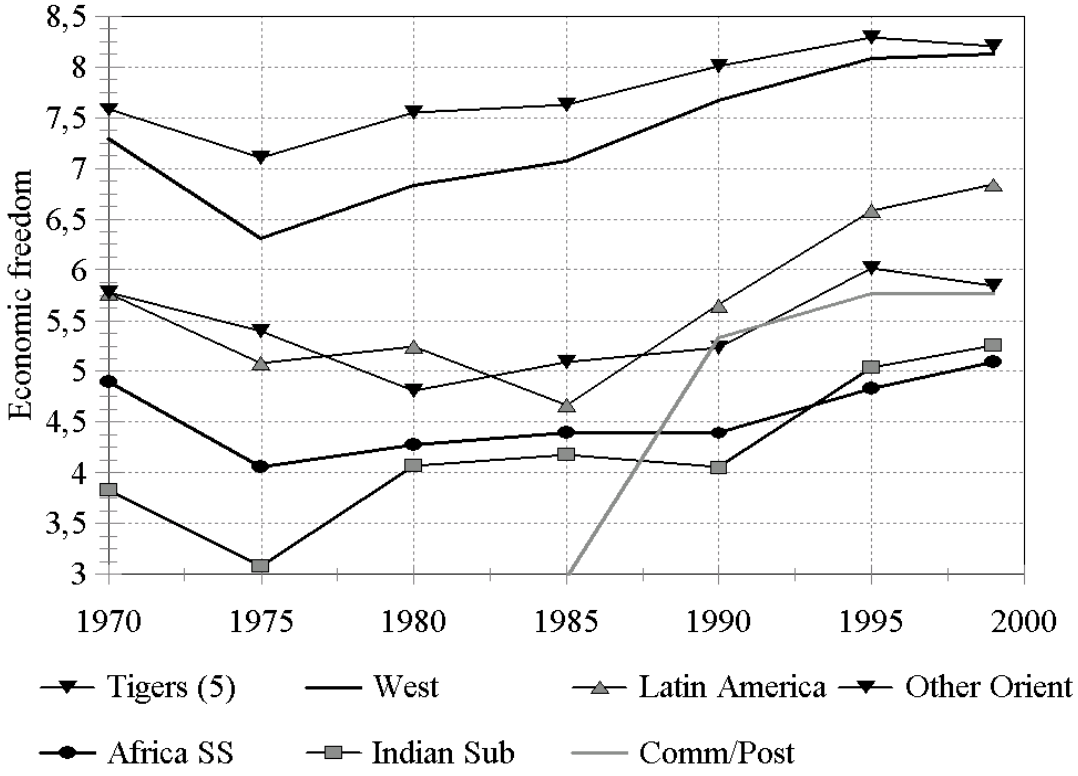
The next 2 figures show some characteristics of the η-data. Figure 4 shows the path of the index from 1970 to 1999 for some main groups of countries, while Figure 5 shows the distribution of the 122 observations in 1999.

The two groups of DC's – the West and the Tigers[10] – are market economies with relatively high economic freedom. The traditional communist countries had η-scores of 1.5, but they started reform already in the 1980s, and after the collapse of Communism they have increasingly become

10. The position of the Tigers in the picture is the subject of Paldam (2001, 2003) where more figures like Figure 4 and 5 are shown. Also, the paper surveys the amazing tiger-controversies and demonstrates that the available η-data tell a story that contradicts many of the positions taken in the controversy.

market economies. This is reflected on the figure, where the average curve for the Post/Com-countries rises steeply from the bottom to about the middle of the interval shown.

