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Politics and policies of national economic growth

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POLITICS AND POLICIES OF NATIONAL ECONOMIC GROWTH

A DISSERTATION

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FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

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December 1993

I certify that I have read this dissertation and that in my opinion it is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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ABSTRACT

This dissertation argues that national economic growth is highly dependent upon both the policies of domestic political regimes as well as prevailing socio-political conditions. Economic, political and cultural data is assembled for 114 countries throughout the post-World War II era in order to statistically test the causal effects of political and cultural factors on economic growth. National culture, in particular, is found to exert a significant impact on both the feasible range and economic efficiency of domestic policy options. Up to now, most socio-political explanations for economic growth have posited single patterns of successful economic development. These explanations, however, typically apply well only to limited geographical regions or time periods. By identifying and measuring the causal impact of socio-political conditions on regime policy as well as economic growth, alternative growth paths may be distinguished based on economically successful patterns of policy and socio-political condition.

Measuring the economic effects of these variables has become considerably more tractable through two recent academic developments. First, the new institutional economics has been instrumental in exploring the economic effects of both formal political institutions (e.g., constitutions, laws, regime policies) and informal cultural institutions (e.g., cultural habits, attitudes and norms). Second, the primary dimensions of national culture have been identified and measured, enabling both modeling and testing of cultural determinants in economic development. The explanatory strengths and scope of this socio-political

model of economic growth are then examined along with implications for future economic development policy.

PREFACE

By identifying, quantifying and testing the economic growth effects of national politics and culture, I hope to fill a critical analytical gap useful to development scholars and policy-makers alike. Of necessity, my work paints only a partial picture of how political regime policies and socio-political conditions can spur or inhibit economic growth, leaving many critical development questions unresolved. My hope is that future researchers may leverage off of my work to help address some of these unresolved questions.

I am deeply indebted to my wife, Andrea, for enduring several years of juggling both academic and family responsibilities. Also, I thank my children, Hannah and Alex, for their unwavering optimism. Alan Adler, Daniel Froats, Paul Sniderman, Barry Weingast, Scott Wilson, Belinda Yoemans, my dissertation group of Rod Alence, Mike Caldwell, Scott Callon, Sun-ki Chai and especially my dissertation committee, Terry Moe, Robert Packenham, and Joseph Stiglitz provided exceptional feedback on various stages of this manuscript. Without their perspectives and advice, this work would have certainly failed in its objectives. They cannot be held responsible for any errors contained herein.

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CHAPTER I

INTRODUCTION

> What makes it so difficult for an advanced country to appraise properly the industrialization policies of its less fortunate brethren is the fact that, in every instance of industrialization, imitation of the evolution in advanced countries appears in combination with different, indigenously determined elements.... This is particularly true of the institutional instruments used in carrying out industrial developments and even more so of ideologies which accompany it.
>
> Alexander Gerschenkron (1962)

National political policies can exert a determinative influence upon domestic economic growth. Yet, identifying the range of economically relevant political policies as well as how these policies exert both their beneficial and deleterious effects has remained largely unresolved. Moreover, because economic growth can itself have political consequences, precise politico-economic causal linkages have remained difficult to measure.

In this dissertation, I argue that political policies exert a strong influence over economic growth but also that many domestic political regime policies have cultural foundations. Yet, no single political, cultural or resource pattern explains all cases of sustained economic growth well. The presence of seemingly beneficial resources, for example, is not enough to ensure sustained economic growth. Rather, political forces may render principal domestic resources as either economically beneficial or detrimental. Because socio-political

conditions and domestic resources can also differ considerably among nations, successful economic growth may be achieved with different policies for dissimilar nations. Furthermore, the success of one nation's economic policies may not necessarily be repeatable by others unless they are faced with similar socio-political conditions and domestic resources.

