

**BUREAUCRATIC EFFECTS:
'WEBERIAN' STATE STRUCTURES
AND POVERTY REDUCTION***

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Abstract

Work developed broadly within the Weberian tradition has argued, for a long time, that there is a link between effective bureaucratic institutions and economic development. In a widely cited article, Evans and Rauch (1999) have demonstrated that there is a strong relationship between a national state's bureaucratic capacities (what they refer to as its 'Weberianness') and its record on economic growth. Drawing on their work, this paper examines an equally crucial relation: that of state bureaucratic capacities to poverty reduction. Using the Evans-Rauch data set and the best available data sets on income poverty for the period 1970-90, the paper analyses data for 29 developing and middle income countries. On the basis of this work, the paper concludes that, in general, there is indeed a strong relationship between states with effective 'Weberian' public institutions and their ability to reduce poverty.

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I Introduction

Analysing the role that public institutions play in promoting or hampering economic growth has been a focus of the social sciences since their foundation. While sociologists and political scientists have pursued Weber's argument that an effective bureaucracy is a cornerstone for economic growth, economists, from both the English and Austrian traditions of the nineteenth century through to Keynes and beyond, have emphasised the role of public finance and state action in moderating the economic cycle and facilitating new rounds of accumulation. (see, respectively, Swedberg 1998 and Hodgson 2001). In most of the developed (and parts of the developing) world, these latter traditions of economic analysis lost favour in the 1980s and 1990s with the ascendancy of neo-liberalism and the elaboration of theoretical frameworks and related empirical work that argued that public institutions were the main obstacle to economic growth. Arguments drawing on the Weberian tradition (and on Polanyi's work; Polanyi 1957), however, not only survived, but prospered via analyses of the institutional 'embeddedness' of economic processes (eg, Granovetter 1985, Williamson 1985), and perhaps particularly through their influence on the debates about the 'developmental state' (cf. Johnson 1982, Amsden 1989, Wade 1990, Appelbaum and Henderson 1992, Evans 1995).

Around the mid-1990s ideas derived from neo-liberal economics began to falter as policy guides to economic development. A number of processes and events were responsible for this. For instance, The World Bank (1993, 1997) began - finally - to recognise the positive role that states could play; it became clear that the concept of the minimal state had theoretical flaws and led to policies that could be catastrophic for growth (most visibly in Eastern Europe; see Amsden et al 1994, Nolan 1995, Henderson 1998); and the 'Washington consensus' came under pressure as a consequence of inappropriate policy responses to the East Asian economic crisis (Wade and Veneroso 1998, Chang 2001). The recent demonstration by Chang (2002) that the now developed world - including its most neo-liberal exponents, Britain and the United States - *did not* pursue free market policies as their roads to riches, seems destined to advance this process.

Against the background of such developments, and drawing on Peter Evans' theoretical work on the significance of the 'embedded autonomy' of states for their contribution to economic development (or its obverse), Evans and Rauch (1999), in a widely cited article, have explored why some state bureaucracies have been more effective than others in supporting economic growth. In this paper we pursue the ideas and arguments that Evans and Rauch elaborate by extending their work into a related - and crucial - dimension: the role that public institutions play in fostering or impeding poverty-reduction.

We engage with this issue for three main reasons. Firstly, by doing so we help to move the study of the role of public institutions on from questions of growth, with its more narrowly economic connotations, to a direct focus on the question of human welfare, and thus on how the social benefits of growth might be maximised. Secondly, the last few

years have seen an unprecedented commitment by governments around the world to reduce poverty at a rapid rate. This followed from a series of UN convened global summits that culminated in the Millennium Development Goals (MDGs). In all, eight goals have been set and these have been broken down into eighteen targets and forty-eight indicators. At the head of this ambitious list stands the commitment to 'halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day' (OECD 2001: 123). This is the target that heads of state and of the international development agencies constantly repeat and one that is influencing the programming of billions of dollars each year and vast amounts of human energy and creativity. Third, a key mechanism through which this goal is to be achieved at the country level are Poverty-Reduction Strategy Papers (PRSPs). These are iterative plans, written by governments in consultation with interested parties (business, trade unions, NGOs etc.) that provide a coherent policy framework for reducing income poverty and 'capability poverty' (see below for a discussion). At the heart of these 'Papers' are central government agencies – commonly, Ministries of Finance or Planning or the Economy – who coordinate the activity and take responsibility for ensuring its technical competence and implementational feasibility. In effect, then, the PRSPs assume that such state agencies can and should play a major role in planning for poverty-reduction.¹ The research discussed here provides us with a sense of the extent to which they are capable of doing so.

In the following section we outline the theoretical issues that bear on the relation of public bureaucracies to economic growth and poverty reduction. We then turn to a specification of the econometric model that we will use to analyse our data. Next we discuss the sources of the data and the nature of our analysis, while in the penultimate section we summarise our findings. In the concluding section we briefly sketch some of the implications of our work.

II Bureaucracy, growth and poverty: theoretical issues

While economic growth is obviously a sine qua non for poverty reduction (though it has not always been seen as such), in itself it is insufficient to the achievement of this end. While neo-liberal scholarship has argued, for some time, to the contrary - that the best way to alleviate poverty is through the efficient working of free markets (the 'trickle-down' hypothesis) - considered opinion in development circles now recognises that this approach is simplistic and ineffective. State action is also essential to poverty reduction and not merely as a market facilitator, as the World Bank (2000), for instance, admits.² What, then, are the theoretical issues involved in explaining this connection? While questions of the relation of the state to civil society - and thus of policy formulation and implementation - are central to the problem, they range beyond the scope of our current concerns (though see Henderson et al 2002a, 2002b, 2002c). Here our focus is on the

¹ To many this development will seem ironic given that PRSPs are the brainchild of the IMF and World Bank which spent much of the previous 20 years trying to persuade governments to move away from long term planning and to retrench the state agencies engaged in this activity.

² Whether state action to reduce poverty implies the need for pro-poor policies as central components of economic policy, however, is a debateable point. Recent work summarised in Henderson and Hulme (2002), for instance, suggests that the key issue may be the state's ability to formulate and implement strategies designed to guide economic development (and thus moderate its vicissitudes and uneven nature) rather than an explicit commitment to anti-poverty policy per se.

bureaucratic effectiveness of public institutions and the relation of this to poverty reduction.

Bureaucracy and Growth

The first issue we confront is the need to identify the nature of the relationship between effective bureaucratic forms of administration and economic growth. Weber's classic arguments on this relation, as summarised by Evans and Rauch (1999: 749),

‘... postulate that bureaucratically structured organisations, using their own distinct set of decision-making procedures, are a necessary complement to market-based institutions...public administrative organisations characterized by meritocratic recruitment and predictable, long-term career rewards will be more effective at facilitating capitalist growth than other forms of state organisation’.

The rationale involved here is that meritocratic recruitment can be expected to lead to organisational effectiveness because: (a) it ensures that staff have, at the very least, a minimal level of competence to fulfil job requirements; (b) it tends to encourage organisational coherence and an esprit de corps; (c) this, in turn, helps to raise the motivation of staff; and (d) higher levels of identification with colleagues and the organisation help to raise the levels of shared norms and increase the intangible costs of engaging in corrupt practices. Bureaucracies that offer rewarding long-term careers are more likely to perform well as this encourages more competent people to join the organisation, which, in turn, further increases organisational coherence and makes corrupt practices by individuals less attractive as the costs of being found out are very high (at a minimum, loss of a competitive salary and promotions for many years). If the argument that these features tend to result in more competent and effective state bureaucracies is accepted, then, as Evans and Rauch (1999: 751) suggest, 'myriad specific causal paths leading to higher rates of economic growth are plausible'.