Figure 4. The path of the n-index for the main country groups, 1970-99

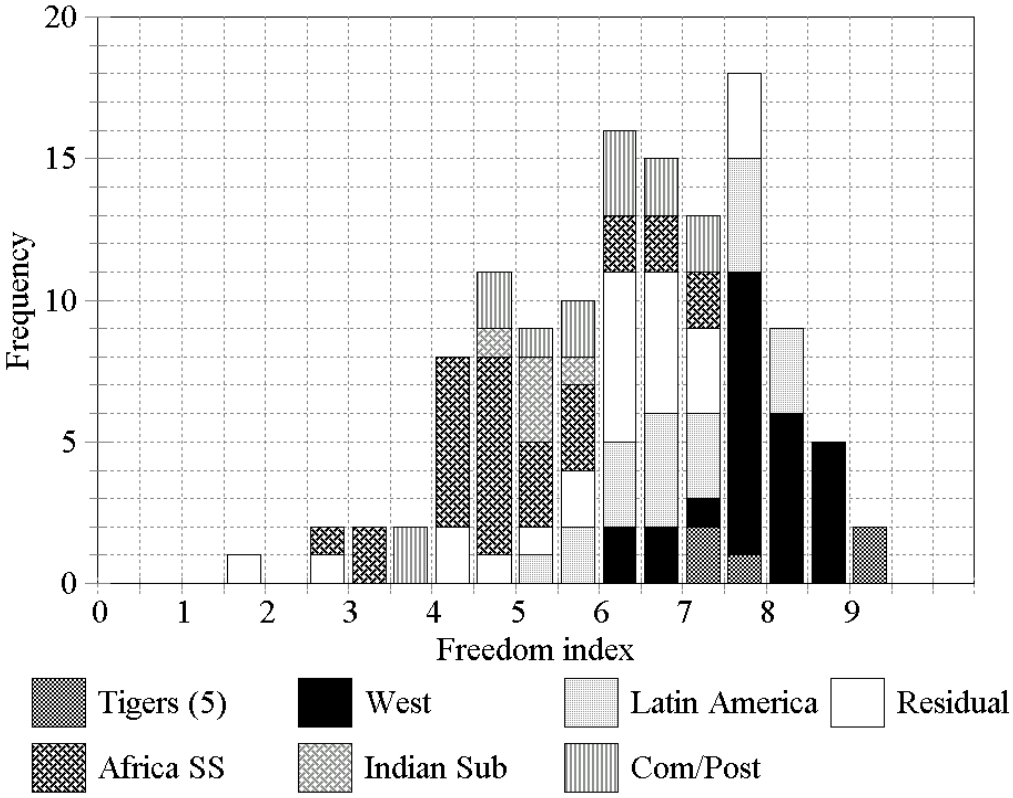


The countries of Africa (South of the Sahara), on the Indian Subcontinent, in Latin America and most of the countries in the Residual Group were for long members of the group of Non-Aligned Nations. They deliberately pursued a "third way" – between the Western "capitalist" and the Eastern "socialist" systems. These policies were far from the "market friendly" policies of the DC's. The favored policy package may be termed *ISI-Socialism*.[11)]

These sweeping generalizations tally well with the average paths on Figure 4, where the MIC's (middle income counties) and the LDC's (less developed countries) are all well below the two groups of DC's. Figure 4 also shows that while economic freedom decreased till 1975 in all country groups, it has turned since then and in the last decade it has increased in all country groups. Thus, the curves for all country groups has an upward kink between 1975 and 1990.

11. The policies are known as *Third World Socialism*, or socialism with a geographical characterization such as *African or Arab Socialism.* In Latin America a similar policy package was termed *Latin American Structuralism* or *Ceplism*. Many variants of the basic package exist, but some joint traits were: Trust in *planning* and distrust in *markets* – especially the *world market*, which led to regulation of foreign trade and the market for foreign exchange, and publicly controlled industrialization for money extracted from foreign trade and agriculture.

Figure 5. The distribution of the 122 observations of the n-index in 1999



In this figure the residual group on the figure also include the Arab countries and the countries of the Indian Subcontinent.

Generalization gives some order, but also hides many important country differences. Figure 5 shows that the economic freedom data scatter a great deal, so that all groups actually cover a range of 3-4 points. The Latin American countries are at both sides of the middle,[12)] and are the Post/Com countries,[13)] while the two groups of DC's are all above 6. The LDC's are nearly all below 6. As the Latin American and the Post/Com-countries have changed most, they do provide a much bigger range for the whole of the 30-year period than the other countries.

III. Parametric regressions

Both Figure 1 and the theoretical argument in Section II.1 suggest that the relation, (1) $g_{i,t/t+s} = 8(n_{i,t}, y_{i,t}, D_i)$, is non-linear. We have handled this situation by two methods giving much the same results. This section looks at ad hoc parametric regressions.

12. Due to their range the data for the Latin American countries tell very much the same story as all data, see Paldam (2002b), which base the argument on graphs constructed as Figure 1.
13. It is worth to mention that the index does not cover more than a couple of communist countries, but many of the Post Communist countries enter for the last one or two reporting years (1995 and 1999).