This project leverages off of two recent academic advances to support these arguments. First, the effects both of formal political institutions (e.g., constitutions, laws, regime policies) and of informal cultural institutions (e.g., cultural habits, attitudes and norms) on aggregate economic incentives and expectations have become explored much more extensively through applications in the "new institutional economics." Second, the primary dimensions of national culture have been identified and measured, enabling both modeling and testing of cultural factors in economic development. Moreover, this project utilizes diverse political, social and economic data covering 114 countries throughout the post-World War II period to explore specific socio-economic relationships.[1] It is, I contend, the utilization of these two academic advances, the assembling of relevant political, social and economic data from diverse sources and the identification of specific socio-political interactions among high-growth economies which allow the beneficial economic effects of political, cultural and resource factors to be distinguished. Along these lines, the core chapters of this dissertation attempt to establish the cultural pre-dispositions and domestic political rationales for sustained economic growth (Chapter II), explain how culturally-influenced domestic political policies affect economic growth (Chapter III), identify

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[1]See Appendix A for descriptions and listings of these variables.

interactions among socio-political factors which are beneficial to economic growth (Chapter IV) and explore the resulting implications for current and future economic growth among nations (Chapter V).

Of course, this project is but one study in a vast literature exploring the relationships between economic development and politics. To understand its actual and potential contributions, therefore, it must first be viewed within the context of the existing literature. This literature can roughly be distinguished into four major classes of theories--liberal development theories, socio-political theories of development, theories of domestic and international politics and dependency theories. Although theories within each of these broad classes can vary considerably, the following characterization is intended to distill the major elements present in each major class of theories.

Liberal development theories take economic development as their dependent variable. These theories generally argue that trajectories toward development and economic equality are inherent in a free market system. Free market economies specialize in goods and services for which they are comparatively (though not necessarily absolutely) more efficient (Ricardo 1817). For example, if country A produces good I more efficiently (e.g., requires less labor) than good II but country B produces them with equal efficiency, then both countries can be better off if country A tends to specialize in producing good I while country B specializes in good II and both countries trade with each other.[2]

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[2]No information on absolute productivity is required here. Thus, country A may specialize in good I even if it is 10 times less efficient than country B. What matters, under comparative advantage, is how maximum amounts can be produced in the international economy.

Moreover, less developed countries often have an advantage in lower production costs, enabling them to enjoy higher expected profits, lure foreign investment, grow their economies at a faster rate and move toward social and economic equality. This property of expected rapid economic growth for low-income countries is known as the "convergence effect." Furthermore, as poorer countries become progressively more developed, the convergence effect diminishes, thereby curtailing their previously rapid growth (Barro and Lee 1993, 24-26). Development progresses, according to neoclassical development theory, so long as free trade is not inhibited by distortionary political, social or economic institutions.

Important extensions have recently been made to the liberal development literature by incorporating the roles of market frictions (e.g. information, communication and transportation costs) and the importance of micro-behavioral incentives in shaping the macroeconomy. These extensions have an advantage over previous liberal development theories in their enhanced ability to assess the economic efficiency of political and cultural institutions. Rather than taking politics and culture as generally distortive to free market activities, the economic impact of political and cultural institutions is viewed with respect to markets which can fail (e.g., public goods, natural monopolies) or which can be incomplete and imperfect. Along these lines, Sah and Stiglitz (1986, 1988) argue that democracies are economically more efficient than authoritarian regimes because their comparative informational efficiencies produce more efficient resource allocations. In another example, Avner Grief (1991) ascribes the differences in economic development between Muslim and Latin societies during the medieval era to differences in cultural individualism. Furthermore, Stiglitz (1989) describes the various ways in which states can reduce or eliminate major market failures

of national economies. Depending on how they affect market activities, politics and culture can thus be analyzed as either conducive or harmful to economic development.

Though similar in spirit to these recent extensions in the liberal development literature, socio-political theories of development view political or cultural institutions as determinative (rather than simply conducive) to economic development. As with liberal development theories, economic development is generally viewed as the dependent variable. These theories may be further classified according to those which emphasize political causes of development versus those which emphasize cultural causes. Regarding political causes, Alexander Gerschenkron (1962) ascribes successful late development in Germany (1855-1880) and Russia (1880-1900) to strong regimes which centralized critical resources needed for effective international competition. Similarly, Guillermo O'Donnell (1973) views a strong domestic regime as a necessary, but not sufficient requirement for spurring economic growth within twentieth-century Latin America. Robert Wade (1990) convincingly argues that conscious state policies were largely responsible for the creation of key competitive industries in East Asia. Still another analyst, E. L. Jones (1987), frames the economic success of Europe over the Ottoman Empire, India and China as the result of the productive interplay of political systems and natural environments. Also, North (1990) describes how institutions can enhance human cooperation for capturing gains from international trade and spurring economic development. Similarly, North and Weingast (1989) ascribe the predominance of England over Spain beginning in the seventeenth-century to expanding private sector activities resulting from a positive-incentive, stable tax structure.