There are a number of reasons for this. For instance, stable and effective bureaucratic systems can facilitate the adoption of longer time horizons by state economic agencies and these, in turn, tend to encourage a focus on investment and make the planning of public infrastructure more effective.³ Additionally, by helping to reduce the likelihood of corruption, such systems lower the costs of 'hidden taxation' on the private sector. Furthermore, 'diffuse links' are more likely to develop between the public and private sectors so that investors can be encouraged to commit themselves to long-term investments as they feel reasonably sure about the predictability of government policies. Similarly, in situations where there are high levels of bureaucratic competence, the institutions of economic governance have greater legitimacy and are better able to help entrepreneurs coordinate business activities and move into export markets (see Rodrik 1995, for South Korea and Taiwan).

To test the empirical validity of these arguments Evans and Rauch constructed a 'Weberianness Scale' which measured the degree to which core state agencies in various countries were characterised by meritocratic recruitment and offered rewarding long-t

³ This is not inevitably the case, of course, as the British experience over the past twenty years or so - with its economically damaging underinvestment in public transport, for instance - bears witness.

term careers.⁴ On the basis of these data they were able to compute scores on the Scale for 35 semi-industrialised and poor countries. They analysed the relationship of these scores to the total growth of real GDP per capita in the respective countries from 1970 to 1990. They found that

‘...even after the effects of initial GDP per capita levels and pre-existing levels of human capital have been controlled, the relation between the Weberianness Scale score and economic growth remains strong and significant’ (Evans and Rauch 1999: 756).

When countries were placed into regional groupings, the East Asian group scored high while the African group rated much lower. They thus concluded that

‘the Weberianness Scale appears to capture a key institutional element of the "high-performing" East Asian economies while pointing to an institutional deficit that may help explain low rates of growth in Africa’ (Evans and Rauch 1999: 757).

Poverty and Growth

Recently there has emerged an economics literature that analyses the interaction between economic growth and income distribution. Most of this discussion has been concerned with the issue of reverse causation: how the nature of income distribution might affect growth (see Kanbur 2000). Clark (1995), for instance, found strong evidence for a negative correlation between inequality and growth. In a different context, Persson and Tabellini (1994) also show that inequality is harmful to growth.⁵

Where the interaction between poverty and growth specifically is concerned, however, recent discussions have gone beyond those concerned with growth and inequality. Different growth scenarios are likely, of course, to generate different poverty outcomes. For instance, while equi-proportionate economic growth tends to leave the existing income distribution intact by improving the relative position of those on the lower and the upper levels of the distribution scale, it tends also to reduce poverty. Pro-poor growth, on the other hand, by definition helps to reduce absolute poverty and in so doing tends to moderate the maldistribution of income. There are other situations, however, in which growth largely benefits the non-poor (not merely the wealthy) of society and thus while they help to improve income distribution overall, they tend to leave levels of absolute poverty more or less the same. Work by Ahuja et al (1997), for instance, shows that in recent years, in some East Asian countries (eg. Thailand), the poor have hardly benefited from a good general growth performance.

It is obvious, therefore, that a simple one to one relationship between growth and inequality and poverty does not hold; aggregate growth has different relationships with poverty. As the World Bank (2001: 52) has argued:

⁴ The Scale was derived from the aggregated responses to 10 questions drawn from a questionnaire sent to expert commentators on the state bureaucracies of the 35 countries in the sample. For details see Evans and Rauch (1999, Appendix A: 761-2).

⁵ The framework suggested below (Section III, equation 4) could be used to test the possible impact that income distribution and poverty have on growth.

‘for a given rate of growth, the extent of poverty reduction depends on how the distribution of income changes with changes in growth and on initial inequalities in income, assets and access to opportunities that allow poor to share in growth’.

Poverty and Poverty Reduction

How, then, do the arguments and findings sketched above relate to poverty-reduction and to the ambitious goals that world leaders (cited above) have agreed upon? In what ways might the ‘Weberianness’ of public institutions help or hinder the rate at which the citizens of specific countries and regions move out of poverty? Clearly much will depend upon the meaning that is given to poverty and thus to poverty-reduction and it becomes necessary to review some of the contemporary debates around these terms.

Conceptually three alternative approaches to understanding poverty can be identified. While all see poverty as a severe deprivation of some basic human need, at the individual or household level, the nature of these deprivations is hotly contested. Until recently the dominant view was that poverty is material deprivation that can be assessed in monetary terms. Hence poverty analysts defined what the minimum needs of a household were, placed a monetary value on these and collected data to reveal which households had levels of income or consumption below these minimum levels. Often there is a lower poverty line (defined as the cost of purchasing a food basket that will provide household members with the minimum amount of food they need to function and reproduce) and a higher poverty line that incorporates other essential needs (eg. minimum clothing, shelter, potable water and, perhaps, fuel). This conceptualisation has many advantages; it makes the quantitative analysis of poverty relatively straightforward (in terms of headcounts, gaps and severity⁶) and permits comparisons over time and between countries. However, it has been heavily criticised on technical grounds (the setting of poverty lines is often arbitrary and data is often poor) and conceptually (it ignores non-material forms of deprivation such as illiteracy, social discrimination and the preventable deaths of infants and it makes poverty seem to be a transient phenomena that simply comes and goes with rises and falls in income rather than one that has structural roots).

These criticisms take us to the second conceptualisation, developed by Amartya Sen (eg. 1999), which argues that poverty needs to be understood in terms of capability deprivation. Capabilities are the means that enable people to function; to do the things they want to do and seek to ‘be’ the person they want to be. Thus in this conception, poverty is the failure to achieve basic capabilities such as being adequately nourished, leading a healthy life, having the skills to participate in economic and social life, being permitted to take part in community activities etc. This takes poverty beyond the purely material domain and sees it as multi-dimensional. This conceptualisation has been lauded (indeed it led to the award of a Nobel Prize for Sen) and has been used in the development of the UNDP’s Human Development Index (HDI) and Human Poverty Index (HPI). While it offers many advantages over the income/consumption conceptualisation, it is not without problems. For instance, it demands a greater variety of data and there is not as yet an agreement about how capability deprivation at the

⁶ See www.undp.org/poverty/publications/ for a review of these terms.

household level can be computed. The exact composition of basic capabilities remains a subject of debate.

The third conceptualisation is one that has risen to prominence over the 1990s and takes a fundamentally different approach: subjective poverty assessments. It posits that poverty must be defined by the poor themselves or by the communities that poor people live in. Meanings and definitions of poverty identified by outsiders are seen as disempowering poor people and removing their right to create and own knowledge. The ideas behind this developed out of work on participatory appraisal of rural projects (Chambers 1994) and have led to the production of the three volume *Voices of the Poor* (Narayan et al 1999 and 2000) which, it is claimed, fed into the *World Development Report* for 2000/2001 (World Bank 2000). Such an approach has the potential advantages of empowering the poor and not being driven by the values of elite analysts but it is not unproblematic.⁷ Generating and comparing data relevant to this conceptualisation, for instance, is very difficult; there is no guarantee that any group of poor people will reach a common agreement on what poverty is, local power relations can shape discussions, and the external agents who arrange such exercises can have an undue influence on what the participants discuss and decide.