III.1 Methods and preliminary results

The standard method is to use a system of ad hoc functional forms to handle the non-linearity, and the first proposal is to try polynomial terms: n, n^2 and n^3 etc.

The regressions are controlled for GDP-level. That is, y_{it}, is the (natural) logarithm to PPP gdp at the same year as n_{it}. The regressions are run in three versions controlling increasingly more for country characteristics, as explained by items (c1) – (c3) in the introduction. Table 1 gives a set of the panel-regressions made.

The first three (1), (2) and (3) show that it is not so important how we account for country differences. We get almost the same coefficient to n by (c1) disregarding country differences altogether, by (c2) dividing in the 9 country groups listed in the Appendix, and by (c3) considering full fixed effects – ie giving one dummy to each country.

Table 1. Regression result – explaining $g_{i,t/t+5}$

	(1)	(2)	(3)	(4)	(5)	(6)
(c1) Constant	7.680 0.869**					
(c2) 9 groups		10.225 1.314**				7.908 1.696**
(c3) Fixed effects			16.753 1.748**	16.256 2.436**	16.256 2.436**	
n economic freedom	0.710 0.099**	0.543 0.105**	0.734 0.134**	0.900 0.583	2.120 1.945	1.430 0.425**
n^2 do squared				-0.015 0.052	-0.252 0.365	-0.081 0.037*
n^3 do cubed					0.014 0.022	
y ln to GDP-level	-1.029 0.139**	-1.229 0.179**	-2.172 0.232**	-2.161 0.235**	-2.157 0.236**	-1.216 0.178**
n	582	582	582	582	582	582
R^2 within	\ 0.099	0.086	0.167	0.168	0.169	0.093
between	/	0.390	0.070	0.070	0.072	0.296

Note: Stars "**" mean significant at the 1% level and "*" at the 5% level.

The polynomial terms do not work very well. Once more the pattern is the same, so we bring only a few of the results. The inclusion of a quadratic term increases the coefficient to n, and gives a negative coefficient to the quadratic term. However, it also reduces significance of the linear term dramatically. The cubic term further increases the coefficients to the other terms, while destroying any significance left. Quite clearly, there is non-linearity, but not of a form that the first polynominal terms can catch.

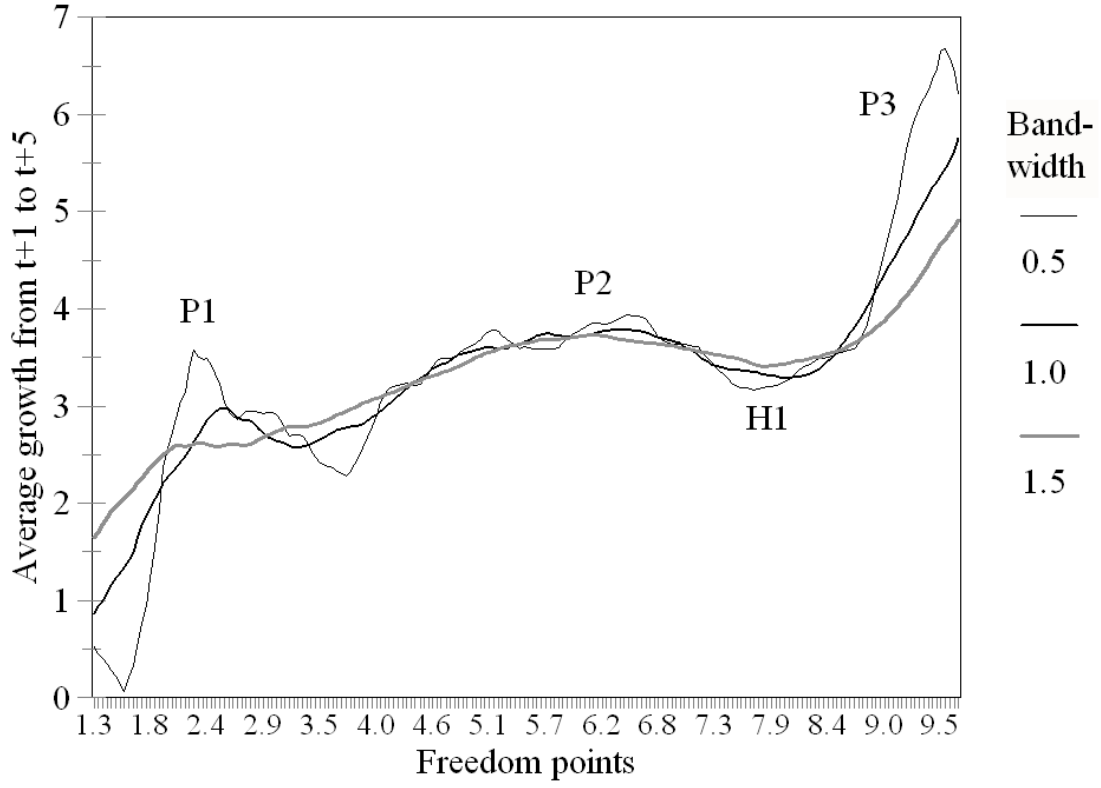
Another way to demonstrate this fact is to calculate reset tests for higher order non-linearities of the n-variable. They become significant. So the relation is clearly non-linear.

