THE EFFECT OF DEMOCRACY ON GROSS DOMESTIC PRODUCT (GDP) GROWTH IN SUB-SAHARAN AFRICA

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The purpose of this paper is to investigate the impact of democracy on economic growth in Sub-Saharan Africa during the period 1978-1992. There are two theoretical frameworks regarding the impact of democracy on economic growth. First, the Authoritarian model implies that Less Developed Countries such as Sub-Saharan African countries require dictatorship in order to achieve higher economic growth. Second, the Democratic model asserts that even for latecomer countries democracy is the best tool to foster economic growth. The empirical literature reviewed in this paper suggests a degree of ambiguity concerning the relationship between democracy and economic performance. Our main conclusion after estimating a simple aggregate model to examine the impact of democracy on economic growth in Sub-Saharan Africa is that there is no systematic linkage between democracy and economic growth. The statistical findings in this paper leave the door open for a third theoretical framework which is the skeptical view.

1.0 INTRODUCTION

Does democracy in the political realm foster economic growth? In the former Soviet Union, Eastern Europe, Latin America, Africa, and many parts of Asia, where living standards lag considerably behind the standard achieved by the OECD nations, increased prosperity is a major objective of ongoing political and economic reforms. Many of these nations have recently replaced authoritarian forms of government with democratic political institutions, at the same time introducing wide-reaching economic reforms which have generally dramatically widened the role of markets in determining resource allocation. These reforms were undertaken in the expectation that they would lead to rapid economic growth. Yet, as the costs of transition have mounted, many wonder whether or not the right choices were made. In particular, many citizens are asking: What is the best political system for achieving economic growth and lasting prosperity?

The answer is not obvious. Americans have always believed that democracy is good for growth. This belief has been fed by the perception that the 'American model' has permitted its citizens to maintain a high standard of living, relative to many other countries, for much of the past two centuries. In fact, most developed countries are democratic, thus if one accepts the neoclassical

growth model one would expect democracy to lower economic growth. Nonetheless, freedom of choice in the political realm is hardly a prerequisite for economic growth. On the contrary, it often seems to hinder it. India has languished under democratic leadership, while Chile and South Korea, both dictatorships until recently, are success stories. Indeed, today even capitalism thrives without democracy, as the rapid economic growth charted by China amply demonstrates. Furthermore, many of the world's leading industrialized nations are mired in recession or have experienced many years of sluggish growth. Just a few years after the fall of the Berlin wall and the failure of communism in Eastern Europe, democracy's weaknesses seem glaring.

Yet although the claim that there is a positive, causal relationship between democratic political institutions and economic growth seems tenuous, it has often been argued that authoritarian regimes have been effective in promoting growth in developing countries. General Augusto Pinochet force-fed Chile drastic free market reforms which eventually transformed that country into the most vibrant economy in South America. Authoritarian leaders in Taiwan and South Korea radically altered the structure of their economies away from dependence on protected domestic markets, transforming them into Asian tigers. The Hong Kong government, appointed by Britain, used free market principles - but not free political markets - to convert a minor group of islands into an economic powerhouse.

These examples, however, are special cases. Strong man regimes that have led their nations into poverty are at least equally common. In Argentina, the disastrous policies of Juan Peron and the military rulers who followed him reduced that once high growth country to Third World status. Fidel Castro in Cuba, Mao Tse Tung with his great leap backward in China, Burmese generals, Ayatollah Khomeini in Iran, Ghaffar Noumeri in Sudan, Nasser in Egypt and dictators in most of Africa have firmly guided their economies into poverty and stagnation.

These observations confirm that one cannot establish the superiority of either democratic or authoritarian governments as instigators of economic growth based on casual empiricism. Similarly, the empirical literature provides unsatisfactory and very confusing outcomes. Studies in Asia concluded that the Democratic model performs best; however when one considers the African case, the opposite result was realized. In other words, the impact of regime types on economic performance cannot easily and superficially be examined by estimating a simple aggregate model. The fact is that not just democracy or authoritarianism which is important for economic growth, but rather the objective of the state. For example, the South Korean dictator in the 1960s placed great importance upon economic growth rather than special interests of a particular group. The linkage between democracy and economic growth however, encouraged me to contribute to the empirical literature through investigation of the subject in Sub-Saharan Africa.

Post-colonial Africa is termed liberated and free. Yet millions in Africa live under coercion and lawlessness, indeed under conditions harsher than at any time since slavery. Since the 1960's, hundred of thousands, possibly millions, have perished as a direct result of government policies or civil wars. It is difficult to avoid suspecting that much of this misery is closely connected with the disappearance of democratic political institutions in the post-colonial period. It should be recalled that on attaining independence, some regimes installed Westminster-type parliamentary systems with accommodation for government and opposition (Kenya, Nigeria and Ghana). In contrast with these multi-party systems there were the single party systems, under which highly concentrated presidential regimes generally operated (Ghana after 1960 and Zambia).

As the experience of independence lengthened, however, the single-party system became the predominant pattern. With the development of the dominant-party system and the style of government and leadership that accompanied it, there grew a fluently enunciated ideology. It

argued that the single party-system reflected a basic consensus among the African population. In the anti-colonial period the mass nationalist party had been an expression of the united need of the African people to struggle against colonialism. And so, more or less rapidly, most African countries came under the control of dictators.

Thus today, in Sub-Saharan Africa, the most familiar political system is dictatorship. These regimes inevitably have come to power by means of a more or less violent coup after the previous civilian institutions have failed. Such military regimes usually are highly centralized and often of a strongly personalistic nature, including some of the most despotic rulers. The economic policies of such regimes vary to a large extent. They may range from orientations of socialist tendency to more capitalist ones or even to outright forms of corruption and personal self-enrichment. However, the economy in the region started to stagnate after the dictators took power in the early 1960s. After independence, the rate of economic growth in Sub-Saharan Africa seems to have declined steadily. This fact suggests that the form of regime seems to have no impact on economic performance given the switches back and forth between democracy and authoritarianism since the 1960's. To investigate systematically, the impact of democracy on economic growth this leads us to the main objective of our paper, which is to investigate the impact of democracy on economic growth in Sub-Saharan Africa.

This paper is organized as follows. Section Two critically reviews several theoretical analyses of the relationship between democracy and economic growth. Section Three reports on previous empirical studies which have included "political regimes" as a variable among the determinants of growth. Sections Four and five present an original econometric analysis of the impact of democracy on the economic performance of Sub-Saharan African countries from 1978 to 1992. Section six contains the conclusions of the study.

2.0 THEORETICAL ANALYSES OF THE EFFECT OF DEMOCRACY ON GDP GROWTH

The focus of this section is to review different theoretical analyses of the relationship between democracy and economic growth. In practice, the authors of these analyses can be divided into two distinct 'camps': those authors whose analysis is conducted from the ***conflict*** perspective argue that democratic institutions retard economic growth, whereas those who share the ***compatibility*** perspective argue that democratic forms of government are conducive to efficient economic performance. This section reviews the different approaches taken by proponents of the two theoretical perspectives and provides a critical assessment of the reviewed literature.

Proponents of the ***conflict*** model argue that developing countries in the modern world cannot achieve rapid economic growth if they have a democratic political system. In other words, they argue that developing countries face the dilemma of choosing to pursue economic growth or democracy, but cannot choose both simultaneously. They claim that only authoritarian regimes are able to implement the kinds of policies necessary for rapid economic growth, notably those policies which result in the rapid accumulation of capital. No democratic government can tolerate the degree of restraint in consumption and decreases in real wages that are necessary to maximize economic growth. In particular, it is argued that an inescapable consequence of instituting an open and democratic political structure is that workers in the more modern and more unionized sectors of the economy will succeed in obtaining higher wages than is justified by their productivity, thereby slowing down the growth and therefore the labour absorption capacity of the modern sector. Consequently, critics of the democratic model argue that for less developed countries to grow economically they must limit democratic participation in political affairs and, perhaps, some

economic freedoms. These limitations might include: the lack of a competitive political party system; restricting the political rights of the bulk of the population to play a deciding role in who should govern the country and what its laws should be; restricting civil rights, such as the right of the individual vis-a-vis the state; the absence of an independent judiciary; and the absence of freedom of the press and other mass media.

In contrast, advocates of the ***compatibility*** perspective claim that democratic institutions and political freedom are necessary for the organization of social and economic life in third world countries because democracy provides the necessary and appropriate mechanisms for rapid economic growth. In their view, the key to economic growth is to institute mechanisms which ensure the security of property rights and the efficiency of political institutions. In their view, democratic political instiutions and adequate protection of civil liberties and political rights generate the conditions most conducive to economic growth. Furthermore, they contend that the proposition that there exists a basic conflict between the institution of democracy and pursuit of economic growth in third world countries serves only to legitimize the denial of human rights and freedom by oppressive and exclusory regimes, which ultimately subverts economic growth.

2.1 Theories of a negative relationship between democracy and GDP growth: The conflict perspective.

> *Many scholars see an incompatibility between democracy and economic growth for both economic and political reasons. The economic reasons relate to the fact that growth requires an economic surplus available for investment. Such a surplus can be either invested or consumed. Hence, the only way to increase the investable surplus is to reduce consumption. The argument is that a democratic regime will not be able to pursue policies of curbing consumption (holding down real wage) because the consumers are also voters, and they will punish the politicians next time they get*

the chance at the ballot box. Therefore, in a democratic system, political leaders have to cater to the short-term demands of the population. Soensen (1993), p. 64

There is a well established literature which argues that economic growth is hindered by democratic organization of the polity. In other words, democracy and economic growth are seen as competing concerns; hence, tradeoffs in the political and economic realms are considered necessary. Moreover, according to this view, prosperous and rapid economic growth requires an authoritarian regime that suppresses or delays the introduction of basic civil and political rights, and the development of democratic procedures and institutions, because these would otherwise destroy the national development project.

This subsection reviews the work of four contributors to this literature. We first consider the analysis developed by Walter Galenson and Karl De Schweinitz (1959) which focuses on the link between democracy and investment; a somewhat similar view is taken by Weede (1983), who argues that democracy creates involuntary unemployment, thereby undermining investment, which in turn slows economic growth. In contrast to the previous authors, Apter (1965) focuses on the importance of the coercive powers of authoritarian regimes to achieving high economic growth. The fourth contribution considered here is that of Olson who, while not presenting specific arguments in favour of authoritarian regimes, contends that the build-up of special interest groups inhibits economic growth in democracies over the long run.

Walter Galenson and Karl De Schweinitz (1959) argue that democracy unleashes pressures for immediate consumption, which occurs at the cost of investment, and hence, economic growth. There is a widespread perception that democratic governments tend to spend more on welfare, to have

a more egalitarian tax system, and to distribute the benefits of governmental spending more equally; all of these can adversely affect the propensity to save and invest in productive activities. Galenson and De Schwinitz identify unions and governments as both playing a key role in this process. They argue that in a democratic society, unions and governments must appeal to the worker on an all-out consumptionist platform. No matter how clearly the union leader understands the limited consumption possibilities existing at the outset of industrialization, he or she can not afford to moderate his or her demands. About governments, they observe that "the more democratic a government is...the greater the diversion of the resources from investment to consumption." Since they are not answerable to the people at the ballot box, dictatorships are better able to adopt policies which force saving and launch economic growth. The weakness of their argument, however, is that authoritarian governments must devote a larger proportion of public spending to policing and the military than do democratic regimes, which increases the cost of government and reduces investment, thereby reducing economic growth.