As with political factors, the economic importance of cultural factors has also been articulated in several

important studies. Max Weber (1950) attributes economic success in predominantly Protestant countries over Catholic countries to better work incentives under Protestant versus Catholic creeds. Similarly, Ezra Vogel (1991) establishes a strong link between Confucian ethical norms and the ability for Taiwan, South Korea, Hong Kong and Singapore to rapidly industrialize (including acquiring entrepreneurial skill, capital and technology). With an even greater emphasis on cultural determinism in the economic development of Brazil, Spain, Taiwan, Korea, Japan and the United States, Lawrence Harrison (1992, 10) identifies the four critical cultural dimensions of economic success as:

(1) the degree of identification with others in society--the radius of trust, or the sense of community;
(2) the rigor of the ethical system;
(3) the way authority is exercised within a society; and
(4) attitudes about work, innovation, saving, and profit.

In contrast to both liberal development theories and socio-political theories of development, theories of domestic and international politics depict politics as the dependent variable. Economic development is viewed (if at all) in these theories as a contributing factor to particular political outcomes. For example, Seymour Martin Lipset (1981) views democracy as a natural byproduct of high national income because of the democratically-reinforcing social supports (e.g., education) which high incomes produce. Alternatively, Samuel Huntington (1968) argues that economic development in the post-World War II era has led to considerable domestic violence and political instability by fomenting rapid social changes coupled with the rapid mobilization of domestic political competitors in the face of static political institutions. In another socio-political work, Limongi and Przeworski (1993) argue that international political cycles explain whether most

regimes in South America have been either democratic or authoritarian.

Moreover, a distinct subclass of international political theories, security theories, contend that "all state organization was originally military organization, organization for war" (Hintze 1975, 181). In keeping with their original and continuing purposes, states require particular forms of organization for the maintenance of security.

> *Absolutism and militarism* go together on the [European] Continent just as do self-government and militia in England. The main explanation for the difference in the way political and military organization developed... lies in the difference in the foreign situation. (Hintze 1975, 199)

More overt forms of military influences upon domestic politics can include spying, political assassinations, facilitating coups and outright invasion and occupation. To counter-balance foreign military influences, states, according to Waltz (1979 102-128), typically pursue survival as their pre-eminent goal because it serves as a pre-requisite for all other regime goals. In this context, the economic power associated with economic development is important to the extent that it increases a regime's chances of survival.

Dependency theories go one step further than the socio-political theories listed above by asserting that domestic political structure (particularly in Latin America) is determined in large degree by a country's position in the international economic system. Accordingly, Immanuel Wallerstein (1974, 18) characterizes countries as lying in the core, semi-periphery or periphery of the international economy with core countries having internationally influential governments and peripheral countries having internationally weak governments. Similarly, Galtung (1971) sees economic imperialism in the form of an alliance between

core countries and the elites within peripheral countries. These elites are most concerned with their own well-being and allow core countries to trade at an economic advantage, thereby inhibiting their country's overall development. Dependency writers thus typically view the economic relationships of industrialized countries with developing countries in terms of exploitation. Moreover, Robert Packenham (1992, 29-30) in his critical evaluation of the dependency tradition distills four central features of this literature as follows:

(1) *substantive holism*, whereby underdevelopment, domination, inequality and authoritarianism all emerge together in the capitalist periphery,
(2) *utopianism* in the form of Marxist socialism,
(3) *epistemological holism* producing nonfalsifiable premises and hypotheses and
(4) the *premise of politicized scholarship* whereby scholarship is viewed as an instrument of political struggle.

Like Packenham, Tony Smith claims that the systematic distortions within the dependency literature reflect the ideological biases of their proponents (Smith 1984, 133).

To be sure, these rough classifications cannot hope to do justice to all of the diverse theories explaining the interrelationships between politics and economics. Indeed, alternative classifications can be found in countless other works including Packenham (1992, 14-19), Arndt (1987) and Adelman (1961). However, this dissertation can be framed well according to the above classification. In particular, like liberal development theories and socio-political theories of development, this dissertation takes economic development (and, specifically, economic growth) as its dependent variable. It straddles a conceptual middle ground between these two classes, however, by viewing the domestic political regime as an important though not determinative force for propelling economic growth through its national economic policies. Furthermore, this dissertation

incorporates elements of domestic and international political theories by exploring the cultural determinants of politics as well as the impact of national income levels on democracy or authoritarianism.