While using a subjective index as implied by the third conceptualisation might be desirable, it is not currently feasible because of a lack of data.⁸ Consequently in this paper we examine poverty reduction in terms of the first two concepts. The growth in income over 1970 to 1990 of the bottom quintile of a country's income distribution is used to measure the change in income poverty. The capabilities framework is utilised by examining the reduction in child mortality and the reduction in adult illiteracy over the same period. These indicate the degree to which capability deprivation has reduced in terms of (a) people (infants) losing all of their capabilities for all of their lives due to a premature death; and (b) people not being able to communicate through written media. While, ideally, a general index of capability deprivation should be used, there is currently no agreement on what such an index might be and the data needed for its construction are not available.

Bureaucracy, Growth and Poverty Reduction

Returning to the question posed above - in what ways might the 'Weberianness' of public institutions affect the rate at which the citizens of specific countries move out of poverty - a number of what Evans and Rauch (1999) term 'plausible connections' can now be identified.

First, there are several direct links between economic growth and poverty levels in terms of both income and capability concepts. As discussed below (section III) these run in both directions: economic growth can reduce poverty, and countries with lower levels of poverty and less inequality are likely to experience higher rates of growth. While Dollar and Kraay (2000) exaggerate the simplicity of the link between growth and poverty reduction (see White and Anderson 2000), their work remains useful for our purposes as, on average, income poverty reduces as levels of GDP per capita increase. Thus it seems reasonable to hypothesise that as Weberianness contributes to growth, so it also

⁷ Interestingly, it has been commonly found that poor people see physical insecurity as a central dimension of poverty, but this has rarely been recognised by external observers.

⁸ In the future, indexes such as the Afrobarometer may make this feasible.

contributes to the poverty reduction effected by that growth. In this way the quality of public institutions is likely to have an ‘automatic’ impact on the reduction of income poverty through its positive consequences for growth and, additionally, an impact on capability deprivation by virtue of the increased public finances available (because of growth) that can be invested in education, health and other public services that raise the capabilities of the poor.

Second, Weberianness is likely to reduce capability poverty because it enhances the effectiveness of public expenditure on education, health and other pro-poor services and goods (such as rural infrastructure). Meritocratic recruitment means that those responsible for planning and financing public education and health should be at least minimally competent and, along the lines of the argument made by Evans and Rauch (1999), develop an esprit de corps and organisational coherence that help to make public action more efficient. Rewarding long-term careers also raises the levels of competence and reduces the attractiveness of engaging in corruption. So, in addition to the poverty reduction that might occur as a result of growth, we can anticipate that states with higher quality and more effective public bureaucracies will achieve additional poverty reduction through the effectiveness of the services they provide.⁹ These services can directly reduce aspects of capability poverty (eg. by making people literate and by reducing ill health) and indirectly reduce income poverty, as educated and healthy people are more likely to be productive and to generate higher incomes.

Third, Weberian characteristics in a bureaucracy are likely to improve the effectiveness of public schemes that seek to alleviate poverty directly by providing poor people with such resources as grants and food aid, subsidised loans and training and technical advice, which all help to raise their productivity. These schemes are likely to be better designed and implemented, and experience lower levels of ‘leakage’ under ‘Weberian’ circumstances, than in countries where meritocratic recruitment is not a normal feature of public bureaucracies and careers are short-term and inadequately rewarded.

There are, then, at least three routes by which we could anticipate that Evans and Rauch’s ‘Weberianness’ would not only lead to higher rates of growth, but also to higher rates of poverty reduction. The first of these would be achieved ‘automatically’ at the country level, depending on the Weberianness score, through the income enhancement of the poor achieved via growth. The second and third, however, would lead to higher rates of poverty reduction than could be directly achieved through growth. They would represent an additional ‘pay-off’ that is generated by having a competent bureaucracy. In the following section we test these propositions empirically.

III Model specification

From the arguments sketched above it appears that the bureaucratic quality of public institutions has a direct impact on economic growth and that poverty-reduction is positively related to economic growth. In this section, we first formulate the relationship between growth and the bureaucratic quality of public institutions (Weberianness), as

⁹ Judith Tendler's (1997) excellent study of how bureaucratic organisations in Ceara, Northeastern Brazil, improved the quality of the services they provided to that region's impoverished population, identifies, in detail, several pathways by which bureaucracies can support the poor.

well as that between poverty and growth. We then combine the two to get a generic and testable model linking poverty to the determinants of growth.

As with Evans and Rauch (1999), we assume that economic growth is directly related to the quality, or ‘Weberianness’, of public institutions as well as to other explanatory variables, thus:

$$g = \alpha_0 + \alpha_1 W + \alpha_i X_i \quad i=2\dots j \quad (1)$$

Here g and P stand for the rate of growth of GDP and the numbers of people in poverty respectively, W is a proxy capturing the bureaucratic quality of public institutions (their ‘Weberianness’). X_i , $i=1$ to j , stand for the other explanatory variables, both quantitative and qualitative, that have impact on growth. Adding a stochastic error term to equation (1) gives us a generic econometric model that can then be used to measure the magnitude of various growth determinants. Proxies for economic stability and initial conditions, such as income and skills (‘human capital’) are examples of the variables contained in X . As there are likely to be differences between countries due to their stage of development, appropriate dummies will need to be used to test this proposition.¹⁰

The interaction of growth and poverty is complex and may not be linear. While we can hypothesise that growth might have a direct impact upon poverty through the so-called ‘trickle down’ effect, and that it might also have a significant indirect impact if ‘pro-poor’ growth strategies are adopted, related work on a number of East Asian and Eastern European countries (Henderson et al 2002a, 2002b, 2002c) underlines the difficulties of substantiating such claims. Furthermore, while we can anticipate that the general relationship between the effects of growth on poverty are likely to be inverse (as the economy grows, poverty will be reduced), the relation of growth to income distribution is also likely to be inverse (as the economy grows, income inequality is likely to increase), particularly at the early stages of development.¹¹ Consequently the overall impact of growth on poverty reduction, at least theoretically, is likely to be ambiguous.

As indicated above, the contribution by Dollar and Kraay (2000)¹² has generated considerable interest regarding the interaction between growth and poverty. They argue that growth has indeed been beneficial for the poor. Using the most recent data available on the income of the poorest quintiles for various countries, they support the proposition that growth is not only good for the poor, but that they benefit generally, at least as much as the other quintiles from growth. Notwithstanding the criticisms of their work indicated above (section II), the generic model they propose is useful for our purposes and takes the following form:

$$y^p = \beta_0 + \beta_1 g + \beta_i Z_i \quad i=2\dots k \quad (2)$$

¹⁰ Qualitative information on the nature of the institutional structure could also be incorporated in order to measure the impact of differences therein on economic growth. This, however, would be beyond the scope of our current concerns and is not attempted here.

¹¹ And, in any case, is likely to be tempered by institutional variations in the national form of capitalism. Contrasts between, say, the USA and Japan, have been particularly instructive here. For summaries see Coates (2000) and Dore (2000).

¹² Developed from Deininger and Squire (1996).

Here y^p denotes per capita income in the poorest quintile of the population, g stands for the growth of average per capita income in the entire population and Z_i $i=1$ to k includes all other determinants of the mean income of the poor. The strength of the relationship between y^p , the average income of the poor and g , the growth of the average income of the population, gives an indication of the impact of growth on poverty. The logic is that if the average income of the poor changes, the numbers of people in poverty will also change.

Amongst the other variables that are likely to impact on poverty, Hanmer and Naschold (2000) include a proxy for income distribution to directly test any possible impact that inequality may have on poverty. The initial absolute level of poverty is likely to play a role in the rate of change in poverty. In growth accounting exercises (eg. Barro 2000), the initial level of development (eg. GDP per capita) appears as a regressor to account for the fact that, *ceteris paribus*, it would be easier to grow faster if the initial gap were large. The same idea could be applied to poverty reduction; that is, the higher the initial level of poverty, the greater is the potential for a higher rate of reduction in poverty in the next period.