Erich Weede (1983) provides an analysis similar to that developed by the preceding authors in that he assigns particular importance to the negative impact of unions on growth in democratic societies. Weede argues that in democratic nations, highly organized and powerful industrial labour unions demand - and obtain - nominal wages higher than is justified by the marginal productivity of labour. Paying wages higher than the perfectly competitive wage would be reduces the labour absorption capacity of the industrial sector as well as cutting into profitability and reinvestment capacity. In addition, unionization creates greater wage rigidity, which constitutes an additional source of involuntary unemployment and thus reduces production. More generally, Weede contends that in a competitive political system there is a greater tendency to organize pressure groups (such as unions) in response to the demands of the population for greater redistribution; whether this

redistribution is spearheaded by unions or other pressure groups, the ultimate impact is to reduce growth. Weede's theory is thus ultimately broader than that of Galenson and De Schweinitz, since it is not merely concerned with the pressures for redistribution that arise in democratic polities, but shares the same weakness, namely the failure to take account of the costs of coercion, i.e., the fact that authoritarian governments spend huge sums on police forces, the military, and secret agents, all of which constitutes a drain on economic growth.

A very different analysis is provided by Apter (1965), who addresses the issue of coercion and the state directly. Apter argues that many democratic countries are besieged by internal conflicts stemming from regional and ethnic heterogeneity, which leads to instability. Dictatorships, which are supported by strong military forces, are better able to suppress disruptive dissent and conflict. The pursuit of rapid economic growth requires that wide-reaching changes be introduced in the social and economic fabric of the nation, much of which may be expected to lead to discontent. Consequently, to successfully deal with the problem of nation-building, third world regimes must be able to insulate themselves from domestic pressures. The implication of this reasoning is clear: before a certain level of economic development is attained, dictatorship is preferable to democracy.

Indeed, Apter's work is representative of a widely-held view that authoritarian regimes are better positioned than democratic governments to exert firm control over labour and labour markets, and to adopt policies leading to greater efficiency in the allocation of resources, particularly if this requires a break from traditional patterns. Democratic regimes have been viewed as victims of inefficient decision making procedures, which lead to inconsistent and vacillating policies, if not outright paralysis, as well as engendering a higher level of instability. All of these factors slow economic growth. The weakness of this theory, however, is that it is not really directed against

democracy, but is merely a plea for political stability. There *are* good reasons for believing that political instability hinders economic growth. However, it must be demonstrated that democratic governments are inherently more unstable than authoritarian ones: there are many examples of stable dictatorships, but there are also many countries that have experienced a long series of coups, counter-coups, and ongoing civil strife. Moreover, Apter's claim that democratic governments suffer from heterogeneity stemming from ethnic and regional conflicts does not imply that authoritarian regimes are homogeneous and free of ethnic and regional conflicts.

Finally, it is worth drawing attention to the work of Mancur Olson (1982), who argues that special interest groups paralyse the political system and therefore the economy. His arguments are concerned with the effect of the political system on economic performance in the long run. He says that mature democracies are likely to suffer a slow down in growth because of the build-up powers of special interest groups, whose successful claims for special treatment reduce the growth of the economy as a whole. If this is the case, we would expect to find slower growth in older democracies, after adjusting for government expenditures and other factors determining economic growth, including the current level of democracy. Although it is not clear that many developing countries qualify as 'older' democracies (although it would appear that in a country such as India, special interest groups abound), an important weakness of Olson's theory is that he considers only democracy without looking at authoritarianism and determining whether authoritiarian regimes are not equally susceptible to the problem of the build-up of power of special interest groups.

In summary, according to proponents of the conflict perspective, industrializing economies face a critical choice between rapid (self-sustained) economic expansion and democracy. The key argument expressed in favour of authoritarian regimes is not that they are simply better able to

govern, as some people believe, but that such regimes are better able to implement the kind of policies considered critical for rapid economic growth and to create the conditions necessary to support them. In this view, the superior ability of an authoritarian regime to foster economic growth is expressed indirectly by the social and political stability it maintains, and the coherence with which it pursues its growth objectives.

2.2 Theories of a positive relationship between democracy and GDP growth: The compatibility perspective.

> *In our world, it is easy to see why democracy encourages economic growth. The clearest lesson from the collapse of communism is that, to prosper, an economy must be allowed to order itself spontaneously in the main, according to the principles of competition and voluntary exchange. The invisible hand, in other words, works better than the visible boot.* - The Economist, August 27, 1994, p. 17

While the theoretical analyses examined above posit a negative relationship between democracy and economic growth, there exists a parallel literature which argues that economic growth is in fact fostered by the democratic organization of the polity. In other words, democracy and economic growth are seen as complementary. In the following subsection, I review six papers which argue the case of democracy. Mancur Olson (1982, 1986) focuses on the importance of property rights and argues that democracies provide better protection of these rights. A different tack is taken by Wittman (1989), North (1990), and Przeworski & Limongi (1993) whose contributions can all be interpreted as defending the proposition that democratic institutions are more efficient than authoritarian ones. Finally, we consider the analyses provided by Sirowy and Inkeles (1990), as well as Alsina and Rodrick (1991) who focus on the relationship of democracy to income distribution and

economic growth.

Mancur Olson (1982, 1986) contends that the engine of economic growth is a system of secure property rights. He argues that an autocrat cannot credibly commit himself to the security of property rights, since there is no one who can force him to keep his commitments. Moreover, it is not only the commitment of the current regime to follow a particular policy which matter; it must also be credible that the regime itself will last. An insecure autocrat, in particular, is likely to plunder the society. Although democracies may encounter difficulties in keeping narrow and special interests from dominating economic policy, the fact that political parties must regularly seek re-election erects significant barriers to the seizure of social surplus by political leaders. Furthermore, the same emphasis on individual rights, which is necessary for a lasting democracy, is also necessary to secure rights to both property and the enforcement of contracts. The weakness of this theory is that even when efficient property rights are devised, they will still typically have features that will be very costly to monitor or enforce, creating built-in incentives to steal, or cheat. Furthermore, Olson's claim that a democratic political regime provides security of property rights is not, in general, compelling. In particular, when the majority of the population is poor and only a small number of citizens own physical capital, it can be anticipated that the majority will vote in favour of such measures as high rates of taxation of capital income, wealth and inheritance taxes, all of which may be seen as attacking the security of property rights in a democratic polity.

A different vision of the complementarity of democracy and economic growth is put forth by Wittman (1989). He argues that democratic governments adopt politicies which reduce transaction costs, which he identifies as a key factor in increasing the efficiency of the economy. He writes:

To say that democratic political markets tend toward efficiency does not imply that

> political markets are superior to economic markets; rather it implies that democratic governments will allocate to the economic markets those tasks in which the economic market is most efficient. Nor does it say that democratic markets are just, for they merely aggregate (equally or unequally) the preferences of the participants in the political process. Nor does it imply that people are not interested in power or that they desire efficiency for its own sake, only that self-interest will lead to efficient results. Nor does it imply that mistakes are never made, just as efficient economic markets do not imply that consumers and businesspeople never err. Wittman (1989), p. 1421

Thus, despite the obstacles which are faced by a democratic system and its inevitable imperfections, Whitman argues that a 'market system' of government at the political level will result in greater allocative efficiency. In particular, competition for political office reduces the potential for opportunism by politicians, reduces transaction costs, and encourages the efficient exchange of political rights. The strength of this theory is that the author treats both systems equally and identifies the weaknesses of the democratic system but eventually shows that democracy is more efficient than authoritarianism.

The conceptual framework adopted by North (1990) is similar to that of Whitman, although somewhat differently articulated. North argues that state autonomy is pernicious towards economic performance because the state is always ready to victimise its citizens; only democratic institutions are able to constrain the state and force it to act for the general interest. From this point of view, any form of authoritarianism is a source of inefficiency. North states:

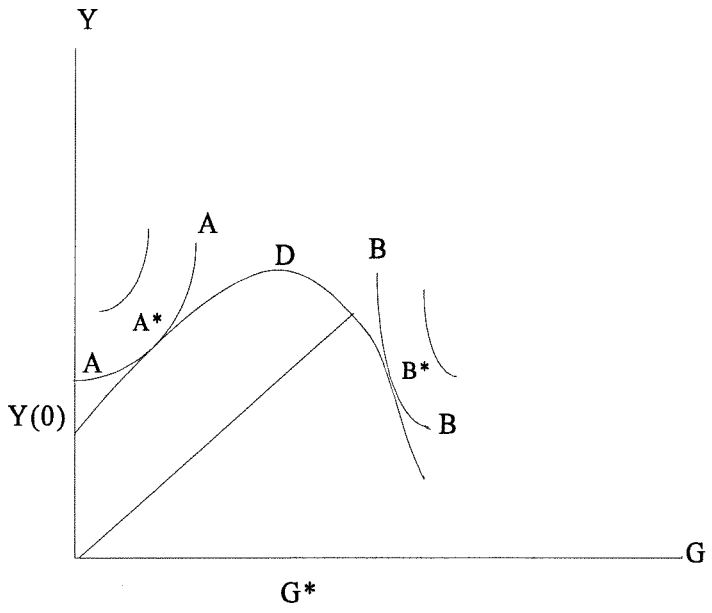
> What would the political market approximate the zero transaction cost model for efficient economic exchange? The condition is easily stated. Legislation would be enacted which increased aggregate income and in which the gainers compensated losers at a transaction cost that is low enough to make it jointly worthwhile. The informational and institutional conditions necessary to realize such exchange are:
>
> 1. The affected parties must have the information and correct model to know that the bill affects them and to know the amount of gains or losses

> they would incur.
>
> 2. The results can be communicated to their agent (the legislator) who will faithfully vote accordingly.
>
> 3. Votes will be weighted by the aggregate net gains or losses so that the net result can be ascertained and the losers appropriately compensated.
>
> 4. This exchange can be accomplished at a low enough cost of transacting to make it worthwhile.
>
> The institutional structure most favorable to approximating such conditions is a modern democratic society with universal suffrage. Vote trading, log rolling, and the incentive of an incumbent's opponents to bring his or her *deficiencies* before constituents and hence reduce agency problems all contribute to *better* outcomes. (North, 1990), p. 109

Although North's analysis establishes a strong case for democracy, it is not without weaknesses. In particular, his theory suffers from the problem of assuming that voters are well-informed; additionally, the affected parties must have both the information and a sufficiently accurate model to be able to correctly appraise consequences; also, all parties must have access to the decision-making process. If these conditions are not met, then the proposition that democratic government will be

efficient is unlikely to be verified. Finally, one must question North's claim that state autonomy is always pernicious. In particular, he does not address the argument of the proponents of the conflict perspective that the state must be insulated from private pressures if it is to adopt policies consistent with achieving high economic growth.