Undoubtedly, several socio-political theories in the vast literature on economic development have merit. Yet, analysts typically ascribe economic preeminence to specific political or cultural factors to the exclusion of other competing causal factors. What is striking, however, is that these theories generally appear applicable only to particular regions and time periods. Moreover, as Vogel's versus Wade's accounts for post-World War II development in East Asia demonstrate, theorists frequently ascribe different development causes to the same region. To be sure, any single socio-political explanation is unlikely to be the driving force behind all cases of successful economic development. Single-path explanations for economic development have, therefore, had difficulty linking economic, political and cultural factors across regions and time periods even though several of these explanations have gained intuitive appeal from important regional and time-specific studies. Accordingly, this study also intends to help distinguish among economic, political and cultural interrelationships through its identification of distinct development patterns.

Furthermore, because economic growth is the focus of this project, its importance to nations and their political regimes need first be established. Specifically, sustained economic growth constitutes an important component of "development" and particularly "economic development" which can confer substantial benefits both to national political regimes and national publics at large. Because they are the keys for understanding why domestic political regimes pursue economic growth, we must establish exactly what is meant by "development" and specifically by "economic development."

Development, for example, has not only been used imprecisely in practice, but conceptions of exactly what it entails have varied dramatically:

> Higher living standards. A rising per capita income. Increase in productive capacity. Mastery over nature. Freedom through control over man's environment. Economic growth. But not mere growth, growth with equity. Elimination of poverty. Basic needs satisfaction. Catching up with the developed countries in technology, wealth, power, status. Economic independence, self-reliance. Scope for self-fulfillment for all. Liberation, the means to human assent. Development, in the vast literature on the subject, appears to have come to encompass almost all facets of the good society, everyman's road to utopia (Arndt 1987, 1).

Another prominent development scholar, Peter Berger (1984, 42-43), articulates yet another view of development as:

> (1) self-generating economic growth,
> (2) large-scale and sustained movement of people from a condition of degrading poverty to a minimally decent standard of living, and
> (3) reduction in human rights violations.

Intuitively, development has generally been taken to mean congruent economic, political and social progress. Different analysts, however, have typically assumed a preeminence of specific economic, political or social factors depending upon their fields of inquiry. Because of the difficulty in defining joint economic, political and social progress, I shall use development in its intuitive sense only.

Economic development, by contrast, lends itself to more clarity since it should exclude both political and social indicators of development. Unfortunately, especially among economists, economic development has often been used synonymously with development in general. Also, broad conceptions of economic development can still include such diverse factors as income growth, the economic efficiency of economic and political organizations, infrastructure improvement, resource utilization and poverty reduction.

What is somewhat fortuitous is that these seemingly diverse factors of economic development tend to be highly correlated (Sundrum 1983, 30-35). Accordingly, rising per-capita income, for example, can be an important indicator of overall economic development because it is also associated with improvements in other economic indicators of development. Moreover, because economic growth (as measured by changes in GNP or GDP) can be represented in a single variable, it is simple to measure and model relative to alternative economic measures. These analytical properties have made economic growth a popular proxy for economic development in general.

By itself, however, economic growth is not always a sufficient indicator of economic development. Indeed, several oil-rich Arab countries, for example, have experienced sustained economic growth derived from their oil revenues even as their economic infrastructures have been slow to progress. Because their ability to invest surplus domestically has also remained relatively undeveloped, it is difficult to interpret their economic growth as representative of their overall level of economic development. Their inability to diversify production by investing surplus domestically has also contributed substantially to high volatility in their economic growth. Still, it would be even more difficult to view economic development in the absence of economic growth. For this reason, sustained economic growth is viewed as the primary indicator of economic development in this dissertation although alternative economic indicators of development are considered as appropriate.

What is notable about both development, in general, and economic development, in particular, is that for most of human history, neither has been viewed as either a sustainable process or a primary regime goal. Rulers and societies, as W. W. Rostow argues, were not judged on

whether "surplus, when it existed, should be invested to yield a progressive expansion in per capita income" (In Arndt 1987, 12). Indeed, in pre-modern eras,

> society was not expected to yield a regularly rising standard of living for the people as a whole. This was not because people lacked an interest in material things.... But the expectation for the society as a whole was that, although it might suffer good times or bad at the whim of harvests, the vicissitudes of war, or the quality of rule, there would not be regular overall progress (Ibid.).