Table 1 further shows that the level-variable, *y*, behaves exactly as in Barro (1997), even when the country sample for which the n-variable is available is smaller than the Barro-Lee data set. Already by including the n-variable we get convergence. That is, if all countries had the same level of economic freedom there would be convergence. It also appears that if all other country differences are considered in the form of fixed effects convergence only becomes twice as fast – in the sense that the coefficient of convergence doubles.

IV. Non-parametric regressions

Non-parametric regression is well developed for standard regression models. This is not the case, however, for panel data models with fixed effects. We therefore only look at models without fixed effects, at present.

Figure 6. Non-parametric regression functions for all observations



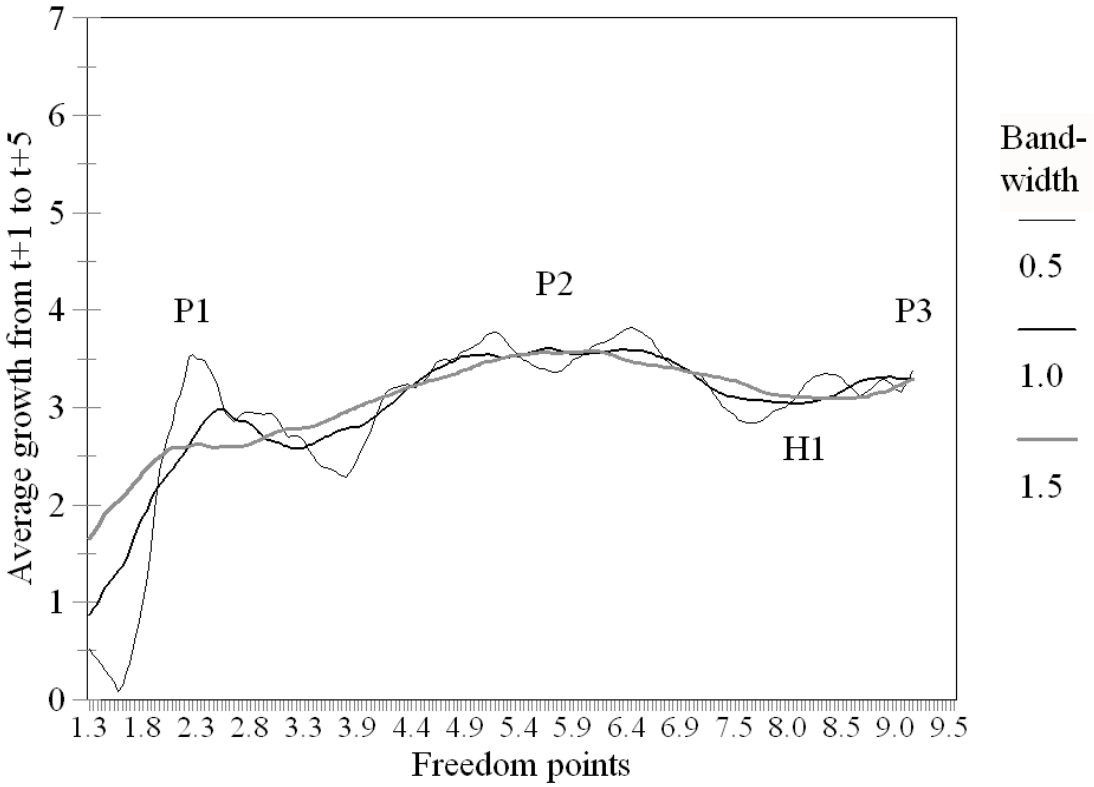
IV.1 The non-parametric regression function for all observations