Like Whitman and North, Przeworski and Limongi (1993) also focus on the relative efficiency of alternative forms of government. However, the approach taken is very different. Przeworski and Limongi focus on the relationship between democracy and economic growth through government expenditure, coming to the conclusion that democracy is more efficient than authoritarianism. They distinguish between regimes as follows: ***democracy***--citizens decide the size of government and have a right to the fiscal residum; ***autocracy***--the state apparatus decides the size of the government and can appropriate the fiscal residum; and ***bureaucracy***--the state apparatus decides the size of government, but citizens have a right to fiscal residum. To determine the relationship between the size of government and the level of output, we refer to Figure 1 (the relationship on the diagram was established from empirical findings by the authors). The output without government is Y(0); as the size of the government increases from 0 to G*, output grows and then declines. In a democracy, well-informed individuals vote for parties,



which compete for votes. This competition eliminates rents and, once in office, the victor behaves as a perfect agent of the public; hence, the winning platform is the one which maximizes the expected vote share, and the optimal level for the government size is G*. Autocracy differs from democracy in the sense that autocrats are not interested in the level of output, or in the size of government as such, but merely in their personal gains. The autocracy equilibrium is A* on the indifference curve AA. Finally, bureaucrats always try to maximize their government's size, since the larger the size of government, the more power and prestige they have. As a result, the government is larger than the efficient level. The indifference curve for bureaucrats is BB and their equilibrium level is B*. One can conclude from this diagram that any form of dictatorship, whether bureaucratic or autocratic, deviates from the level that maximizes the level of output or growth. The strength of this approach is that it compares democracy with more than one political system, unlike the other work reviewed here which contrasts democracy only with dictatorship. The crucial weakness of this theory, however, is that (like North), it assumes that all voters are well-informed. If not, then the claim that democratic government will maximize the level of output while keeping the size of the government at its optimal level is unproven.

Whereas the contributions considered above all seek to establish a direct link between democracy and economic growth, these analyses may not be as persuasive as ones focussing on indirect linkages. Sirowy and Inkeles (1990) argue that democracies are as capable as authoritarian regimes of combining redistribution and growth in such a way as to broaden participation in the market place, which is a key determinant of economic growth. There are two mechanisms by which resources can be allocated for use and distribution among households: the market and the state. The market is a mechanism in which individuals cast votes for allocations with the resources they own

and these resources are always distributed unequally; the state is a system which allocates resources it does not own, with rights distributed differently from the market. The allocation of resources achieved via state intervention does not, in general, coincide with what is arrived at via the market. In democratic regimes, as has been pointed out before, it can be expected that considerable redistribution will occur since democracy offers those who are poor, oppressed, or otherwise miserable, as the consequence of the initial distribution of endowments, an opportunity to find redress via the state. However, rather than viewing redistribution as a vice, Sirowy and Inkeles argue that it may be a virtue: greater equality of income leads to broader market participation and consequently higher rates of economic growth than would be achieved if a larger share of the nation's wealth were concentrated in the hands of a fortunate few.

Nonetheless, Sirowy and Inkeles treat the relationship between democracy, inequality and economic growth in a relatively superficial manner. A more sophisticated analysis is provided by Alesina and Rodrick (1991) who argue that economic growth should be inversely related to inequality in democratic polities, but not necessarily so in dictatorial regimes. They show that in a democratic system the degree of inequality matters. They demonstrate that democracies with an initially unequal distribution of income will grow more slowly than democracies which start out with a more even distribution. In contrast, with non-democratic regimes, the results will depend on whether the leadership is technocratic or populist. They write:

> Democracies with an uneven distribution of wealth should exhibit lower growth than democracies with more equally distributed resources. This is because a large working class with little capital would vote for high taxes on capital. The positive effect on the level of worker's real incomes would be traded off against the adverse growth consequences. "Technocratic" dictatorship, i.e., dictatorship in which wealth-owners control policy, should experience high growth, regardless of the distribution of

> resources. On the other hand, "populist" non-democratic governments should experience low growth and implement redistributive programs from "capitalists" to "workers". Our empirical results are consistent with the implication that democracies with less inequality grow faster. More specifically, we find that a redistribution of income from the wealthiest quintile of the population in favour of the middle class would be growth enhancing.

The main theoretical result is that income inequality is harmful for growth in democracies because it leads to policies that do not protect property rights and do not allow full private appropriation of returns from investment. The weakness of the theory lies in the fact that in technocratic dictatorships the technocrat himself will be faced by huge numbers of opponents; therefore, it is much easier to target the small portion of the population who control the capital asset goods to maintain the technocrta's power.

Critical assessment of the reviewed literature

All of the contributions reviewed here argue, with a varying degree of persuasiveness, that democracy either fosters or hinders economic growth. Proponents of the conflict perspective draw attention to the weaknesses of democracy in order to show the necessity of having dictatorial regimes to achieve economic expansion. In contrast, proponents of the compatibility perspective focus on the weaknesses of a dictatorship in order to show the necessity of having more freedom to accomplish rapid economic growth. Few of the authors explicitly seek to identify and compare the strengths and weaknesses of both systems; instead, having shown that either democracy or dictatorship hinders economic growth, they conclude that the other system must be better. At the end of the day, what is in fact surprising is that all of these authors seem to have felt obliged to declare themselves in favour of either democracy or dictatorship, and have not considered a third alternative, namely the absence

of any systematic relationship between the political regime and economic growth. Perhaps, in fact, political institutions in themselves matter very little. Perhaps what really matters is the kind of policies pursued and other institutional arrangements like the nature of the political party-system and political stability; these may not necessarily be related to the issue of democracy. Importantly, if this alternative perspective were appropriate, it could be anticipated that empirical analyses of the impact of democracy on economic growth would be inconclusive.

Another significant weakness of the papers reviewed above is that the theories presented make no allowance for differences in culture and history. It should be recalled that the fundamental preoccupation of this paper is the impact of democracy on economic growth in Sub-Saharan African countries. The region has distinct features that make it different from the rest of the world. These features include a wide diversity of cultural backgrounds, ethnic groups, tribes, and religions. None of these characteristics, which are generally perceived by practitioners to affect economic growth, are addressed in the above theories. In particular, insofar as the case for democracy is concerned, we know that in Sub-Saharan Africa people vote along racial, tribal, and religious lines instead of being primarily motivated economic and welfare concerns. In the case of the authoritarian model, we know that authoritarianism is not homogeneous enough to break down these same barriers, and indeed often exploits them. Furthermore, some of these nations have been subject to civil strife; others have not. These realities make it unlikely that it will be possible to obtain convincing empirical results if one uses a model which seeks to differentiate between high and low rates of economic growth solely on the basis of differences in the political regimes.

3.0 REVIEW OF THE EMPIRICAL LITERATURE ON DEMOCRACY AND ECONOMIC GROWTH

This section reviews sixteen cross-national quantitative studies which examine the relationship between democracy and economic growth. Additionally, it evaluates the appropriateness of the alternative models that demonstrate this relationship and identifies the strengths and weaknesses of each. A common feature of these studies is that most of them include some measure of human and physical capital, as well as the level of democracy, amongst the determinants of economic growth. However, the list of additional explanatory variables considered differs considerably from study to study. For each study, the review undertaken here will take note of the time period covered by the data, the sample (the number of countries involved), the method of estimation, and the results reported by the authors.

The review proceeds chronologically. This approach is appropriate for a number of reasons. Firstly, some of the studies are based on previous empirical analyses. Secondly, the estimated models become more sophisticated with the passage of time. Thirdly, the quality of the data has improved over time, i.e., models estimated in the early seventies generally suffer from misspecification problems due to the exclusion of relevant variables and the adoption of inconsistent measures for the level of democracy.

Most of the studies are cross-sectional because the democracy indices are not available for long-term time series studies. Most authors divide their sample according to either regional criteria or on the basis of the level of economic development. The way in which the political system is modelled differs from study to study. Most of the authors use either the Gastil index or the Bollen

index as proxies for the level of political democracy. However, some used dummy variables. Certain authors take an ad hoc approach. In view of these differences, it is not surprising that different conclusions are reached.

3.1 Sixteen Empirical Studies of the Impact of Democracy on Economic Growth

William Dick (1974) was an early examiner of the impact of democracy on economic growth. He constructed a sample of fifty-nine underdeveloped countries from America, Africa, Asia, and Europe to investigate the effects of the form of government on the rate of economic growth as measured by gross domestic product. The time period of his study is 1959-1968. For a country to be included in the sample it had to have been independent for at least five years and described by reliable economic data. Dick uses ordinary least squares (OLS) to estimate the change in economic growth caused by changes in the forms of government. He distinguishes between three forms of government: authoritarian, competitive, and semicompetitive. The results by region are as follows: democracy has the strongest positive effect on economic growth in Europe and the weakest in America and Asia; the impact on growth rates in Africa fell somewhere in between these extremes.

Robert Marsh (1979) as Dick used multiple regression analysis to investigate the effect of democracy on economic development in ninety-eight countries during the period 1955-70. The dependent variable is the economic development level, which is defined to include various social indicators related to economic growth as well as the level of growth itself. The explanatory variables are political competition, political democracy, the number of protest demonstrations, riots, armed attacks, and government sanctions. To measure political competition he uses Bank's aggregate competition index score for each nation. This index takes account of four items: the effectiveness

of the lower house of the national legislature, the process by which legislators are nominated, legislative coalitions, and party legitimacy. Marsh converted the index to range between 0 and 12; the higher the score, the more competitive the nation's political system. To take account of the level of political democracy, he uses Bollen's index. Marsh finds that in less-developed countries, authoritarianism leads to higher levels of economic development and political competition has a negative effect on economic development. A study such as this is more complicated than the exercise undertaken by Dick because it is inherently more difficult to measure the level of economic development than to measure economic growth.

Erich Weede (1983) undertook a cross-national and cross-sectional multiple regression analysis of data from the 1960's and 1970's for 124 countries. He excluded colonies, dependent territories, capital surplus oil exporters, centrally planned economies, and other nations for which little data were available. The model's dependent variable is economic growth, as measured by either GDP or GNP[1]. The main explanatory variable is political democracy as defined and reported by Bollen; in addition, Weede takes account of the level of gross domestic investment, military participation, and the school enrolment ratio. Weede concludes that the overall effect of political democracy on economic growth is positive but weak. The weak results of the study may be attributed to the fact that some of the countries involved in the study are poor, whereas others are rich. In particular, variation in GDP growth in Africa might be largely explained by changes in political stability resulting from civil wars or natural disasters, whereas in Europe it could be principally be explained by technological factors.

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[1]The implication behind using any of them is that there is no significant differences between the two as Weede claimed, but when it comes to per-capita growth rates ,yes, there is a difference.

Roger C. Kormendi and Philip G. Meguire (1985) employed post-war data from forty-seven countries to examine the cross-sectional relation between the mean growth rate of real product growth and a changes in civil liberties variable, as measured by the Gastil index. They found that civil liberties have a marginal effect on growth and a dramatic effect on investment. As they noted, there is substantial work to be done in this area in terms of selecting relevant variables to reflect the hypothesized phenomena and obtaining suitable data for estimation.

Atul Kohli (1986) undertook a time series analysis to examine the effect of regime type on economic growth (as measured by growth in gross domestic product) in ten underdeveloped countries during the period 1960-1982. He divided the countries into two groups: group A consisted of those countries which he categorized as being democratic, and group B contained the non-democratic nations. The categorization was appropriate for technical and economic reasons. This kind of categorization poses a number of problems. For example, some developing countries do not easily fit the dichotomous categorization of democratic or authoritarian regimes. Moreover, authoritarianism is a residual regime type in the contemporary third world. Kohli's results showed that during the 1960's many of the democratic and authoritarian countries grew at similar rates. From 1970 onwards, however, the selected authoritarian regimes grew faster. During the twenty year period of study, democratic countries grew at a rate of about 5% annually, while authoritarian countries grew at a rate of about 6% annually.

Daniel Landau (1986) investigated the determinants of variation in the rate of gross domestic product growth for 65 countries during the period 1960-1980. Various explanatory variables were used to capture differences across countries in government expenditure and revenue-raising, regulation and the form of government, the level of per capita production, international economic

conditions, human and physical capital variables, the structure of production, historical political factors, resources and geo-climatic factors, population, and time trend. The regressions are OLS and he used lagged values of all the independent variables in order to avoid problems of contemporaneous correlation between the independent variables and the stochastic disturbances. The political variables that had a significant influence on economic growth were whether or not the polity is a democracy , the incidence of coups, and whether or not a war had been fought on the country's soil. All three were negatively correlated with the growth rate.