When we incorporate the other determinants of poverty discussed above, and substitute the equivalent of g from equation (1) into equation (2), we get the following relationship.

$$y^p = \gamma_0 + \gamma_1 W + \gamma_2 G + \gamma_j Y_j \quad j=2 \dots k \quad (3)$$

Equation (3) highlights the variables that concern us in this paper. Here G is a proxy for the distribution of income and Y_j $j=2$ to k are the combined variables that affect the income of the poor directly and through growth (those which are contained in vectors X and Z as in equations 1 and 2 respectively).

The specification of poverty determinants as shown by equation (3), however, has some limitations and may not be appropriate. Most of the variables that are included in the growth accounting exercise are candidates to be included in the above poverty model. The interaction of these variables with growth, however, may differ from those with poverty, in which case the relationship suggested by equation (3) may at most give an estimate of the net effects of various common variables. If there is any simultaneity present however, a 'reduced form' equation would be inappropriate and a different estimation procedure would be required for the model. For current purposes, however, we are interested in the interaction between the quality of public institutions and poverty reduction and for the proxies we use, there is no *a priori* theoretical argument linking the two together. As far as simultaneity is concerned, most research on this seems to suggest that the link between growth and poverty reduction is uni-directional: it runs from growth to poverty. In such circumstances, therefore, a relationship such as posited by equation (3) is an appropriate one to use. As before, adding a stochastic error term to equation (3) gives us an econometric model of poverty determinants. A parameter estimate of this gives us the magnitude of the elasticity of poverty reduction with respect to the determinants of poverty. As a poverty reduction model, we use a variant of equation (3) in the empirical analysis that follows.

IV Data sources

Evans and Rauch have developed the only extensive data set yet available on the bureaucratic quality ('Weberianness') of public institutions and we utilise their dataset here.¹³ Reliable and recent data sets on poverty and inequality for most countries, however, and particularly for developing countries, are difficult to find. The dataset most researchers have used in recent empirical research is based on Deininger and Squire (1996) and Lundberg and Squire (1998), which give both income data for the poor, as well as the gini coefficients. Dollar and Kraay (2000) have extended the series both with respect to countries and time period and it is their data for income for the bottom quintile that we use as a proxy for poverty reduction impacts. We also make use of some of the variables provided in the Levine et al (2000) dataset. Combining these three datasets, we get as good a quantitative picture of poverty and inequality as currently available. Most of the variables from the datasets have been averaged over the period 1970-1990, and this gives us a cross section dataset. Because of the lack of data on the income of the poor in a number of the countries studied by Evans and Rauch, our dataset has been reduced to 29 countries as against the 35 used in their study (see Appendix I for details).

V Analysis

Evans and Rauch (1999: 775) sought to 'discover whether "Weberianness" has an effect on economic growth that is independent of the effects of other variables classically associated with economic development.' That is, they tried to investigate whether highly developed Weberian bureaucracies were associated with countries that experienced higher levels of development as measured by the proxies of GDP per capita growth and levels of human capital. To control for this, their analysis of Weberianness and economic growth was based on factoring out the effects of initial GDP per capita (measured in terms of real GDP per capita in 1965) and the pre-existing level of human capital (measured in terms of average years of schooling in 1965) on the change in growth. Accordingly, Evans and Rauch's analysis associated Weberianness with the residuals from the regression or, in other words, 'unexplained' growth. Similarly, our aim in this analysis is to discover whether Weberianness has an effect on (income) poverty reduction independent of other key variables which might also explain this reduction. Thus in place of Evans and Rauch's notion of 'unexplained growth', our analysis ultimately tries to establish a link between Weberianness and the 'unexplained' change in the income of the poor.

Existing research has raised a number of variables which may significantly affect poverty reduction in any given country. In our analysis below, we derive three particular variables which affect the income of the poor: investment share, human capital and an institutional proxy. An inherent limitation of our analysis lies in our ability to identify and disaggregate these variables for each country in the sample. To do so would produce small cell sizes and thus prevent any meaningful comparability in the first place. While recongising this limitation, we argue that interesting comparisons can still be made on the basis of world-regions.

¹³ Their data set is available online at: <http://weber.ucsd.edu/~jrauch/webstate>

Before proceeding with the formal analysis of data at the 'global' level, we must first discuss our rationale for identifying these three variables out of the range of possible poverty reducing factors at a lower level of generality. Given our interest in looking into the interaction between the income of the poor and the Weberianness scale, Figure 1 indicates the Weberianness scores and Figure 2 the diversity of income of the poor, in each case according to world-region and/or level of development. Comparing these graphs it seems clear that at least up to a moderate level of income, there is a positive correlation between the income of the poor and a region's score on the Weberianness scale. In general, regions that score well on the Weberianness scale also perform well in terms of the income of the poor. This is especially true of what were then (1970-90) the Asian newly industrialised countries (Hong Kong, South Korea, Singapore and Taiwan) and confirms what we know already about their ability, during that period, of combining rapid economic with what were ultimately relatively low levels of inequality.¹⁴ The partial anomaly, in the same time frame, is Southern Europe and the Middle East (Greece, Israel, Portugal, Spain and Turkey) which perform the best of the five regions in terms of the income of the poor but marginally below the 'Other' Asian countries (see Appendix 1) in terms of their Weberianness score.

[Figures 1 & 2 here]

Moving to a preliminary analysis of the general situation, Table 1 provides a correlation matrix for the variables used here.

[Table 1 here]

As is clear from Table 1, there is high correlation between the growth of income of the poor and the other variables reported there. There is an equally strong relationship between some of the independent variables. One in particular, initial GDP per capita, is strongly related to three others - ethnic fraction, initial human capital and investment share¹⁵ - indicating that they cannot all be incorporated in the same regression equation. These are, however, all theoretically important variables determining economic growth. We exclude this variable (initial GDP per capita) from regressions to be carried out, however, due to the fact that this option minimises the number of variables that need to be excluded and thus helps to specify our model more appropriately.

[Table 2 here]

Turning to our formal analysis, Table 2 reports estimates of various versions of equation (3). Regression (Reg.) 1 provides estimates for the most basic model in which income of the poor depends on the investment share, human capital and an institutional proxy. All the parameter estimates have the expected sign and are all statistically significant at

¹⁴ By the early 1980s, however, Hong Kong had begun to experience significant increases in income inequality (Henderson 1991).

¹⁵ For definitions see the Notes to Table 1.

the usual significance level. Regression (Reg.) 2 extends the model to include a proxy for income distribution. Its inclusion, as expected, reduces the magnitude of the Weberianness Scale¹⁶. The other variables are not particularly affected and they all remain statistically significant. Regression (Reg.) 3 includes another institutional proxy, ethnic fraction¹⁷, and its inclusion reduces the impact of Weberianness, making it insignificant at the usual level of significance. In Regression (Reg.) 4, however, we control for developing countries in our dataset. As a result, the magnitude and significance of Weberianness is restored, although those for ethnic fraction and the Gini are adversely affected. This suggests that ethnic fraction as well as the developing country dummy is correlated with some of the independent variables. In Regression (Reg.) 5, as a way of correcting for this, we introduce an interactive term that is composed of the previous two.

From the analysis depicted in Table 2 the key finding, after controlling for other determinants of the income of the poor, is that there is a strong relationship between that income and the given country's position on the Weberianness Scale.¹⁸ A graphic illustration of this relationship is provided in Figure 3 which shows the relationship between scores on the Weberianness scale and the unexplained level of reduction in the income of the poor.¹⁹ Plots of residuals based on Regression 5 in Figure 4 do not suggest any problems with the regression. More importantly, and based on the spread, there does not seem to be any relationship between these residuals and the position of countries with respect to the Weberianness scale.