The non-parametric kernel regression technique estimate the form of the regression curve given the choices of kernel and a choice of bandwidth, measured as points on the n-scale. The resulting curves are known to be robust to the choice of kernel, as we also found. We present the curves reached by the

use of the Epanechnikov-kernel.[14)] Figure 6 shows the regression function for three bandwidths: 0.5, 1 and 1.5.

The bold curve on the figure is the one also presented in Figure 1. Per construction an increasing bandwidth causes the curves to be smoother, but little else happens. The regression curve has three peaks: (P1) The lowest is around 2.5 – it disappears when the bandwidth is increased. That is, it is supported by few observations only. That peak will be disregarded from now. (P2) A broad maximum around 6 and (P3) an even higher maximum close to laissez-faire.

Figure 7. Non-parametric regression functions for all observations except Tigers



The very highest values of both growth and economic freedom occurs for the Asian Tigers, so Figure 7 is calculated as Figure 6 except that the 30 observations for the 5 Tigers are excluded. As all Tiger-observations are above 6 nothing changes at the low end. However, peak (P3) is considerably reduced. One reason why (P3) is less pronounced (on Figure 7) may be that observations for very high n-values are missing, but even then there is an upward tilt at the end.

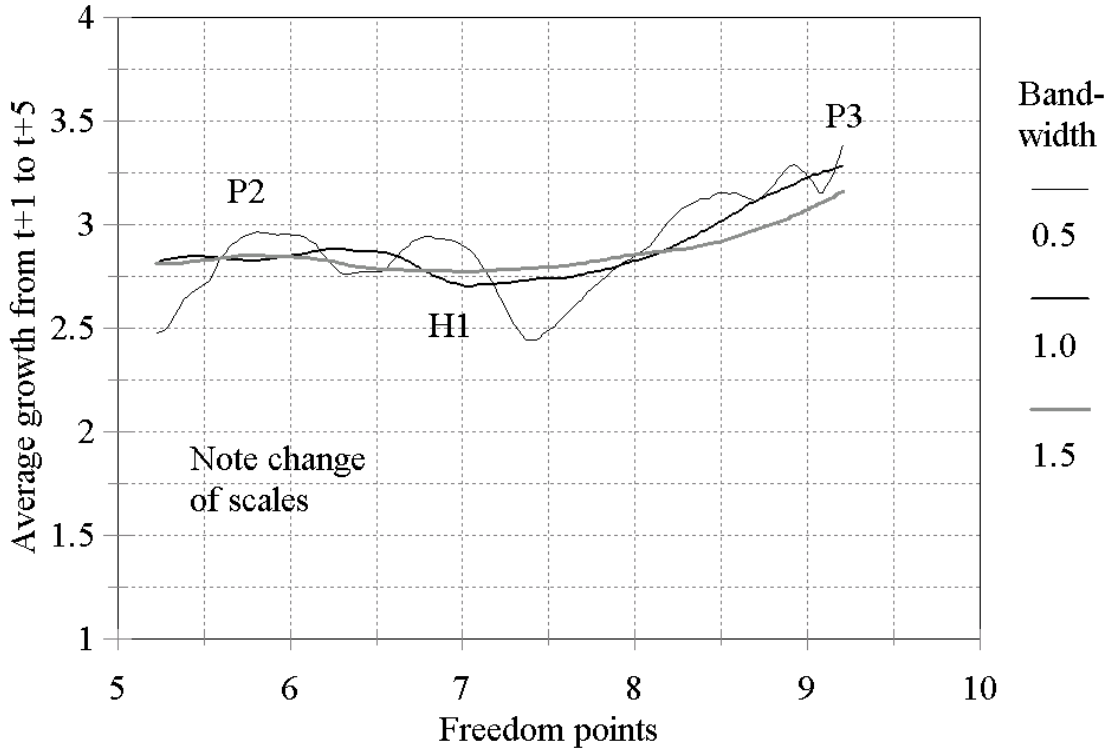
Thus we conclude that the bend between 5 and 6 is genuine: The 8-curve does have a positive slope below 5, while the slope above 5 is more dubius.