John Sloan and Kent L. Tedin (1987) developed a multiple equation using annual data from 1960 to 1980 for 20 Latin American countries to analyse the relationship among regime type, regime age, and public policy. They categorized the political system as democratic, traditional authoritarian, bureaucratic authoritarian, communist, or mixed. They concluded that bureaucratic authoritarian regimes achieved the highest level of economic growth. Democratic regimes had the second-best record in promoting economic growth and traditional dictators were the least succesful. The two authors commented on the difficulties of accumulating comparative, longitudinal data for a large number of countries over a substantial length of time; for this reason, their results must be treated with circumspection.

Robert M. Marsh (1988) examined the impact of a large number of potential factors influencing the level of economic growth and development. Marsh's study covered 55 less-developed countries during two time periods: 1970-1978 and 1965-1984. The independent variables that he found to have the strongest effect on economic growth are direct foreign investment, the proportion of the population in military service, and the primary school enrolment ratio. Variables which showed no significant effect include the mass media of communication, the degree of ethno-linguistic

heteregeneity, democracy and human rights, income inequality, and state-centric theory's key variable-state strengths. Thus, in particular, he finds that differences in the nature of political regimes do not explain any of the observed variation in economic growth rates.

Abbas Pourgerami (1988) did a cross-sectional study for 92 countries for the time period 1965-1984 to test the impact of democracy on economic growth and development. The independent variable used to measure democracy is constructed from the political repression index developed by Berg-Schlosser; as alternatives to the Berg-Schlosser index he also considers the political democracy index constructed by Bollen, the political liberty index constructed by Gastil, the index of democracy constructed by Flanigan and Fogelman, the years of Democratic Rule after the Second World War as calculated by Laband, and a political institution dummy variable taking the value one for democracy and zero for autocracy. The other explanatory variables used by Pourgerami are private investment as a percentage of GDP, educational expenditure as a percentage of total public expenditure, culture, and whether or not the economy is characterized by free markets, mixed markets, or is in fact a non-market economy. His results show that democracies grew faster. The major weakness of his approach is that he has included a mixture of developed, developing, and underdeveloped countries; as has been pointed out before, this may not be appropriate.

Gerald W. Scully (1988) employed a model to see the relationship between institutional framework and economic development for 115 countries during the time period of 1960-1980. His dependent variable is gross domestic product per capita. The independent variables are population, the percentage of real gross domestic product devoted to gross domestic investment, and the political democracy index produced by Gastil. The estimated equation shows that democracy has a positive effect on economic development. The study suffers from the by now familiar problem of including

developing and developed countries in one sample.

Robert J. Barro (1989) developed three models to study the determination of growth rates of gross domestic product per capita, investment in physical and human capital, and population for 72 countries during 1960-1985. The differences in political regimes are captured by a dummy variable taking the value 1.0 for primarily socialist regimes and zero otherwise. Differences in the organization of the economy are measured by a second dummy variable taking the value 1.0 for economic systems that are mixture of free enterprise and socialism and 0 otherwise. In addition he used war dummies to take account of the impact of civil strife, and regional dummies for Africa and Latin America. Other explanatory variables are: aspects of government policies including public infrastructure services, maintenance of property rights, government consumption, taxation, and the initial level of per capita income. Overall, his results suggest that democracy has a positive effect on economic growth. However, his approach may be criticized due to the excessive simplicity of his dummy variable approach as a reasonable measure of the level of democracy, since many countries cannot be neatly categorized as dictatorships or democratic regimes. This is true, for example, of those countries such as Egypt, Algeria, and Morocco which Barro categorizes as democratic but which have prisons packed with political prisoners.

Kevin B. Grier and Gordon Tullock (1989) pool cross-sectional and time series data to investigate empirical regularities in post-war economic growth for 59 countries during the time period of 1961-1980. Different models were developed for each region being estimated so results varied by region. They conclude that democracy performs better in Africa and Latin America than in Asia, where the political system in fact has no significant impact on economic growth. The reason is that the number of countries was not large enough for a cross-sectional study nor was the time period long

enough for a time series analysis. It is worth noting that the different results obtained for each region suggests that the objections raised above about combining data for developed and undeveloped countries, etc., are well founded.

Remmer (1990) used pooled data to explore the linkage between regime and policy performance in eleven Latin American countries during the time period of 1982-1988. The set of countries was limited to the ten Latin countries of South America, plus Mexico. The study excluded Central America and the Caribbean since the causes and dynamics of economic crisis in the Caribbean basin and Central America have differed fundamentally from those of the rest of the region. He tested the hypotheses that (1) the nature of the political regime is an important determinant of policy choice, (2) democracies respond to economic crisis less effectively than authoritarian regimes, and (3) new democracies respond to economic crisis less effectively than old democracies. His results show that democracy has a positive effect on economic growth, but that this effect is statistically insignificant. Remmer attributes the weakness of the results to external factors, such as national policy commitments, which may not change with regime transitions.

In a second contribution, Abbas Pourgerami (1992) extended previous work due to Kormendi and Meguire (1985) and Gupta (1988) to investigate the effect of political freedom on economic growth as measured by gross domestic product growth in forty seven countries during the time period 1950-1977. He divided countries into two sub-groups: less developed and developing countries. To improve the magnitude and the significance of the estimated parameters he replaced the civil liberties variable used in the earlier studies by a new variable representing social capabilities. The other explanatory variables included are initial per-capita income, the mean population growth rate, the standard deviation of real output growth, the standard deviation of money supply shocks, the mean

of money supply growth, the mean growth of the ratio of government spending to output, the mean growth of exports as a proportion of output, and the mean growth in the rate of inflation. His results support the proposition that freedom has a positive effect on economic growth, and are of greater statistical significance than the earlier work which he sought to extend.

John F. Helliwell (1992) examines the linkage between democracy and economic growth for ninety countries during the time period 1960-85. His empirical work makes use of an extended model of the Solow growth model in which real output is determined as a function of physical capital, human capital and efficient units of labour. In addition, he makes use of the Gastil and Bollen indices to represent the level of political democracy. Helliwell reports that countries with high levels of income are more likely to have democratic forms of government. But that does not mean that countries with high levels of political freedom will experience high income levels. In fact, he finds that the feedback from democracy to the level of income is more likely to be negative. The overall evidence from his study is that democracy has a negative effect on economic growth but it is statistically insignificant. As pointed out by Helliwell, a weakness of this study is that it does not take account of factors affecting economic growth such as the income inequality, interest rates and the rate of inflation.

To recapitulate, each of these studies explicitly attempts to relate differences in economic growth rates to the democratic character of national regimes. Table 1 summarizes the names of the authors, the period of study, the number of countries included, and the links found between democracy and economic growth in the study. Of the sixteen studies reviewed, five support the argument that authoritarianism is good for economic growth, six favour democracy, and five report no statistically significant linkage between democracy and economic growth. Strikingly, although the

studies published before 1988 show significant support for authoritarianism, none of the studies after 1988 report results that favour dictatorship. It is tempting to interpret this fact as suggesting that authoritarian governments are no longer appropriate in developing countries: as Lord Acton pointed out, when authoritarian regimes try to promote economic growth, they are likely to lose their authority, because students, intellectuals, and executives will demand greater civil and political freedom. An alternative interpretation is simply that the more recent studies have used better econometric techniques or better data, and thus results are more reliable.

Overall, these studies present a very mixed and confusing picture regarding the effect of democracy on economic growth. Satisfactory interpretation of the differences in the results obtained is of course made more difficult due to the fact that these studies are quite heterogeneous with respect to characteristic of measurements, coverage, design, and method of analysis. One of the most systematic deficiencies found in these studies is the mis-specification of the economic growth model. Each model suffers from either missing relevant variables or introducing irrelevant variables. Additionally, most authors use different proxies to represent the political variables (see Table 2 for a summary of the differences)[2]; however, most of them used a similar system of classification in distinguishing between regime types. Finally, it is again worth reiterating that more than half of the reviewed studies have included developing and developed countries in one sample; as a result, one may be concerned that this will generate misleading results because of the differences in economic structures, social values, attitudes and historical backgrounds.

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[2] Some authors are not included in the table because they did not mention clearly how they handled the political system in their models.

Table 1 (summary of empirical studies)

Author	Sample	time period	link found	Author	Sample	time period	links found
Dick (1974)	59 underdeveloped	1959-1968	DEM grew slightly faster	Marsh (1988)	47 countries	1965-1984	no relationship found
Hungton and Dominguez (1975)	35 poor nations	the 1950's	AUTH grew faster	Pourgerami (1988)	92 countries	1965-1984	DEM better for growth
Marsh (1979)	98 countries	1955-1970	AUTH grew faster	Scully (1988)	115 countries	1960-1980	DEM better
Weede (1983)	124 countries	1960-1974	AUTH grew faster	Barro (1989)	72 countries	1960-1985	DEM better
Kormendi and Meguire (1985)	47 countries	1950-1977	DEM grew faster	Grier & Tullock (1989)	59 countries	1961-1980	DEM better in Latin America & Africa & no evidence in Asia
Kohli (1986)	10 underdeveloped	1960-1982	AUTH better in 1970's	Remmer (1990)	11 Latin American	1982-1988	DEM better but statistically insignificant
Landu (1986)	65 countries	1960-1980	AUTH perform better	Pourgerami (1992)	47 less developed & developing	1950-1977	freedom better for growth
Sloan & Tedin (1987)	20 Latin American	1960-1979	Bureaucratic-AUTH better than Traditional-AUTH	Helliwell (1992)	90 countries	1960-1985	DEM worse but statistically insignificant

DEM = Democracy AUTH = Authoritarian

Table 2 Classifications of the political system.

Author	Political system	Author	Political system
Dick (1974)	1) Authoritarian 2) Semi-Competitive 3) Competitive	Kohli (1986) Marsh (1979) Weede (1983) Pourgerami (1988) Helliwell (1992)	based on Bollen index (Democratic-Authoritarian)
Hungton (1975)	1) One party Communist 2) One party Non-Communist 3) Competitive party	Sloan and Tedin (1987)	1) Democratic 2) Bureaucratic-Authoritarian 3) Traditional authoritarian 4) Communist
Berg (1984)	1) Stable Polyarchic 2) Stable Socialist 3) Stable	Remmer (1990)	1) Authoritarian 2) New Democracy 3) Old Democracy
Landu (1986) Barro (1989)	1) Democratic 2) Non-Democratic	Helliwell (1992) Kormedi (1988) Pourgerami (1988) Scully (1988)	based on Gastil index (Democratic-Authoritarian)

In studies where national differences in rates of economic growth have been examined, the evidence seems to suggest that political democracy does not widely facilitate rapid economic growth; hence, the compatibility perspective between democracy and economic growth finds little support.

The studies examined are divided almost equally between a negative relationship or no relationship between democracy and economic growth. Not all of these studies are created equal in

terms of the validity of the measures, research design and methodology. Each study suffers from one or more shortcomings. Ideal standards aside, perhaps the strongest analysis consists of the efforts of Marsh and Landau for many reasons: the inclusion of relevant variables in the model such as education, political and civil rights, and investment; the use of lagged independent variables; the inclusion of an adequate number of countries in the samples. Again, there is no consensus amongst these studies.