This is not to say that rulers were disinterested in increasing their personal wealth and power (and sometimes that of their subjects) or that there had not been a long evolution of economic development from ancient times. Rather, long-term trends in economic development were difficult to discern as a sustainable process. Decades, even centuries of apparent progress, could seemingly be wiped out in short order. Accumulation of wealth was viewed largely as the result of both domestic good fortune and prosperous international relations.

What was a general concern of rulers, or more generally, of domestic political regimes comprised of a states' central bureaucratic and political bodies was external security and maintenance of the prevailing regime. Medieval China serves as an instructive example here. Secure within its borders, China sent several large military expeditions west to Africa from 1410-1432 led by the Grand Eunuch of the Three Treasures, Zhang-He. Rather than securing tribute or dominion over new territories, Zhang-He engaged in trade for giraffes which were shipped to China for the greater glory of the emperor. Economic tribute, which would have invariably enriched several segments of Chinese society, was discouraged because the Chinese regime did not wish to create or empower domestic political rivals (Snow 1988).

In contrast, the Roman Empire generally did seek economic gain for both its rulers and citizens. This gain, however, was typically secured through militarily-enforced stable trade and tribute from conquered territories. Accordingly, economic development was viewed in large measure as an artifact of military success. Military failure, on the other hand, wrought corresponding economic decline. Thus, even though medieval China and the Roman Empire differed considerably in their political goals, they shared the representative view of their ages that economic development was not a discernibly sustainable process and was more a consequence of other primary regime interests such as military capacity.

During the European Renaissance, views of economic development changed dramatically. In Europe, where some five-hundred relatively autonomous polities in 1500 were consolidated into around twenty-five in 1900 (Tilly 1975, 15), regime survival was still best secured by increasing national military power. What had changed, however, was that military power became increasingly associated with economic capabilities. Accordingly, the economic efficiency of state policies determined in large measure both the survival and influence of European regimes (North and Thomas 1973). A compelling argument can be made, as previously noted, that the success of the British Empire after the Glorious Revolution of 1688 was a consequence of credible government commitments to a stable tax structure which spurred private initiative and, ultimately, tax revenues and military capacity (North and Weingast 1989). By 1776, a broad consensus in Britain was articulated by Adam Smith that the "universal, continual, and uninterrupted effort [of British citizens] to better their own condition [would press] the progress of England towards opulence and improvement... in all future times" (In Arndt 1987, 13).

That economic development was both sustainable and a desirable regime goal became widespread not only throughout Europe but also with countries faced with European colonization. One of the primary concerns of the architects of Japan's Meiji Restoration in 1867 was the threat of Western colonialism. In order to maintain state security and avoid foreign domination similar to that experienced in nineteenth-century China, national economic development became a central concern of the Meiji regime (Hirschmeier 1964, 64). Likewise, the pursuit of economic development due to "reactive nationalism" also arose in China and India under the leadership of intellectuals such as Sun Yat-sen and Dadabhai Naoroji (Arndt 1987, 16-20).

Since the middle of the twentieth-century, economic development (with particular emphasis on growth in national incomes) has become a primary goal of virtually every domestic political regime. Coinciding with this prevalent desire for economic development, as identified by both Robert Packenham (1973, 123-129) and Albert Hirschman (1982, 384-387), the study of development economics from 1946 throughout much of the 1960s generally assumed that economic, political and social progress all went together. Development was thus construed to mean congruent economic, political and social progress. Accordingly, it was widely believed that per capita income growth would spur democratization as well as reducing poverty and eradicating antiquated cultural institutions.

The subsequent disappointment with development economics was precisely that improvements in any one area of the national economy, politics or culture during the post-World War II era frequently occurred without commensurate progress in other socio-economic areas.

> [D]evelopment disasters, ranging from civil wars to the establishment of murderous authoritarian regimes, could not but give pause to a group of social scientists who... presumed that "all good things go together" (Packenham 1973, 123-129) and took it for granted that if only a good job could be done in raising the national income of the countries concerned a number of beneficial effects would follow in the social, political and cultural realms. When it turned out instead that the promotion of economic growth entailed not infrequently a sequence of events involving serious retrogression in those other areas, including the wholesale loss of civil and human rights, the easy self-confidence that our subdiscipline exuded in its early stages was impaired (Hirschman 1982, 385).