[Figures 3 & 4 here]

VI Conclusions

Although a matter for debate in earlier periods, it now seems incontrovertible that there is a strong relationship between economic growth and poverty reduction. What remains unclear is how direct that relationship is. Neo-liberal theorising suggests that the relationship is – or, at least, can be – direct. However we know from experience from the developed and developing worlds alike that there is a relationship between the nature of the growth strategy (varying in accord with variations in the national form of capitalism) and the incidence of inequality. The contrasts between the United States and Britain on the one hand – with their pursuit of ‘stock market capitalism’ – and Germany, Sweden, France and other EU countries on the other – with their continuing commitments to

¹⁶ The Weberianness scale takes into account the extent of inequality within a society. Taking account of income distribution separately, therefore, is likely to have the effect suggested here.

¹⁷ This is an index that attempts to capture ethnic diversity within a society and is drawn from the Levine et al (2000) dataset. We believe that as it captures another important dimension within societies, it complements the Weberianness scale.

¹⁸ There is an equally statistically significant relationship between Ethnic Fraction and the income of the poor. This relationship, however, is indirect and relatively weak, but it does hold for developing countries.

¹⁹ After removing the influence of all the independent variables on the income of the poor, except the Weberianness based on regression (5), we get the unexplained part of the regression.

‘welfare capitalism’, are, for instance, particularly clear.²⁰ Just as these differences are traceable, at least in part, to the different institutional arrangements and economic priorities enshrined in differing policy commitments in the various countries, so to can we expect the relation of economic growth to poverty to be mediated by the nature and effectiveness of the public institutions of the country concerned.

Evans and Rauch (1999) have shown that there is a relation between a country’s economic performance and the quality, or ‘Weberianness’, of its public institutions. The research reported here shows that, additionally, there is in general a strong relation between the competence and effectiveness of public bureaucracies and their consequences for poverty reduction. While it is important to recognise that correlations are not the same as causal connections and that in the social world the latter rarely, if ever, can be empirically ‘proved’, we suggest that given a solid and sustained record of economic growth, the balance of presumption must be that the bureaucratic quality of public institutions in a given country is decisive for that country’s ability to reduce poverty.

References

- Ahuja, V. Bidani, B Ferreira, F and Walton, M (1997) *Everyone’s Miracle? Revisiting Poverty and Inequality in East Asia*. Washington DC., The World Bank.
- Amsden, A.H. (1989), *Asia’s Next Giant: South Korea and Late Industrialization*. New York, Oxford University Press.
- Amsden, A.H., Kochanowicz, J. and Taylor, L. (1994), *The Market Meets Its Match*. Cambridge MA, Harvard University Press.
- Appelbaum, R.P. and Henderson, J. (1992) (eds.), *States and Development in the Asian Pacific Rim*. Newbury Park, Sage Publications.
- Barro, R. (2000) ‘Inequality and growth in a panel of countries’, *Journal of Economic Growth*, 5(1): 5-32.
- Blomstrom, M., Lipsey, R. and Zejan, M. (1996) ‘Is Fixed Investment the Key to Economic Growth?’, *Quarterly Journal of Economics*, CXI: 269-76.
- Chambers, R. (1994), ‘Participatory rural appraisal (PRA): analysis of experience’, *World Development*, 22(9): 1253-68
- Chang, H-J (2001) (ed.), *Joseph Stiglitz and the World Bank: the Rebel Within*. London, Anthem Press.
- Chang, H-J (2002), *Kicking Away the Ladder: Development Strategy in Historical Perspective*. London, Anthem Press.

²⁰ There is no consensus on the terms used to depict the variations in the forms of capitalism in the developed world. For the sake of convenience, we adopt Dore’s (2000) terms. For an additional general discussion of the issues, see Coates (2000).

- Clark, R.G.(1995) 'More evidence on income distribution and growth', *Journal of Development Economics*, 47: 403-27.
- Coates, D. (2000), *Models of Capitalism*. Cambridge, Polity Press.
- De Long, J. B., (1992) 'Productivity growth and machinery investment: a long-run look, 1870-1980', *Journal of Economic History*, 52(2): 307-24.
- De Long, J. B. and Summers, L. (1991) 'Equipment Investment and Economic Growth', *Quarterly Journal of Economics*, CVI: 445-502.
- De Long, J. B and Summers, L. (1992) 'Equipment investment and economic growth: how strong is the nexus?', *Brookings Papers on Economic Activity*, 2: 157-211.
- Deininger, K and Olinto, P (2001) 'Asset distribution, inequality and growth' Development Research Group, World Bank
- Deininger, K. and Squire, L. (1996) 'A new data set measuring income inequality', *World Bank Economic Review*, 10 (3): 565-91.
- Dollar, D and Kraay, A (2000) 'Growth is good for the poor', Development Research Group, World Bank.
- Dollar, D and Kraay, A (2001)'Trade, growth and poverty', Development Research Group, World Bank.
- Dore, R. (2000), *Stock Market Capitalism -Welfare Capitalism: Germany and Japan versus the Anglo-Saxons*. Oxford, Oxford University Press.
- Evans, P. (1995), *Embedded Autonomy: States and Industrial Transformation*. Princeton, Princeton University Press.
- Evans P. and J. Rauch (1999), 'Bureaucracy and growth: a cross-national analysis of the effects of "Weberian" state structures on economic growth', *American Sociological Review*, 64(4): 748-65.
- Granovetter, M. (1985), 'Economic action and social structure: the problem of embeddedness', *American Journal of Sociology*, 91(3): 481-510.
- Hanmer, L. and F. Naschold (2000) 'Attaining the international development targets: will growth be enough', *Development Policy Review*, 18: 11-36.
- Henderson, J. (1991), 'Urbanisation in the Hong Kong - South China region: an introduction to dynamics and dilemmas', *International Journal of Urban and Regional Research*, 15(2): 169-79.
- Henderson, J. (1998) (ed.), *Industrial Transformation in Eastern Europe in the Light of the East Asian Experience*. London, Macmillan.

- Henderson, J and Hulme, D (2002), 'Globalisation, national economic governance and poverty reduction: insights from East Asia and Eastern Europe'. Final report to the Department for International Development, British Government (available at www.gapresearch.org/governance/DFIDFinalreport3.pdf)
- Henderson, J., Hulme, D., Phillips, R. and Andor, L. (2002a), 'Economic governance and poverty in Hungary', *Working Paper* 438, Manchester Business School.
- Henderson, J., Hulme, D., Phillips, R. and Kim, E.M (2002b), 'Economic governance and poverty reduction in South Korea', *Working Paper*, 439, Manchester Business School.
- Henderson, J., Hulme, D., Phillips, R. and Ainur, N.M.N. (2002c), 'Economic governance and poverty reduction in Malaysia', *Working Paper*, 440, Manchester Business School.
- Hodgson, G. (2001), *How Economics Forgot History*. Cambridge, Polity Press.
- Islam, N. (1995) 'Growth empirics: a panel data approach', *Quarterly Journal of Economics*, 110(4): 1127-70.
- Johnson, C. (1982), *MITI and the Japanese Miracle*. Stanford, Stanford University Press.
- Kanbur, R. (2000): "Income distribution and development", in A. Atkinson and F. Bourguignon (eds.) *Handbook of Income Distribution*, Elsevier, Oxford: 791-841.
- Knight, M, Loayza, N and Vilanueva, D (1993) 'Testing the neoclassical theory of economic growth: a panel data approach', *IMF Staff Papers*, 40 (3): 512-41.
- Levine, R, Loayza, N and Beck, T (2000) 'Financial Intermediation and Growth: Causality and Causes', *Journal of Monetary Economics*, 46: 31-77
- Lundberg, M and Squire, L (1998) 'The simultaneous evolution of growth and inequality', unpublished paper, Washington DC., The World Bank.
- Mankiw, N.D., Romer P and D. Weil (1992) 'A contribution to the empirics of economic growth", *Quarterly Journal of Economics*, CVII: 407-37.
- Narayan, D., Petesch, P. and Chambers, R. (1999), 'Global synthesis: consultations with the poor'. Draft discussion paper prepared for the *Global Synthesis Workshop: Consultations with the Poor*, Washington D.C., 22-23 September. Washington, D.C., The World Bank.
- Narayan, D. (2000), 'What do the poor have to say about health, nutrition and population?' *Report from the World Bank Seminars on Poverty, Health, Nutrition, and Population*. Washington D.C., The World Bank.
- Nolan, P. (1995), *China's Rise, Russia's Fall*. London, Macmillan.