The use of each of the models depends mainly on the political, social and economic environment of the economy under consideration. Each model developed is unique up to economies of similar characteristics and for that reason, the model that could be used for LDCs will not be valid to investigate the effect of democracy on economic growth in developed countries. Therefore, in light of these weaknesses, the conclusion that political democracy does not facilitate economic growth is at best unclear. It is clear from the reviw of these empirical studies there is substantial work to be done in the area of measuring the relationship between democracy and economic growth.

4.0 EMPIRICAL STUDY FOR SUB-SAHARAN AFRICA

Introduction

Given the inconclusive nature of the results of the theoretical and empirical literature reviewed in previous sections, a simple model was developed to investigate the effect of democracy on GDP growth in twenty-one Sub-Saharan Africa countries (Please see appendix 1 for the countries included) for the period 1978-92. As previously discussed, the impact of political freedom on economic performance has been a subject of controversy. Some observers have argued that democracy has a positive impact on economic growth while others have argued that democracy's impact is negative. Bhagawati (1966), for example, observes a cruel choice between rapid and sustained economic expansion and political democracy. He and others have argued that there is an incompatibility between democracy and economic growth. On the other hand, Lewis (1970) argues that democracy has a positive impact on economic development. He rejects the proposition that autocracy guarantees rapid economic growth. Lewis views economic development as a process of establishing greater control over the human environment and argues that democracy, by improving knowledge, equality of opportunity, and freedom to choose has a positive effect on economic growth. An alternative to both the Bhagwati and the Lewis hypotheses is a third possibility, namely that democracy has no impact (i.e. neither a positive impact nor a negative impact) on economic growth.

In order to attempt to resolve this issue, the empirical investigation presented in this section of the paper thus seeks to determine whether the impact of democracy on GDP growth -- at least in Sub-Saharan Africa -- is: a) positive (Lewis), b) negative (Bhagwati), or c) nonexistent. The study is limited to 1978-92 by the availability of data. Some countries (such as Gambia and Swaziland) are

excluded due to their small size and low level of development, others due to data limitations. Less advanced economies are excluded because mixing advanced and less advanced economies in one sample may lead to estimation problems due to confounding differences in economic structure, cultures, historical backgrounds, etc.

During the fifteen years covered by the study, many military coups occurred in Sub-Saharan Africa. Several more have taken place since thus, countries in the region have experienced both periods of democratic and authoritarian rule since the 1960's. The existence of both types of regimes in the area and the fact that frequent changes have occurred make the Sub-Saharan Africa an ideal area, from a statistical point of view, on which to test whether and/or how democracy affects economic growth. (Greater variance in the variables for a statistical regression, improves the precision of the estimation procedure.)

4.1 Model

There are no generally accepted models of the growth process and therefore no standard analytical frameworks that are appropriate for studies such as this one. The best approach seems therefore to proceed within a simple aggregate production function framework.

In the simplest aggregate production functions, the level of real GDP[3] depends on the amount of labour used in production, on the stock of capital available to the economy, and on the productivity

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[3]It is more appropriate to examine the impact of democracy on economic development, but this variable is one of the most elusive notions of the social sciences. In its multi-dimensionality and with its manifold normative and political implications, it defines any simple and straight-forward definition. The level of development is an inclusive term which does not express itself in terms of rates of growth in GDP or even per capita GNP. Actually it touches every sector of the economy (growth of per capita GNP, growth of production by sectors, changes in the percentage of children enrolled in various levels of school, growth of population, etc.). Therefore it would be more problematic to use it as a dependent variable. In this paper, we will restrict the use of this term to its purely material and economic aspects.

of use of labour and capital. This implies that growth in GDP depends on growth in the labour force and growth in the capital stock (as well as improvements in production technology).

The simple growth model we will use for our investigation adds the level of democracy to labour force growth and capital stock growth as a third factor determining growth in GDP. A general mathematical representation of our simple growth model is as follows:

(Model) *Growth in GDP = F(labour growth,capital growth, democracy).*

In our empirical investigation, we use proxies for each of the three factors which are presumed to determine GDP growth in the above model. Growth in gross domestic investment as a percentage of GDP is used as a proxy for growth in the capital stock. Working age population growth is used as a proxy for labour growth. The Gastil index (described later) is used to represent the level of democracy.

The regression equation we use to estimate our simple growth model is as follows:

$$(1) \quad GDPG_{it}=\alpha_i+\beta_{1i}PG_{it}+\beta_{2i}GDI_{it}+\beta_{3i}GI_{it}+\mu_{it}.$$

where the α's and β's are coefficients, GDPG = gross domestic product growth, GI = Gastil index, PG = population growth, GDI = growth in gross domestic investment as a percentage of gross domestic product, μ = stochastic term, i = 1,....., 22 (i stands for the number of countries), and t = 1,....., 15 (t stands for the time period).

4.2 Data and Choice of Proxy Variables

The data are annual and cover the period 1978-1992 for twenty one Sub-Saharan Africa countries. The dependent variable in all regressions is the annual average growth rate of GDP per

capita (in percentage terms) for each country. The GDP growth data for the regression analysis was taken from a 1992-1993 World Bank (African Development Indicators) diskette[4] published by the International Bank for Reconstruction and Development: Washington, D.C.

For the explanatory variables, data which matches the model as closely as possible (subject to limitations in data availability) has been used. The labour force growth proxy (labeled PG) measures the average rate of growth of the working-age population, where working age is defined as 15 to 64. The capital stock growth proxy (labeled GDI) measures the average real share of domestic investment in real GDP. Data for these two independent variables (PG and GDI) are from the same source (World Bank diskette) as the data for GDP growth.

The proxy used to represent the level of political democracy is the Gastil index (GI). This index was obtained by transforming a sum of the measures of political rights and civil liberties published annually by Freedom in the World (The Annual Survey of Political Rights and Civil Liberties, 1978-1992, Tables and Ratings). The political rights and civil liberties measures were developed by Gastil (1990). The Gastil index is described in Appendix 2.

The Gastil index was chosen over two possible alternatives. One alternative is to use dummy variables to represent the level of political democracy with 1.0 representing democracy and zero representing dictatorship. But this is superficial, because countries often are neither totally democratic nor totally dictatorial. Kenya, Morocco and Egypt, for example, formally have democratic governments, but prisons in these countries are filled with political prisoners and human rights violations are regularly reported by Amnesty International. The dummy variable approach does not

[4] The package contains the diskette version of the social or economic data from one of the World Bank's statistical publications. The data have been stored in a compressed format for convenient distribution on diskette.

capture all of the subtle variations between full democracy and absolute dictatorship.

The Bollen index[5] is another alternative to the Gastil index. (Please see Appendix 2 for a description of the Bollen index.) Although the Gastil index is more comprehensive than the Bollen index, the Bollen index does have one advantage. The Bollen index clearly separates political liberties and political rights from political stability. This makes sense because they are two different concept. There are democratic countries with little political stability and dictatorships with much stability. The Gastil index confounds these two to some extent while the Bollen index does not. We have however used the Gastil index instead of the Bollen index, because the Gastil index is superior to the Bollen index in other respects (available for many years). Also, the Bollen index is available for only a limited number of countries and for a limited period of time.

The Gastil index provides a running account of the status of the traditional, liberal democratic, political and civil freedoms in Sub-Saharan Africa. Political rights and civil liberties are measured on two separate scales. Political rights are rights to participate meaningfully in the political process. In a democracy, this means that all adults have the right to vote and compete for public office and that elected representatives determine public policies. Civil liberties include rights to free expression and to organize or demonstrate, freedom of religion, freedom of education, and other personal rights. Both Gastil scales are relevant for our purposes since civil rights and political freedoms are in many respects mutually supportive. We have therefore combined the two scales into one index of the level of democracy. In addition to combining the two scales, we have applied a linear transformation so

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[5]The Bollen index has six components: Freedom of the press, freedom of group opposition, effective executive selection, legislative selection, fairness of elections, and the reciprocal of the extent of "elite power through government sanctions"

that a zero (0) for the GI variable represents a complete lack of political democracy while a one (1.0) represents full freedoms[6].

The reason for the inclusion of the stochastic term in the regression equation is self-evident. All regression equations include a stochastic term. The rationale for this is that various factors have been omitted from the postulated equation. For example, it is reasonable to expect in our case that many variables in addition to GI, GDI and PG influence gross domestic product growth; for example, foreign aid, government expenditures (particularly on defence), and income inequality. The numerous civil wars in Sub-Saharan Africa undoubtedly also had an impact on gross domestic product growth, but because it is technically difficult to deal with this civil war factor, no attempt has been made to include it in our growth model and in our regressions. Other variables probably explain GDP growth as well. The point is that there are situations where the number of variables that should be included in the model exceeds our ability to handle them. Other reasons for the inclusion of the stochastic term are the existence of inherent randomness in the behaviour of economic systems and the measurement error in the GDPG variable (the idea being that the observed GDPG could be differs by from the true value by an amount equal to μ).

5.0 METHODS AND RESULTS

5.1 Expectations and Methods of Estimation

In this sub-section we outline our expected results, noting previous results where applicable.

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[6]Gastil gave a value of 2 to fully democratic and 14 for fully dictator. We transformed these two indices linearly to make the level of political democracy varying from 0 for no freedom and 1.0 for fully democratic. LPD =[14-(CL+PR)]/12.

Additionally we identify the methodology of estimation.

Appendix 2 includes tables of descriptive statistics for the dependent variable as well as the explanatory variables. The GDP growth variable and the Gastil index have greater variance than the PG and GDI variables. This would lead one to predict -- as a first guess and in the absence of any other information -- that in the regressions the coefficient for PG and GDI will turn out to be less significant than the coefficient for the Gastil index variable. The R-squared values for the regressions are expected to be low because, as already discussed, the model is extremely simple and various factors (including the impacts of the civil wars, foreign aid, etc.) have been omitted from the model.

Working population growth, gross domestic investment, and the Gastil index for the level of political democracy are all expected to have a positive impact on growth. All other things equal, countries that are behind in technology (i.e. the less developed countries in our study) should show faster growth relative to more advanced countries, due to diminishing returns to investment in a given technology. The neoclassical growth theory implies that labor force growth has a one-to-one effect on economic growth. Here we only have data on the working population growth, which should have a positive effect on growth, but may be different from one-to-one due to trends in labor-force participation or lagging capital accumulation.

Following the political democratic model of economic growth, and the results of some earlier cross-national research, we expect that the more political competitiveness and the better the human rights record in Sub-Saharan Africa, the higher the economic growth rate would be. The implication is that when Sub-Saharan Africa countries seek growth as a high-priority goal, it is appropriate to adopt a policy of political democracy and respect for human rights as a means to this goal. We expect a positive relationship between democracy and growth in all the regressions, but the robustness may

vary from one regression to another.

Methodologically speaking, the regressions are all ordinary least squares except the regressions for the panel data and the vector autoregressions. As explanatory variables, all the regressions include GDI, PG and the Gastil index of political democracy. The only exception will be the regression for the vector autoregression which will include only the gross domestic product and the Gastil index.

5.2 Estimation Results

5.2.1 Single-Country OLS

The first empirical strategy is to consider each country separately. This method of estimation is appropriate because countries differ in terms of culture, historical background, structure, and the amount of political stability. To include them in one sample may therefore cause serious problems. Additionally, some economists have doubts about the validity of cross-sectional regressions which include advanced and less advanced countries in one sample.