Moreover, the presumed strong relationship among economic, political and social indicators of development became considerably more obscured.

Coinciding with this obscured relationship among economic, political and social indicators of development remains the problem of causality. As implied by the classification of socio-economic theories described earlier in this introduction, scholars differ dramatically regarding which factors cause which effects. Although there is no simple resolution of these problems, this project attempts to justify its causal structures both theoretically and through historical tracing of causal processes using relevant examples. Of necessity, however, the causal structure employed in this dissertation (Figure 1) at best represents a simplification of reality useful for identifying and measuring primary socio-economic relationships. Specifically, Chapter II is focused on the impact of national culture and national income on domestic politics. Chapter III then proceeds to analyze how culturally-influenced domestic political regimes affect economic growth through their national economic policies. The interactions of these causal economic growth factors are the focus of Chapter IV.

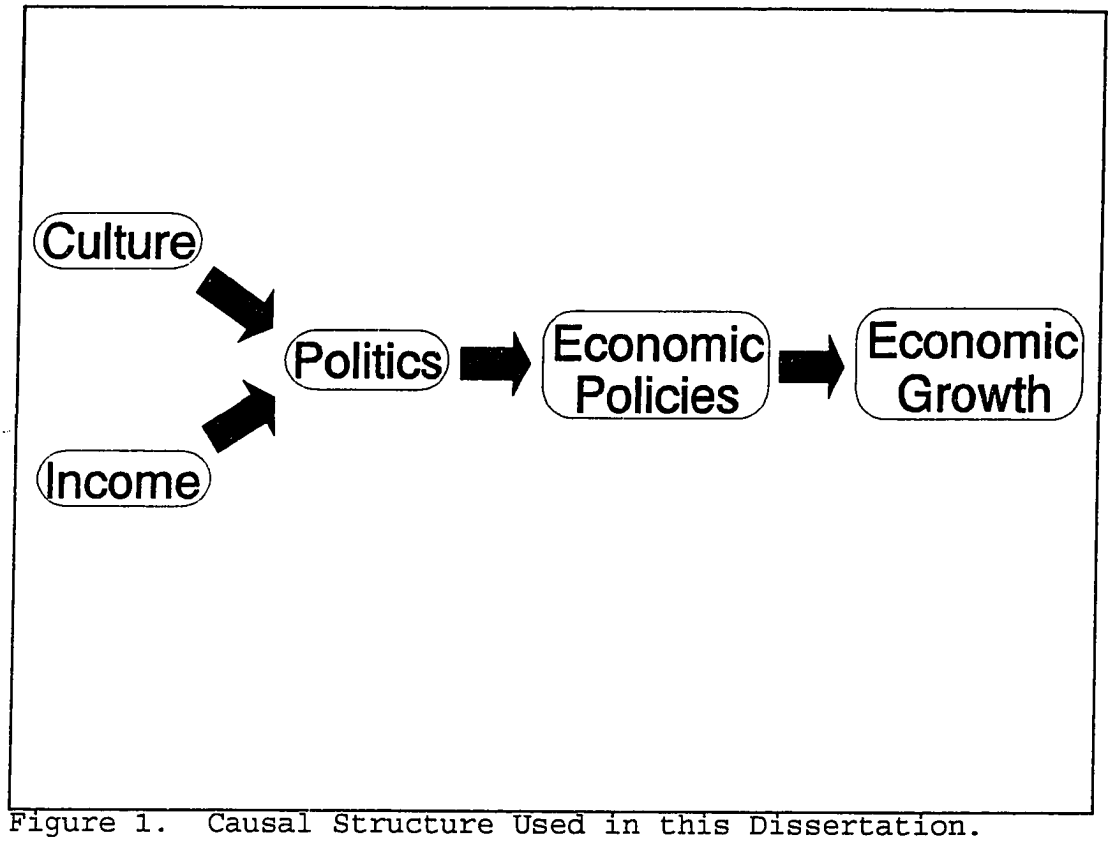

Figure 1. Causal Structure Used in this Dissertation.