- Nonneman, W. and P. Vanhoudt (1996) 'A further augmentation of the Solow model and the empirics of economic growth for OECD countries', *Quarterly Journal of Economics*, CXI: 943-53.
- North, D. (1990), *Institutions, Institutional Change and Economic Performance*. New York, Cambridge University Press.
- OECD (2001), *The DAC Guidelines: Poverty Reduction*. Paris, Organisation for Economic Cooperation and Development.
- Persson, T. and Tabellini, G. (1994) 'Is inequality harmful to growth', *American Economic Review*, 84(3): 600-21.
- Polanyi, K. (1957), *The Great Transformation* (2nd Edition). Boston, Beacon Press.
- Pugno, M. (1996) 'Structural stability in a cross-country neoclassical growth model', *Applied Economics*, 28 (12): 1555-66.
- Ravallion, M (2000) 'Growth, Inequality and Poverty: looking beyond averages' Development Research Group, World Bank .
- Rodrik, D. (1995), 'Getting interventions right: how South Korea and Taiwan grew rich', *Economic Policy*, 20: 55-97.
- Sen, A. (1999), *Development as Freedom*. New York, Knopf.
- Solow, R. M. (1956) 'A contribution to the theory of economic growth', *Quarterly Journal of Economics*, LXX: 65-94.
- Squire, L (1999) 'The evolution of thinking about poverty: exploring the interaction' 9th *Bradford Development Lecture*, University of Bradford.
- Swedberg, R. (1998), *Max Weber and the Idea of Economic Sociology*. Princeton, Princeton University Press.
- Tendler, J. (1997), *Good Government in the Tropics*. Baltimore, Johns Hopkins University Press.
- Wade, R. (1990), *Governing the Market: Economic Theory and Industrialization in East Asia*. Princeton, Princeton University Press.
- Wade, R and Veneroso, F. (1998), 'The gathering world slump and the battle over capital controls', *New Left Review*, 231: 3-23.
- Warr, P (2001) "Poverty Reduction and Economic Growth: the Asian experience" Paper to the *Asia and Pacific Forum on Poverty*, Manila, February.
- White, H. and Anderson, E. (2000) 'Growth versus distribution: does the pattern of growth matter?' Mimeo. Institute of Development Studies, University of Sussex.

Williamson, O. (1985), *The Economic Institutions of Capitalism*. New York, Free Press.

World Bank (1993), *The East Asian Miracle*. New York, Oxford University Press.

World Bank (1997), *World Development Report 1997/1998*. New York, Oxford University Press.

World Bank (2000) *World Development Report 2000/2001*, New York, Oxford University Press.

Table 1: Correlation Coefficient Matrix *

	1	2	3	4	5	6	7
1- Income of the Poor ^(a)							
2- Weberianness Scale ^(b)	0.57						
3- Ethnic Fraction ^(c)	-0.49	-0.24					
4 – Initial Human Capital ^(d)	0.65	0.29	-0.47				
5 - Investment Share ^(e)	0.61	0.21	-0.38	0.45			
6 - Gini Coefficient ^(f)	-0.51	-0.45	-0.01	-0.11	-0.11		
7 - Initial GDP/Capita ^(g)	0.75	0.32	-0.56	0.63	0.54	-0.01	
8 - Developing Country Dummy ^(h)	-0.61	-0.09	0.29	-0.39	-0.53	0.45	-0.55

Notes:

* Correlation coefficients shown are those between logarithm of variables except for those of Human Capital, Ethnic Fraction and Developing Country Dummy.

- a) Actual data on income of the poor is based on calculation in Dollar and Kraay (2000). It is averaged over the period 1970-1990 here.
- b) Weberianness Scale is based on Evans and Rauch (1999).
- c) Ethnic Fraction is based on Evans and Rauch (1999).
- d) Defined as average schooling year in total population over age 25 in 1965.
- e) Average of annual ratio of real domestic capital investment to real GDP over period 1965-1970.
- f) An annual proxy for income distribution averaged over the period 1970-1990.
- g) Real GDP per capita in 1965.
- h) A dummy which is 1 if the country concerned is a developing country, zero otherwise

Table 2: Poverty determinant regressions:
Dependent Variable is the income of the poor ⁽ⁱ⁾

Independent Variables ⁽ⁱⁱ⁾	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5
Constant	3.36 (5.12)	8.06 (4.48)	9.49 (5.12)	8.66 (4.48)	9.25 (5.33)
Investment Share ⁽ⁱⁱⁱ⁾	0.69 (2.83)	0.68 (3.10)	0.59 (2.77)	0.45 (1.90)	0.53 (2.51)
Human Capital	0.15 (2.55)	0.16 (2.96)	0.12 (2.30)	0.11 (2.07)	0.11 (2.08)
Weberianness Scale	0.48 (3.20)	0.30 (2.05)	0.24 (1.72)	0.32 (2.12)	0.26 (1.88)
Gini Coefficient		-1.16 (2.76)	-1.36 (3.31)	-0.98 (1.98)	-1.24 (3.21)
Ethnic Fraction			-0.01 (1.95)	-0.00 (1.61)	
Developing Country Dummy				-0.38 (1.31)	
Interactive Term ^(iv)					-0.01 (2.31)
Number of Observations	29	29	29	29	29
Adjusted R ²	0.62	0.70	0.73	0.74	0.75

Notes:

- I. All the figures in brackets below the parameter estimates refer to t-ratios.
- II. All the variables are logarithm of corresponding variables, except those for Human Capital, Ethnic Fraction, Developing Country Dummy and the Interactive term.
- III. For definition of variables refer to Notes for table 1.
- IV. Constructed as (Developing Country Dummy * Ethnic Fraction).