Table 3 reports the results of running a regression for equation (1) (see above) for each country separately. Table 3 reports results only for those countries for which the coefficient of the Gastil index is significantly different from zero. There are four such countries for all of them the relation betwee the Gastil index and growth is negative. That is, the regressions imply, contrary to our expectations, that democracy hinders economic growth.

The small values for R-squared indicate that the explanatory variables in our model do not provide a good explanation for the variation in gross domestic product growth. The simple model specification as well as the relatively small number of observations available for each country are

each partly responsible for the low R-squared values. The Durbin Watson values show that there is autocrrelation, but it is not a serious problem. Some autocorrelation is expected in any time series analysis. Unfortunately, the t-statistics for the working population growth and gross domestic investment are statistically infignificant in many regressions. This result can be attributed to poor data quality and to the theoretical framework behind the growth model. Note however, that the PG and GDI variables are significant in more equations than the Gastil index. For most countries, the t-statistic for the Gastil index is not significant. This suggests that working population growth and gross domestic investment explain economic growth better than the level of democracy. (Please see appendix 4 for more details).

Table 3

Ghana					
	coeffcient	s-error	t-statistics	R^2	D-Watson
constant	6.85	7.82	.875	.24	1.66
PG	.297	.308	.963		
GDI	-1.11	2.06	-.53		
GI	-12.5	9.57	-1.31*		

Nigeria				
coefficient	s-error	t-statistics	R^2	D-Watson
-33.5	52.3	-.64	.608	2.41
.262	.238	1.1		
17.6	19.4	.904		
-38.01	14.2	-2.66**		

Chad					
	coefficient	s-error	t-statistics	R^2	D-Watson
constant	-20.08	41.1	-.48	.38	2.65
PG	-.46	.54	-.85		
GDI	18.2	17.6	1.03		
GI	-19.9	80.5	-2.37**		

Togo				
coefficient	s-error	t-statistics	R^2	D-Watson
16.89	26.8	-.63	.196	2.5
.134	.215	.622		
6.75	7.81	.86		
-.58.8	38.8	-1.51*		

* Statistically significant at the .10 level

** Statistically significant at the .05 level.

The table includes the countries for which the coefficient of the Gastil index is statistically significant at the 10% level.

5.2.2 Panel Procedures

Another empirical strategy should be adopted to improve the quality of the estimates after the failure of single estimations. Therefore, in this sub-section we introduce different steps using the panel procedures to establish better results. We make use of the panel procedures because the number of countries included is not large enough for cross-sectional analysis. Practically speaking, the unit of observation will vary in two or more dimensions rather than just one. There are k distinct decision units of groups indexed by i = 1,...,p and m successive time periods indexed by t = 1,..., m, giving a total of n = pm sample points. The data can be organized in the following form

$$GDPG = \begin{bmatrix} GDPG_1 \\ \cdot \\ \cdot \\ \cdot \\ GDPG_m \end{bmatrix} \quad PG = \begin{bmatrix} PG_1 \\ \cdot \\ \cdot \\ \cdot \\ PG_m \end{bmatrix} \quad GDI = \begin{bmatrix} GDI_1 \\ \cdot \\ \cdot \\ \cdot \\ GDI_m \end{bmatrix} \quad GI = \begin{bmatrix} GI_1 \\ \cdot \\ \cdot \\ \cdot \\ GI_m \end{bmatrix} \quad \mu = \begin{bmatrix} \mu_1 \\ \cdot \\ \cdot \\ \cdot \\ \mu_m \end{bmatrix}$$

where GDPG is the gross domestic product growth, PG is the working population growth, GDI is the gross domestic investment as percentage of gross domestic product, and GI is the Gastil index. GDPG is 315x1, PG is 315x(k-1), and μ is 315x1. Then, the basic model can be expressed as:

$$(2)\quad GDPG = \begin{bmatrix} i & PG & GDI & DI \end{bmatrix} \begin{bmatrix} \alpha \\ \beta_1 \\ \beta_2 \\ \beta_3 \end{bmatrix} + \mu$$

where i is an nx1 vector of units, α is a scalar.

Constant Coefficients with no Differences among Countries (Pooled OLS):

The total OLS is the estimate of the basic model which treats all the number of observations as if they correspond to one country. Of course we expect the estimated model to have a very high R-squared and a significant t-statistic for the Gastil index. The plain OLS is included here mainly because it might be wanted for comparison to the more complex estimators. The total OLS takes the following form:

$$(3)\quad GDPG_{it} = B_1 PG_{it} + B_2 GDI_{it} + B_3 GI_{it} + \mu_{it}$$

where $\mu \sim$ iid $(0, \sigma^2)$.

The Between Model

This model specifies the same relationship between the individual means. In other words, it selects the regression on the means of GDPG'S on the means of other explanatory variables for each country. this model can be called the strictly restricted.

$$(4)\quad GDPG_i = \alpha + \beta_1 PG_i + \beta_2 GDI_i + \beta_3 GI_i + \mu_i$$

where $\mu \sim$ iid $(0, \sigma^2)$.

The Within Model (Fixed Effect):

This model called the within model because it is based upon within-group deviations. It assumes that there are common slopes, but that each country has it's own intercept, which may or may not be correlated with the explanatory variables. In other words, this model can be called the restricted model.

$$(5) \quad GDPG_{it}=\alpha_i+\beta_1 PG_{it}+\beta_2 GDI_{it}+\beta_3 GI_{it}+\mu_{it}$$

where $\mu \sim$ iid $(0, \sigma^2)$.

Results of the Panel Estimations

Table 4.a (total OLS)

variable	coefficient	standard error	t-statistics	R-squared	f-statistics
constant	-1.26	.74	-1.6*	.109	1.76
PG	.03	.06	.543		
GDI	.173	.03	5.76***		
GI	3.42	1.46	2.33**		

Table 4.b (between estimates)

variable	coefficient	standard erorr	t-statistics	R-squared	f-statistics
constant	-2.69	3.59	-.75	.553	2.27*
PG	.46	1.3	.353		

GDI	.142	.048	2.94***
GI	6.5	2.14	3.06***

Table 4.c (fixed effect)

variable	coefficient	standard error	t-statistics	R-squared	f-statistics
PG	.035	.065	.536	.23	1.51
GDI	.212	.051	4.13***		
GI	-6.51	2.86	-2.27**		

* Statistically significant at the .10 level

** Statistically significant at the .05 level

*** Statistically significant at the .01 level

The estimations of Equations (3), (4) and (5) are reported in Tables 4a, 4.b and 4.c respectively. The results obtained from the panel procedures are unclear. The between model shows that democracy positively affects economic growth while the other two models (OLS and the fixed effects model) show negative relationships. The difference in these results can be attributed to the fact that the between model restrics the coefficient to be equal for all countries whereas the fixed effect model allows them to vary. One must therefore test the hypotheses that the coefficients are equal or differ. This can be done by looking at the F-statistics values produced by TSP. If the F-statistics values are significant this implies in the case of the between model that we can accept the hypothese that all coefficients are equal. In the case of the fixed effect model, if the F-statistics is significant this implies that the coefficients vary across countries. The F-statistics for both the total OLS and the fixed effect model are insignificant whereas the F-stastics for the between model is signicant at the

5% level. We can therefore accept the hypotheses that the coefficients are equal which is assumed in the case of the between model. In contrast, the hypothese that the coefficients differ across countries as assumed in the fixed effect model does not find support. In general, the results of the fixed effect and the between model can not be directly compared. In the present context, however, the fact that the between model generates both a relatively high R-squared and significant F-statistic which suggests that the between model is the most apprpriate procedure. This therefore suppors the claim that democracy promotes economic growth.

5.2.3 Seemingly Unrelated Regressions (SUR)

To further improve our results, we use the Seemingly Unrelated Regression (S.U.R) as an alternative method of estimation. S.U.R generally produces more efficient estimates than regression applied separately to each equation as we did in Equation (1). A direct application of the S.U.R. to investigate the effect of democracy on economic growth in Sub-Saharan Africa is impossible in this case, because the number of countries is greater than the number of years. As a result, we will have an 21x15 covariance matrix and the variance covariance for some countries will be missing. Therefore, we divide the countries into two groups based on geographical and economic characteristics. Group 1 consists of Benin, Cameroon, Congo, Ghana, Mali, Niger, Nigeria, Senegal, Sieraleone, and Togo. Group 1 can be called West Africa region and most of them have their own economic coalitions. Group 2 consists of Burundi, Botswana, The Republic of Central Africa, Kenya, Lesotho, Malawi, Rwanda, Sudan, Chad, Zaire, and Zambia. Group 2 can be called Central Eastern Africa and most of them share same regional economic alliances.

S.U.R. (Same Coefficients)

First, we impose a very strong constraint by assuming that all countries have the same coefficients. The estimation will produce same coefficients for all countries but different R-Squared and Durbin-Watson for each country. Therefore, countries will have different fits of the models and the correlation of the error terms will vary across countries. Applying this constraint to Group 1 and group 2 yields the values presented in Tables 5.a, 5.b, 6.a and 6.b.

Table 5.a (group 1)

	Coefficient	Standard-Error	T-Statistic
constant	6.03	2.224	2.71***
PG	.199	.036	5.41***
GDI	-1.95	.719	-2.72***
GI	-2.73	1.01	-2.78***

Table 5.b (group 1)

Country	R^2	D-Watson
BEN	.264	1.75
CAM	.078	.421
COG	.594	.989
GHA	.078	1.19
MLI	.074	2.57
NER	.508	1.57
NGA	.084	1.52

SEN	.110	2.20
SLE	.076	1.79
TGO	.034	2.02

Table 6.a (group 2)

	Coefficient	Standard-Error	t-Statistic
constant	-1.21	.435	-2.78***
PG	.115	.019	5.86***
GDI	-0.46	.032	.142
GI	7.79	.74	10.68***

Table 6.b (group 2)

Country	R^2	D-Watson
BUR	.038	1.97
BSW	.022	1.61
CAF	.022	2.77
KEN	.013	1.12
LSO	.016	1.26
MWI	0.74	1.11
RWA	.252	.87
SDN	.11	1.69
TCD	.030	1.77
ZAR	.237	.893
ZMB	.028	.846

*** Statistically significant at the .01 level

In Group 1 the Gastil index t-statistic is statistically significant with a negative coefficient which means democracy in Group 1 has a negative effect on economic growth. The surprising result is that in Group 2 the Gastil index t-statistic is highly significant with a positive coefficient which strongly suggests that democracy has a significant positive effect on economic growth. The values of R-squared as well as the Durbin-Watson varied across countries because the SUR considers each country separetly. Over all, central-eastern Africa countries seem to support the democratic model while West African countries are compatible with the authoritarian model. The different result however could be partly explained by greater political stability, more uniform distribution of income, and higher level of education in central-eastern Africa relative to West Africa.

S.U.R. (When Coefficients Vary Across Countries)

Now, we let the coefficients vary across countries in Group 1. According to this method of estimation each country will have it's own estimation results. The estimation of the models applied to Group 1 and Group 2 are presented in Table 7 and Table 8 respectively.