CHAPTER II

ECONOMIC GROWTH AS A DOMESTIC POLITICAL GOAL

As argued in Chapter I, domestic political regimes and their constituents generally view economic growth as a desirable regime goal. Yet, the goal of economic growth can also be subordinated to other potentially conflicting goals such as regime survival. The purpose of this chapter is to examine the nature of economic growth in industrialized versus developing economies, identify political differences among economies and cultures as well as explore why political regimes can be economic predators or promoters. By showing *why* the domestic political regime exerts influences on the national economy, the foundation is laid for exploring *how* its policies affect economic growth which is presented in Chapter III. As such, this chapter also provides the causal underpinnings for identifying the socio-political interactions and patterns of national economic growth in Chapter IV.

National Income, Economic Volatility and Economic Take-Off

National income levels have been viewed as exerting profound effects upon both economic and social indicators of development. In order to explore these and other causal relationships in this dissertation, I have compiled post-World War II economic, political and social data for 114 countries representing all six populated continents. All countries are included for which at least basic economic indicators are available for ten consecutive years. Data is then aggregated for analysis by decade in order to

distinguish sustained trends from short-term anomalies while accommodating potential structural changes among variables during the post-World War II period. The use of decades is, of course, a somewhat arbitrary time interval. Its justification lies in data availability and new national economic policies which often correspond with decade changes. Complete data descriptions and listings can be found in Appendix A.

Of particular note, I employ economic data from Summers and Heston (1991) which is based on purchasing power parity relationships rather than the more commonly used exchange rate-based measures of national income. GDP_{PPP} is preferable for this analysis because it is both less sensitive to dramatic shifts in exchange rates and more inclusive of the overall economic activity in poorer countries which is currently masked by exchange rate-based GDP. As shown in Table 1, the use of GDP_{PPP} causes China, the Soviet Union and India to emerge prominently among the ten largest economies during the 1980s as measured by average real (1985) per-capita GDP multiplied by average population level. Although the comparative benefits and detriments of GDP_{PPP} will be argued for some time, further analysis of this measure is beyond the scope of the work.

TABLE 1

THE TEN LARGEST ECONOMIES DURING THE 1980s
AS MEASURED BY GDP_{PPP}
(Figures in $1,000,000,000s)

Country	Average Real (1985) GDP
United States	**$4,007**
China	**$1,946**
Japan	**$1,490**
Soviet Union	**$1,365**
West Germany	**$ 787**
India	**$ 714**
France	**$ 696**
United Kingdom	**$ 653**
Italy	**$ 642**
Brazil	**$ 546**

Figures 2-5 show the relationship between economic growth (CGDP) and real per-capita incomes (GDP) during the 1950s, 1960s, 1970s and 1980s. Three consistent features of these figures are immediately striking. First, high-income countries show remarkably similar growth rates within each of the four decades.[1] Whereas the range of real economic growth rates among high-income countries does not exceed 5% in any decade, the range among low-income countries exceeds 8.5% in each decade. Even the Japanese economy, which grew at compound annual rates of 3.22% and 3.72% during the 1970s and 1980s, respectively, only exceeded U.S. growth rates (which were relatively low among high-income countries during these decades) by 1.50% and 1.72%. To be sure, these differences on a compounded, annualized basis over the course of a decade are significant. By comparison, however,

[1]High-income countries are easily distinguished in these figures as those with real (1985) per-capita incomes in excess of $5,400 during the 1950s, $5,400 during the 1960s, $8,500 during the 1970s and $10,000 during the 1980s.