14. This kernel $K(n)$ is a weighted sum of the observations from $n - 1.5$, to $n + 1.5$, where the weights are the values of the positive section of a parable with the maximum at n intersecting the n-axis at $n - 1.5$ and $n + 1.5$. With bandwidth 1 the parable is $K(u) = 0.75(1 - u^2)$ I(*u* # 1), where I is the indicator function.

V.2 The non-parametric regression function for the West

Finally, Figure 8 looks at the non-parametric regression function for the West. Here two extreme points are disregarded – Iceland and Portugal in 1975.[15)] All other points are included, but as the functions cover much less of the space, we have changed scales of the two axis.

Figure 8. Non-parametric regression functions for the West



The main difference between Figure 6 and Figure 8 is that Peak (P2) and "hollow" (H1) almost entirely disappears on Figure 8. However, Peak (P3) is now clearer than on Figure 7.

The hollow (H1) corresponds to the old claim by Calmfors & Driffill (1988) that Western countries are more efficient if they are either relatively centralized or relatively decentralized. It is quite obvious that it is a very weak claim based on our data. As the hollow around 7-8 points is dubious we shall disregard it in the conclusion.

Further work will be needed to calculate confidence intervals around the regression curves on figures 6-8. They will tell how many of the swings we can accept. We are also working on doing the non-linear regressions on the fixed effect panel data model.

15. The reader may recall that both countries have only joined the usual "western" system after 1975, and that the early to mid 1970s were turbulent in the two countries.

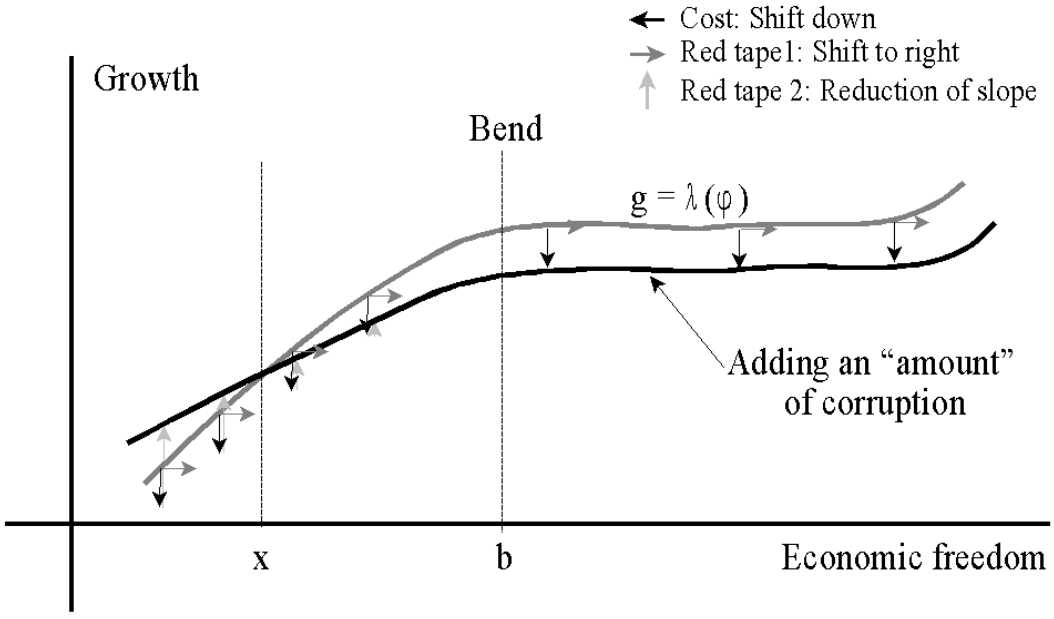
V. A note on the corruption-growth-riddle

The bend, *b*, of the growth-curve solves the riddle of the relation, g = k(6), between growth, *g*, and corruption, *6*.[16] Empirical studies such as Mauro (1995) and Paldam (2002a) show that the k(6)-relation has a negative slope, but also that it is of doubtful significance. Corrupt countries normally fare relatively badly, but a number of countries, with a fine growth record – such as China, South Korea and Italy – have had (still has) relatively high corruption. Already long before the evidence appeared two contradictory hypotheses existed about the slope.[17]

Corruption is a cost. It is supported by much micro evidence and casual observations showing that corruption makes transactions murky and slow, and normally more costly. The k(6)-relation must thus have a negative slope: This hypothesis dominates in the literature.