Table 7 (group 1)

Country	GI Coefficient	GI S-Error	GI T-Statistic	R^2	D-Watson
BEN	-0 63	2.17	-0 29	.261	1.72
CAM	-30 29	44.5	-0 68	.343	1.12
COG	3.05	7.70	.396	.605	1.42
GHA	-17 81	3.23	-5.49***	.214	1.81
MLI	5.18	7.56	.684	.198	2.51
NER	-8 30	11.09	-0 75	.556	1.89
NGA	-40 20	5.17	-0 78	.589	2.22
SEN	.597	20.14	.029	.171	2.51
SLE	-13 96	14.23	-0 98	.245	2.12
TGO	-54 19	16.86	-3.21***	.185	2.43

Table 8 (group 2)

Country	GI Coefficient	GI S-Error	GI T-Statistic	R^2	D-Watson
BUR	14.63	13.34	-0.54	.055	2.62
BSW	-4.75	20.76	-0.23	.056	1.91
CAF	-4.38	9.52	-0.46	.09	2.25
KEN	1.14	4.84	.236	.085	1.16
LSO	-53.80	32.5	-1.65*	.225	2.16
MWI	12.91	5.88	2.19**	.242	1.15
RWA	-26.80	45.02	-0.60	.054	1.1
SDN	-1.30	4.1	-0.31	.496	1.93
TCD	-139.40	47.7	-2.92***	.377	2.48
ZAR	19.59	13.15	1.48*	.286	2.20
ZMB	-3.10	3.15	-0.98	.083	1.81

* Statistically significant at the .10 level

** Statistically significant at the .05 level

*** Statistically significant at the .01 level

The estimated model in Group 1 shows that the t-statistics of the coefficent on the Gastil index for three countries are highly significant with negative coefficients which means democracy has a negative impact on economic growth. In Group 2 the impact of democracy on economic growth is not clear because four of the Gastil index t-statistics are statistically significant, two are positive and the other two are negative.

By comparing the two methods of estimation, when we impose the restriction of requiring the coefficients to be the same for all countries with the unrestricted model, several points regarding these results deserve attention. First, in Group 1 democracy seems to have a negative effect on economic growth under both methods of estimations but in Group 2 the answer is not clear because in the restricted model there is a significant positive effect and in the unrestricted model there are controversial results. Second, in the unrestricted model for Group 1, the value of R-squared went up by a huge amount for all countries except Benin, which stays very similar. Similarly, in Group 2 the value of R-squared goes up for all countries except Botswana and the Republic of Central Africa. Overall evidence from this comparison is that when we impose more restrictions by assuming that all countries have the same coefficients yields unsatisfactory results. On the other hand, when we let the coefficients vary across countries we get good estimates, but up to now there is no clear evidence that suggests either a positive or negative impact of democracy on economic growth in Sub-Saharan Africa.

5.2.4 Vector Auto-Regressions (VAR) Estimation:

In view of the unclear results we obtained from estimating Equations (1), (3), (4), (5), and the Seemingly Unrelated Regression, also based on the theoretical literature of the causality relationship

between democracy and economic growth, it is worth testing the causality relationship using Granger test in order to clear the linkage between the political system and economic performance. Our analysis of the effect of democracy on economic growth and the other way a round in Sub-Saharan Africa offers a causal theory about the conditions favouring and obstructing democratization. Growth rates may affect democracy in the long-run since high growth rate increases average incomes, and since high average incomes contribute to democratic performance, there is some indirect and long-run relationship between democracy and economic growth. This does not imply, however, that high growth rates improve democratic performance while they last, or poor growth rates contribute to the dismasting of democracy. In reality, high economic growth has not built democracies in Saudi Arabia, China, and Indonesia where a high level of development is still associated with dictatorship.

Using vector autoregressions to investigate the relationship between democracy and economic growth in Sub-Saharan Africa may not lead to satisfactory results because neither the political system nor the level of economic development last long enough in the region to generate a measurable causality relationship. We nonetheless apply the technique in the hope of further elimination. We choosed to lagg the explanatory variables by three years while the dependent variable will be considered in one stationary period. The choice of this lagged period is arbitrary, but reflect our hypotheses that the decision making process requires at least two years. Using time series data, the vector autoregressions equations take the following forms:

$$(6) \quad GDPG_t = \alpha + \sum_{i=1}^{n} \beta_i GDPG_{t-1} + \sum_{i=1}^{n} \delta_i GI_{t-1} + \mu_t$$

$$(7) \quad GI_t = \alpha + \sum_{i=1}^{n} \beta_i GI_{t-1} + \sum_{i=1}^{n} \delta_i GDPG_{t-1} + \mu_t$$

where the α's and δ's are the coefficients of the linear projection of GDPG onto a constant and past values of GDPG and GI, and the lag length n = 3 is sufficiently large to ensure that the error term μ is a white noise.

Tables 9.a and 9.b report the estimation of Equations (6) and (7) for those countries for which the F-statistics (computed by TSP for causality testing) is significantly different from zero. Based on the F-statistics values we are able to perform the Granger causality test. The results obtained from equation (6) indicate that democracy Granger-causes economic growth in four countries (Botswana, Mali, Sudan, and Senegal). Equation (7) indicates that economic growth Granger-causes democracy in Togo. Equations (6) and (7) also support a bilateral relationship between democracy and economic growth in Malawi. For the rest of the countries, no causality relationship between the two variables is found. The Durbin Watson statistics show that there is autocorelation, but not very serious. As mentioned previously, autocorelation is expected in any time series analyses. Most of the t-statistics for the coefficient of the lagged values are statistically significant (please see appendix 5 for more details). The overall evidence shows that democracy and economic growth are at best weakly related.

Table 9.a (VAR results when GDPG is the dependent variable)

country	R-squared	D-Watson	f-statistics	links found
BSW	1.9	1.9	4.30***	democracy affects economic growth
MLI	.277	1.82	3.47***	democracy affects economic growth
MWI	.50	2.2	4.67***	democracy affects economic growth
SDN	.413	2.2	3.21***	democracy affects economic growth
SEN	.506	1.52	8.22***	democracy affects economic growth
TGO	.207	1.15	1.03	no evidence

Table 9.b (VAR results when GI is the dependent variable)

country	R-squared	D-Watson	f-statistics	links found
BSW	.69	1.68	1.41	no evidence
MLI	.57	1.28	.159	no evidence
MWI	.586	2.2	3.28***	economic growth affects democracy
SDN	.524	2.02	.915	no evidence
SEN	.69	.299	1.49	no evidence
TGO	.77	1.4	3.69***	economicgrowth affects democracy

*** Statistically significant at the 1% level.

5.3 Directions for future Research

Several suggestions can be made for future research. First, although we find these results interesting, still more work is needed. The important factor limiting our empirical work is the data set. Additionally, the issue that requires more attention is how accurately some of our variables reflect

the hypothized phenomena. More comprehensive measures of political democracy, growth in both population and capital are very important. Better data on the following variables will be useful: income inequality, the literacy rate, government spending, and wether or not there was the state of civil war.

Second, although this paper has been concerned with estimating the direct impact of democracy on economic growth, it is obvious that this relationship may be primarily indirect. For example, democracy may reduce economic inequality and increase literacy which may in turn promotes economic growth. This suggest that one may wish to estimate the following reduced forms.

$$(8) \quad GDPG_t = A + \beta_1 PG_t + \beta_2 GDI_t + \beta_3 GINI + \mu_t$$

$$(9) \quad GDPG_t = \alpha + \delta_1 PG_t + \delta_2 GDI_t + \delta_3 LIT_t + u_t$$

where A, α, β_1, β_2, β_3, δ_1, δ_2, and δ_3 are coefficients. GINI and LIT stand for the Gini coefficient and literacy rate respectively. $GDPG_t$ is the gross domestic product growth at time t, PG_t is the working population growth at time t, GDI_t is the gross domestic investment as a percentage of gross domestic product at time t, and μ_t and u_t are stochastic disturbances

6.0 CONCLUSIONS

The paper attempted to clarify whether or not democracy works as the best tool to foster economic growth. Unfortunately, our empirical evidence seems to suggest that political democracy does not widely and directly facilitate more rapid economic growth as we expected. Net of other factors, the compatibility perspective finds little support.

Section 2.0 focused on different theoretical arguments for and against democracy. The effect of political freedom on economic growth has been subject to controversy. All of the theoretical literature reviewed argue, with a varying degree of cogence, that democracy either fosters or hinders economic growth. Advocates of the conflict perspective focus on the weaknesses of democracy in order to show the necessity of having authoritarian governments to achieve high economic growth. In contrast, advocates of the compatibility perspective focus on the weaknesses of a dictatorship in order to show the necessity of having more freedom to accomplish economic expansion. Few of the authors explicitly seek to identify and compare the strengths and weaknesses of both systems; instead, having shown that either democracy or dictatorship hinders economic growth, they conclude that the other system must be better. At the end of the day, what is in fact surprising is that all of these authors seem to have felt obliged to declare themselves in favour of either democracy or dictatorship, and have not considered a third alternative, namely the absence of any systematic relationship between the political regime and economic growth. Theoretically speaking, in Sub-Saharan Africa, the cost of more political freedom is a necessarily a retardation of economic growth and that rapid growth results in a loss of freedom. The underlying reasons for the conventional hypothesis is that at an early stage of economic development, the democratic process of political management is chaotic

and wasteful and that the region can not afford to wait several decades until all democratic institutions are fully developed. Therefore, political rights must be delayed until a sufficiently high standard of living is achieved.

Section 3.0 reviewed sixteen empirical studies. These studies present a very mixed and confusing picture regarding the effect of democracy on economic growth. The studies examined are divided almost equally between a negative relationship or no relationship between democracy and economic growth. Satisfactory interpretation of the differences in the results obtained is of course made more difficult due to the fact that these studies are quite heterogeneous with respect to characteristics of measurements, coverage, design, and method of analysis. It is again worth reiterating that more than half of the reviewed studies have included developing and developed countries in one sample; as a result, one may be concerned that this will generate misleading results because of the differences in economic structures, social values, attitudes and historical backgrounds. In studies where national differences in rates of economic growth have been examined, the evidence seems to suggest that political democracy does not widely facilitate rapid economic growth; hence, the compatibility between democracy and economic growth finds little support.

Sections 4 and 5 considered the impact of democracy on economic growth in Sub-Saharan Africa. Overall, our evidence suggests that the extension of political and civil rights does not improve a country's economic performance neither does this act as an economic break. This conclusion does not means political institutions do not matter, but rather the forms of regimes which does not seem to capture the relevant differences. However, it must again be stressed that these results provide no excuse for dictatorship, neglect of human rights or repression in the name of higher economic growth. What our results do, however, is to open the door to a new theory namely the skeptical perspective

which would deny any systematic linkage between democracy and economic growth.

Appendix 1

The countries included in the study are BEN (Benin), BSW (Botswana), BUR (Burundi), CAM (Cameroon), CAF (Central Africa Republic), TCD (Chad), COG (Congo), GHA (Ghana), KEN (Kenya), LSO (Lesotho), MWI (Malawi), MLI (Mali), NER (Niger), NGA (Nigeria), RWA (Rwanda), SEN (Senegal), SLE (Sierra Leone), SDN (Sudan), TGO (Togo), ZAR (Zaire) and ZAM (Zambia).

Appendix 2

Bollen defined political democracy to be the extent to which the political power of the elite is minimized and that of the nonelite is maximized. Political rights and political liberties are two major dimensions of the concept and these encompass most of the traits usually attributed to democratic systems. By the political power Bollen refers to the ability to control the national governing system. The elites are those member of a society who hold a disproprtionate amount of the political power. These include the member of the executive, judicial, and legslative branches of the government as well as leaders of political parties, local governments, business, labor unions, professional associations, or religous bodies. He ponted out that it is the relative balance of power between elites and nonelites that determines the degree of political democracy.

Bollen index is an equally weighted sum of six component indexes, three relating to popular sovereingnty (freedom of the press, election of chief executive and election of the legislature) and three to political freedoms (freedom of the press, freedom of group opposition, and lack of government sanctions against political opposition).