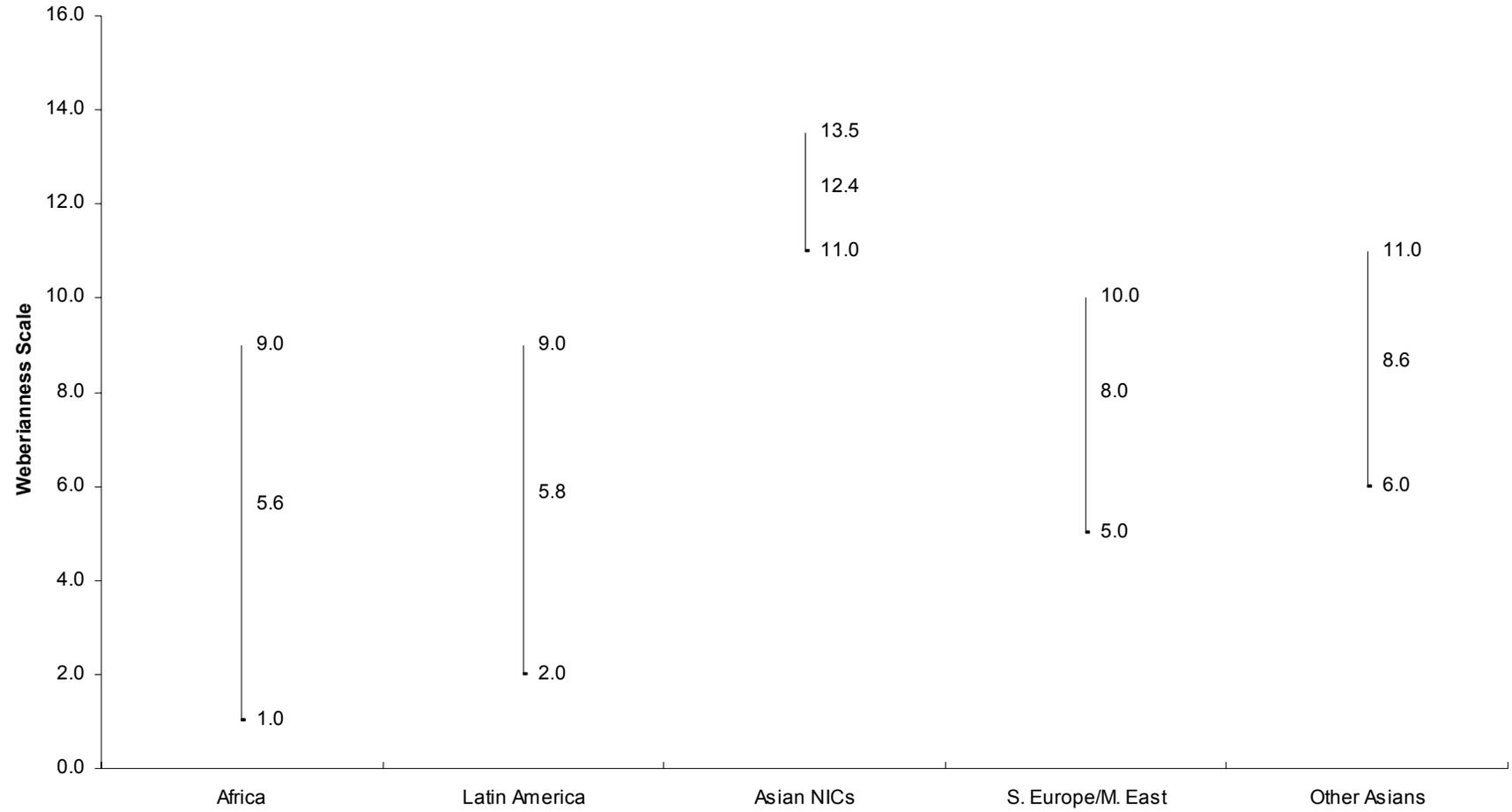
Figure 1: Weberianness Scale Score by Region

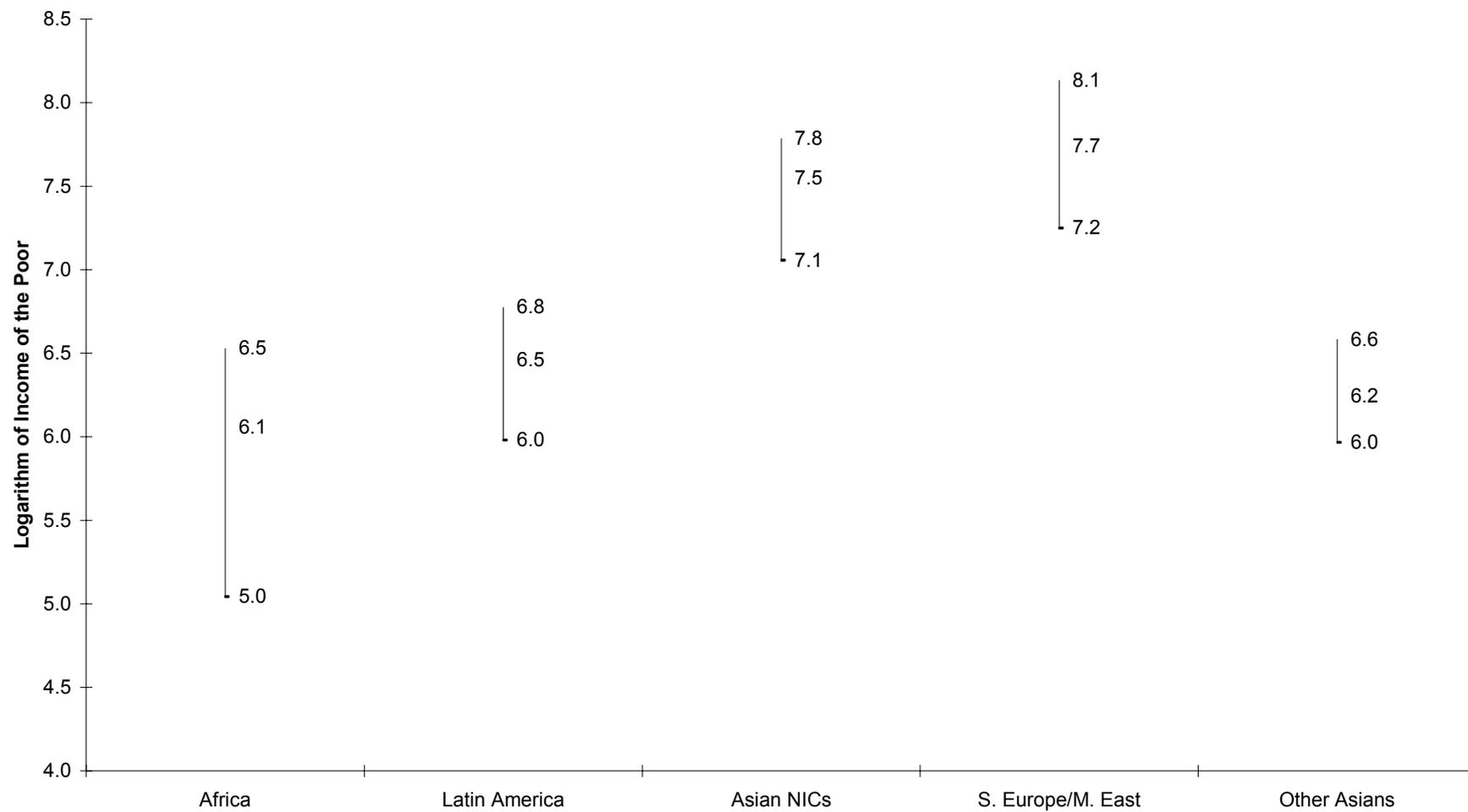
Figure 2: Income of the Poor by Region

Figure 3: Relationship between Weberianness and Unexplained Reduction in the Income of the Poor