Corruption reduces the effectiveness of regulation, and thereby increases growth. This hypothesis builds on the assumption that most regulations are harmful. Corruption cuts red tape and is a way to circumvent such restrictions.

Figure 9. Corruption as a cost and a regulation circumventing device



If corruption has *both* effects, we get the picture drawn on Figure 9. The grey curve is the 8-curve found above. By adding an "amount" of corruption *three* effects occur: **Effect 1**: The cost increase shifts the curve down throughout its range. Effects 2 and 3 are from the decreased efficiency of regulation. These effects are likely to be proportional to the amount by which the level of regulation decreases

16. Corruption is taken to be measured by an index such as the one from Transparency International. We assume that the index is rescaled so that it rises if corruption does.

17. Both hypotheses have been around since the beginning of last century, see Heidenheimer, Johnson, LeVine (1989). As corruption is a criminal activity, the second hypothesis is clearly morally problematic.

growth. Thence it affects the curve in two ways. **Effect 2:** The curve is shifted to the right. **Effect 3**: The slope of the curve is reduced. The sum of the trhree effects are drawn as the black curve on the figure. It is shifted downwards (black arrows), to the right (dark grey arrows), and has a less positive slope (light grey arrows) below the bend.

At the high end the 8-curve is horizontal so effects 2 and 3 have no consequences for growth. The only effect of corruption is the extra transactions cost. At the low end, a reduced efficiency of regulations does increase growth. Hence corruption has two effects that counteract each other. As effect 2 makes the slope of the black curve less steep than the one of the grey curve they must intersect at a point x to the left of the bend, b.

If x is within the relevant range this explains the empirical findings about the k(6)-relation. Most observations are to the right of point x, and the negative slope therefore dominates. However, if there are enough observations to the left of x, the negative sign becomes weak and of dubious significance just as in the empirics referred. The policy implication is that all countries to the right of point x gain by fighting corruption. Countries to the left of point x should liberalize first, and *then* fight corruption.

VI. Conclusions: A trivial and a non-trivial finding

The paper has analyzed the relation (8) between economic freedom at time *t* and average growth in the next 5 to 10 years. By visual inspection the curve was found to be non-linear, and to contain at least one clear bend in the middle. The relation has been submitted to parametric and non-parametric analysis. The statistical analysis shows that the simplest acceptable 8-curve *bends* just above the middle of the observed range – that is for n . 6:

A: Below the bend the 8-curve has a positive slope. Here countries are too regulated, and grow less then they would (cp) after a liberalization. Countries in that interval thus need *structural adjustment* much in accordance with the "Washington Consensus".[18)]

B: Above the bend the 8-curve is flat. There is no effect on growth of either increases or decreases in economic freedom. This is a much more interesting result.

The flat part of the curve explains why economic freedom does not explain much of the variance in the growth rate. Economic freedom is not the only – or even main – factor explaining economic growth. The index consequently tells a modest, but clear story about the effectiveness of governments in promoting economic growth.

Section II.1 argued that our knowledge of market faults and the belief in good government predicted that the high end of the 8-curve (near the laissez-faire) should have a negative slope. Our empirical observation is that *if* this part of the 8-curve has a small tilt it is rather positive than negative.

18. The Washington Consensus, was the attempt by John Williamson (1989) to distill the collective experience and wisdom of the huge "development establishment" in Washington DC into a list of 10 items. The list is bland indeed and most economists probably consider these points trivial. This applies even to Stiglitz (2002).

The conclusion is that the data have rejected the proposition that the high end slope is negative.

Table 2. Reasons for the absence of a negatively sloped high end part of the 8-curve

(i)	Growth decreasing market faults are small in practice
a	Except: Faults *all* governments cure
b	Except: Government actions substitute cooperative private action
(ii)	Governments try to cure them, but fail
(iii)	Governments do not try to cure these faults

Logically, the three explanations of Table 2 can be given for not observing the expected negative slope. The three explanations are not mutually exclusive.