The Gastil measures of political democracy accord with the Bollen's prefrences, by focussing on political rights and freedoms rather than political stability, and in providing measures whose changes might themselves provide an index of stability. He separate indices for political rights and civil liberties are each on a scale from 1 to 7, with one representing the highest level of rights, and 7 the lowest. Summing the two indices gives a measure that takes the value 2 for the most democratic and 14 for the least democratic systems.

Appendix 3

Descriptive statistics for GDP growth

	MEAN	ST. DEV	VAR	MIN	MAX
BEN1	3.166	3.0775	9.4710	-1.7000	8.1000
BUR1	3.666	3.9400	15.524	-1.0000	12.000
BSW1	11.68	5.9209	35.057	-1.1000	24.000
CAF1	0.846	4.3453	18.881	-6.7000	9.3000
CAM1	4.413	7.8168	61.103	-7.7000	15.600
COG1	6.106	8.5500	73.102	-6.9000	26.100
GHA1	2.340	4.6756	21.861	-6.5000	9.8000
KEN1	4.526	2.1767	4.7378	0.60000	7.5000
LSO1	5.046	5.9815	35.778	-5.7000	18.300
MLI1	3.273	6.0931	37.126	-4.5000	17.900
MWI1	3.173	3.3784	11.414	-5.3000	10.000
NER1	1.993	6.5535	42.948	-16.900	13.500
NGA1	1.720	6.0686	36.827	-7.3000	8.8000
RWA1	2.693	5.3198	28.301	-5.9000	10.200
SDN1	-0.46	5.9978	35.974	-10.400	2.700
SEN1	2.866	5.3453	28.572	-5.9000	15.100
SLE1	2.133	3.8046	14.475	-3.4000	8.7000
TCD1	1.093	10.706	114.61	-21.400	21.800
TGO1	1.820	5.8155	33.820	-5.2000	14.700
ZAR1	0.486	2.8360	8.0427	-5.6000	5.5000
ZMB1	0.313	3.0000	8.9998	-3.1000	6.1000

The number 1 attaches to each country refers to GDP growth (BEN1= GDP growth in BENIN) the generalization follows in the coming tables, 2 stands for the working population growth, 3 stands for the gross domestic investment as a percentage of GDP and 4 stands for the Gastil index.

Descriptive satstics for the Working Population growth

	MEAN	ST. DEV	VAR	MIN	MAX
BEN2	15.267	6.8397	46.781	7.0000	34.000
BUR2	16.600	3.2027	10.257	12.000	23.000
BSW2	28.933	11.529	132.92	6.0000	44.000
CAF2	10.933	2.0517	4.2095	7.0000	14.000
CAM2	21.667	3.9761	15.810	16.000	31.000
COG2	28.467	12.872	165.70	16.000	60.000

GHA2	9.1333	4.3238	18.695	3.0000	16.000
KEN2	23.867	2.5875	6.6952	20.000	29.000
LSO2	44.533	7.9720	63.552	26.000	55.000
MLI2	15.533	2.9968	8.9810	9.0000	20.000
MWI2	23.600	5.7046	32.543	13.000	38.000
NER2	18.400	7.4623	55.686	3.0000	37.000
NGA2	13.133	5.6552	31.981	6.0000	25.000
RWA2	13.867	2.3865	5.6952	10.000	18.000
SDN2	12.193	4.2944	18.442	4.5000	22.800
SEN2	12.467	1.7674	3.1238	10.000	17.000
SLE2	12.400	2.4437	5.9714	10.000	19.000
TCD2	6.9333	5.4310	29.495	0.00000	18.000
TGO2	27.467	10.176	103.55	20.000	53.000
ZAR2	12.467	2.3563	5.5524	8.0000	15.000
ZMB2	15.933	4.5586	20.781	10.000	24.000

Descriptive statistics for the Gross domestic Investment as a percentage of GDP

	MEAN	ST. DEV	VARIANCE	MIN	MAX
BEN3	3.0600	0.17238	0.29714E-01	2.7000	3.2000
BUR3	2.7733	0.15337	0.23524E-01	2.5000	2.9000
BSW3	3.4467	0.14573	0.21238E-01	3.1000	3.6000
CAF3	2.6400	0.73679E-01	0.54286E-02	2.5000	2.8000
CAM3	2.9067	0.20862	0.43524E-01	2.6000	3.3000
COG3	3.0733	0.15796	0.24952E-01	2.8000	3.3000
GHA3	2.9333	0.65756	0.43238	1.4000	3.6000
KEN3	3.6733	0.34531	0.11924	2.9000	4.0000
LSO3	2.6733	0.18696	0.34952E-01	2.4000	2.9000
MLI3	2.4933	0.28402	0.80667E-01	2.2000	2.9000
MWI3	3.2200	0.14736	0.21714E-01	2.9000	3.4000
NER3	3.2800	0.20071	0.40286E-01	3.0000	3.6000
NGA3	2.9933	0.12799	0.16381E-01	2.8000	3.2000
RWA3	2.9800	22.282	496.49	-55.800	62.100
SDN3	2.7333	0.81650E-01	0.66667E-02	2.6000	2.9000
SEN3	2.8733	0.88372E-01	0.78095E-02	2.8000	3.0000
SLE3	2.3533	0.16417	0.26952E-01	2.1000	2.6000
TCD3	2.3467	0.15976	0.25524E-01	2.1000	2.6000
TGO3	3.2067	0.35750	0.12781	2.7000	3.8000
ZAR3	3.1867	0.15523	0.24095E-01	2.9000	3.4000
ZMB3	3.1667	0.16762	0.28095E-01	3.0000	3.6000

Descriptive statistics for the Gastil index

	MEAN	ST. DEV	VARIANCE	MIN	MAX
BEN4	0.10933	0.19466	0.37892E-01	0.00000	0.75000
BUR4	0.10200	0.61899	0.38314E-02	0.00000	0.25000
BSW4	0.81933	0.66705	0.44495E-02	0.75000	0.91000
CAF4	0.15600	0.75574	0.57114E-02	0.00000	0.25000
CAM4	0.17200	0.31668	0.10029E-02	0.16000	0.25000
COG4	0.12933	0.15397	0.23707E-01	0.00000	0.66000
GHA4	0.31600	0.14121	0.19940	0.25000	0.75000
KEN4	0.29867	0.98696	0.97410	0.16000	0.41000
LSO4	0.30333	0.32660	0.10667	0.25000	0.33000
MLI4	0.16333	0.17487	0.30581	0.00000	0.75000
MWI4	0.11400	0.70387	0.49543	0.250000	0.8000
NER4	0.11333	0.93018	0.86524	0.41000	0.8000
NGA4	0.54933	0.18908	0.35750	0.25000	0.75000
RWA4	0.16600	0.23238	0.54000	0.16000	0.25000
SDN4	0.28200	0.19329	0.373601	0.00000	0.50000
SEN4	0.54800	0.45857	0.21029	0.50000	0.66000
SLE4	0.28667	0.65429E-01	0.42810E-02	0.80000E-01	0.33000
TCD4	0.96000	0.33123E-01	0.10971E-02	0.80000E-01	0.16000
TGO4	0.11267	0.56627E-01	0.32067E-02	0.00000	0.25000
ZAR4	0.12333	0.52870E-01	0.27952E-02	0.80000E-01	0.25000
ZMB4	0.30467	0.14899	0.22198E-01	0.25000	0.83000

Descriptive statistics for the coefficient of variation for each individual country

	GDPG	PG	GDI	GI
BEN	0.9718393	0.4480127	0.5633278E-01	1.780424
BUR	1.074553	0.1929324	0.5530339E-01	0.6068484
BSW	0.5066364	0.3984767	0.4228229E-01	0.8141345E-01
CAF	5.132191	0.1876566	0.2790865E-01	0.4844487
CAM	1.771183	0.1835132	0.7177418E-01	0.1841158
COG	1.400105	0.4521873	0.5139801E-01	1.190487
GHA	1.998115	0.4734087	0.2241671	0.4468641
KEN	0.4808507	0.1084155	0.9400418E-01	0.3304562
LSO	1.185238	0.1790114	0.6993350E-01	0.1076699
MLI	1.861449	0.1929286	0.1139113	1.070658
MWI	1.064619	0.2417218	0.4576325E-01	0.6174271
NER	3.287688	0.4055590	0.6119299E-01	0.8207486
NGA	3.528233	0.4305967	0.4275772E-01	0.3441907

RWA	1.975187	0.1721012	7.477180	0.1399873
SDN	-128.5252	0.3521946	0.2987183E-01	0.6854161
SLE	3.58789	0.767999	0.5645527	2.5647899
TCD	2.564345	0.786678	0.5786665	.3657889
TGO	1.46778	0.567789	0.56677E-01	1.456788
ZAR	1.453888	0.5677635	0.844677	2.975456
ZMB	1.567878	0.567782	0.578686	1.543578

Descriptive statistics for the panel data

	MEAN	ST.DEV	VARIANCE	MIN	MAX
GDPG	.31123	2.2658	5.1338	-5.9	18.600
PG	1.2739	5.6277	31.671	0.000	53.000
GDI	.18667	.71259	.50779	0.000	3.8000
GI	.1600E-01	.836E-01	.700E-02	0.000	.75000

Descriptive statistics for the panel data (the coefficient of variation)

GDPG	PG	GDI	GI
7.28	4.14	3.81	5.23

Appendix 4

NER (estimation where PG and GDI are significant, bu not the Gastil index)					
	coefficient	s-error	t-statistucs	R^2	D-Watson
constant	34.8	23.3	1.49*	.44	2.09
PG	.518	.178	2.90***		
GDI	-12.7	6.8	-1.87*		
GI	-6.5	14.5	-.45		
SDN (estimation where PG and GDI are significant, but not the Gastil index)					
	coefficient	s-error	t-statistics	R^2	D-Watson
constant	75.3	42.2	1.78*	.40	2.16
PG	.87	.30	2.89***		
GDI	-31.7	15.6	-2.03**		
GI	3.13	6.58	.47		

* Statistically significant at the 10% level

** Statistically significant at the 5% level

*** Statistically significant at the 1% level

Appendix 5

MWI (VAR estimates when GDP is the dependent variable)						MWI (VAR estimates when GI is the dependent variable)					
	coeff	s-error	t-stat	R^2	D-Watson		coeff	s-error	t-stat	R^2	D-Watson
GDP (-1)	1.20	.28	4.2***	.5	2.2	GDP (-1)	.87	.40	2.19**	.58	2.2
GDP (-2)	-.268	.24	-1.08			GDP (-2)	.202	.34	.58		
DI (-1)	-66	24.6	-2.7***			GI (-1)	.03	.34	.11		
GI (-2)	75.2	18.8	3.03***			GI (-2)	.48	.26	1.86*		
TGO (VAR estimates when GDP is the dependent variable)						TGO (VAR estimates when the GI is the dependent variable)					
GDP (-1)	-.30	.32	-.93	.207	1.15	GDP (-1)	.38	.20	1.93**	.21	1.53
GDP (-2)	.44	.35	1.26			GDP (-2)	-.40	.21	-1.9**		
GI (-1)	-74.4	66.4	-1.12			GI (-1)	1.37	.40	3.42***		
GI (-2)	87.7	67.4	1.3			GI (-2)	-.22	.40	-.56		

* Statistically significant at the 10% level

** Statistically significant at the 5% level

*** Statistically significant at the 1% level

coeff = coefficient, t-stat = t-statistics, and S-error = standard error

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