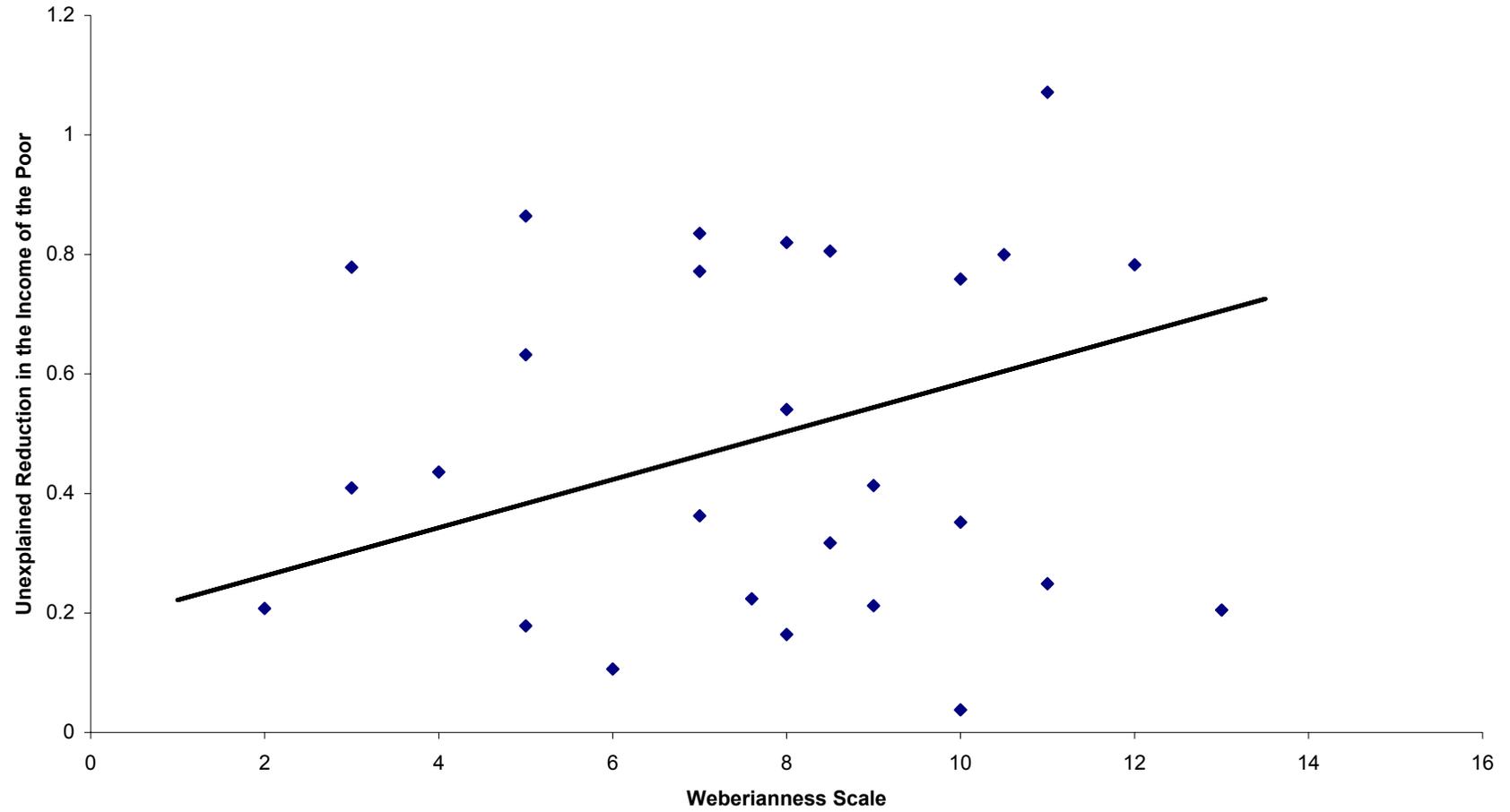
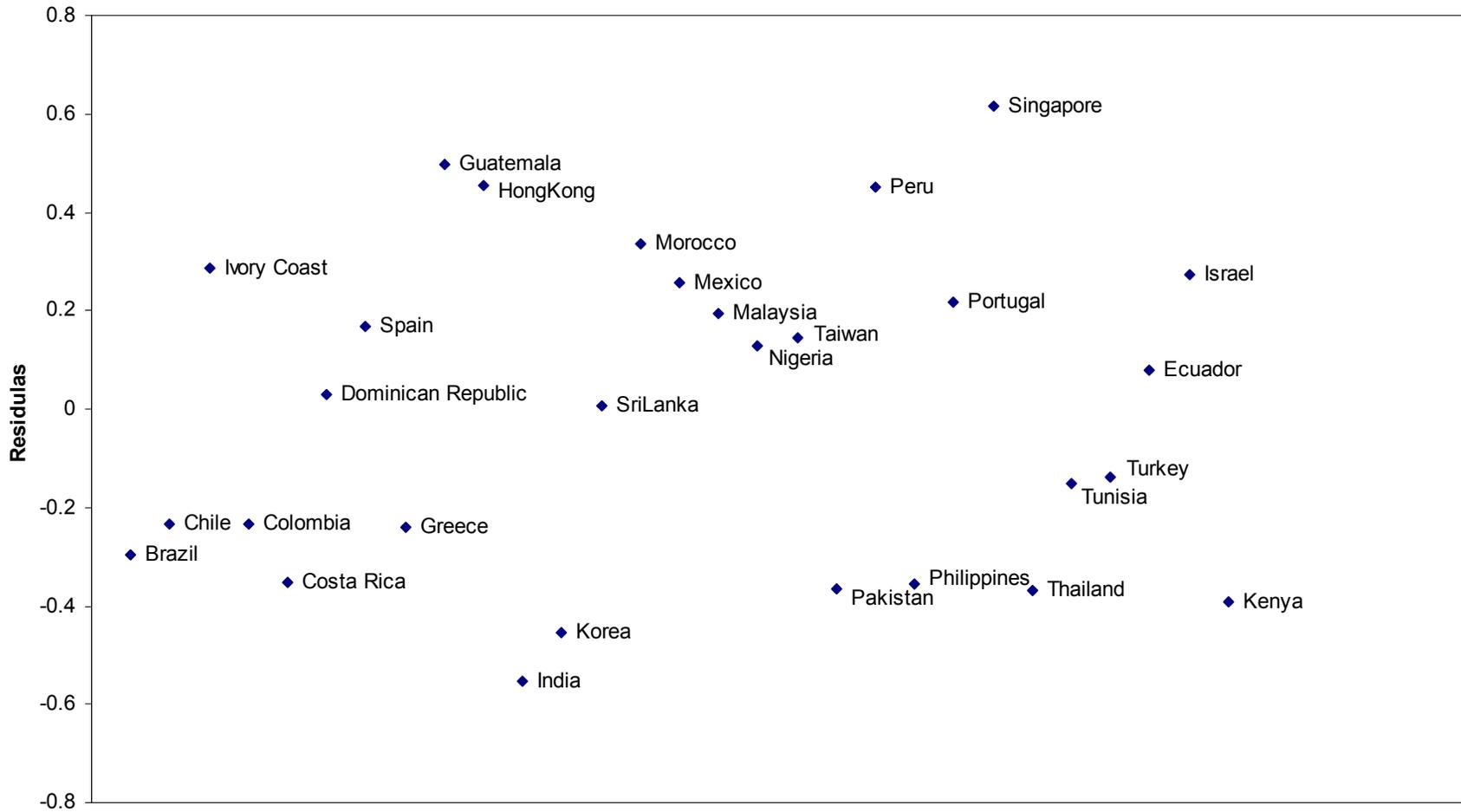


Figure 4: Scatter graph of residuals based on Reg. 5



Appendix 1: Database Countries

Africa: Ivory Coast, Kenya, Morocco, Nigeria, Tunisia

Latin America: Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Mexico, Peru

Asian Newly Industrialised Countries (NICs): Hong Kong, South Korea, Singapore, Taiwan

Other Asian Countries: India, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand

Southern Europe/Middle East: Greece, Israel, Portugal, Spain, Turkey