Item (i): While many market faults have been demonstrated in principle most may be small in practice at the aggregate level.

Two possible exceptions are given to that possibility: First, it may be that the few important market faults existing are "cured" everywhere. All governments do provide a few core public goods: A minimum of educational and health services plus some infrastructure. Second, the market and various kinds of non-profit associations will provide some of these core public goods if they are inadequately provided by the public. Perhaps we have demonstrated that apart from a small minimum provided by all governments the market and voluntary cooperation will provide enough of public goods. Additional provision does not enhance economic efficiency and growth, even if it increases social justice and gives other benefits to society, and to the decision makers.

Item (ii): It is possible that government faults are so sizable that public regulation generates faults that quickly offset such growth gains as are generated by the curing of market faults. For example it appears that many regulations which have a declared purpose to improve efficiency, actually do so, but in addition they generate rents that are quite large and thus offset the efficiency gain.

Item (iii): Our intuition is that this may be the central item. Much research in public choice has found that policy making is an activity with a short time horizon.[19)] The concern about market faults generating too little efficiency and growth is clearly of a long-run nature. It is thus likely that they have a low priority on the agenda of the typical government.

However, irrespective of the relative importance of the explanation it is interesting to note the shape of the relation between economic growth and the amount of public regulation of the economy. From a fairly moderate level of economic freedom and up to laissez-faire the curve is flat.

19. The literature on Vote and Popularity functions is surveyed in (Nannestad & Paldam, 1994) and the literature on Political Business Cycles in Paldam (1997).

Appendix: The 123 countries covered

Countries in group {}-brackets contain the number of missing n-observations for the country	Basic counts cnt	Obs	Mis	%
Africa (south of the Sahara): Benin {1}, Botswana {1}, Burundi {1}, Cameroon {2}, Central African Rep. {2}, Chad {3}, Congo (Dem Rep), Congo (Rep) {2}, Cote d'Ivoire {2}, Gabon {2}, Ghana, Guinea-Bissau {3}, Kenya, Madagascar, Malawi {1}, Mali {1}, Namibia {4}, Niger {1}, Nigeria, Rwanda {2}, Senegal {2}, Sierra Leone {1}, South Africa, Tanzania, Togo {2}, Uganda {2}, Zambia {1}, Zimbabwe {2}.	28	158	38	81
Arab: Algeria {2}, Bahrain {2}, Egypt {1}, Jordan {1}, Kuwait {2}, Morocco, Oman {2}, Syria, Tunisia, United Arab Emirates {3}	10	57	13	81
Indian Subcontinent: Bangladesh {1}, India, Nepal {2}, Pakistan, Sri Lanka {2}	5	30	5	86
Latin America: Argentina, Belize {2}, Bolivia {2}, Brazil, Chile, Colombia, Costa Rica, Dominican Republic {1}, Ecuador, El Salvador {2}, Guatemala, Honduras {1}, Jamaica {1}, Mexico, Nicaragua {1}, Panama {1}, Paraguay {2}, Peru, Uruguay {1}, Venezuela	20	126	14	90
Communist/Post: Albania {4}, Bulgaria {3}, Croatia {5}, Czech Republic {4}, Estonia {5}, Hungary {2}, Latvia {5}, Lithuania {5}, Poland {3}, Romania {3}, Russia {1}, Slovak Republic {4}, Slovenia {5}, Ukraine {5}	14	44	54	45
Orient (apart from Tigers): China {2}, Indonesia, Malaysia, Myanmar {2}, Philippines, Thailand.	6	38	4	90
Asian Tigers: Hong Kong, Japan, Singapore, South Korea, Taiwan,	5	35	0	100
West: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States	22	154	0	100
Residual: Bahamas {1}, Barbados {1}, Cyprus {1}, Fiji {1}, Guyana {3}, Haiti {2}, Iran, Israel, Malta, Mauritius {1}, Papua New Guinea {1}, Trinidad & Tobago {1}, Turkey	13	79	12	87
	123	721	140	84

Note: The 4 columns of basic counts: *Cnt* is the number of countries. *Obs* are the number of observations available, and *Mis* are the number of missing observations. Finally *%* gives the fraction of observations available out of the potential number from the said countries. For example for Africa 158/(158+38) = 0,81, so 81% of the potential observations are available.

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