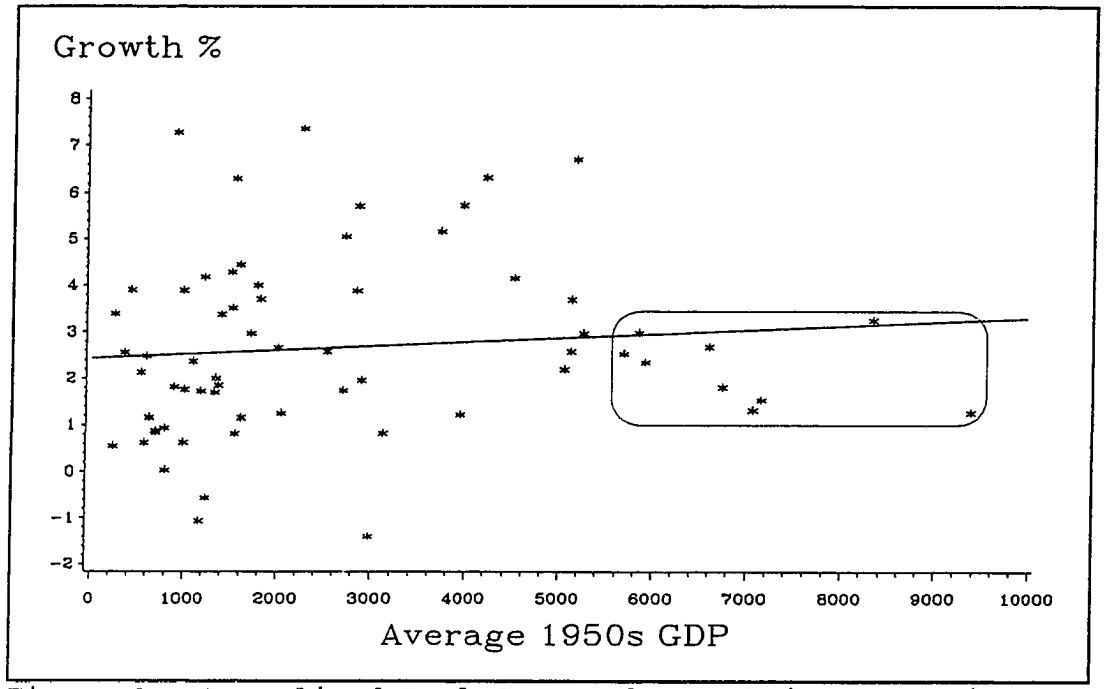

Figure 2. Annualized Real Compound Growth in Per-Capita GDP Versus Average Real (1985) Per-Capita GDP during the 1950s.

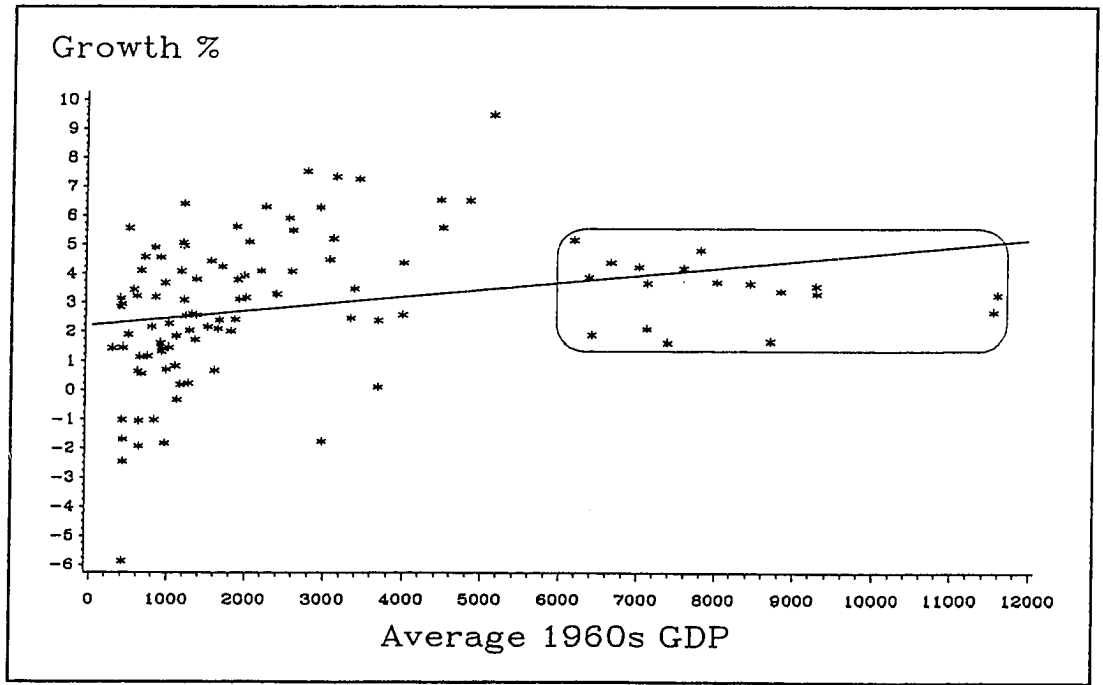

Figure 3. Annualized Real Compound Growth in Per-Capita GDP Versus Average Real (1985) Per-Capita GDP during the 1960s.

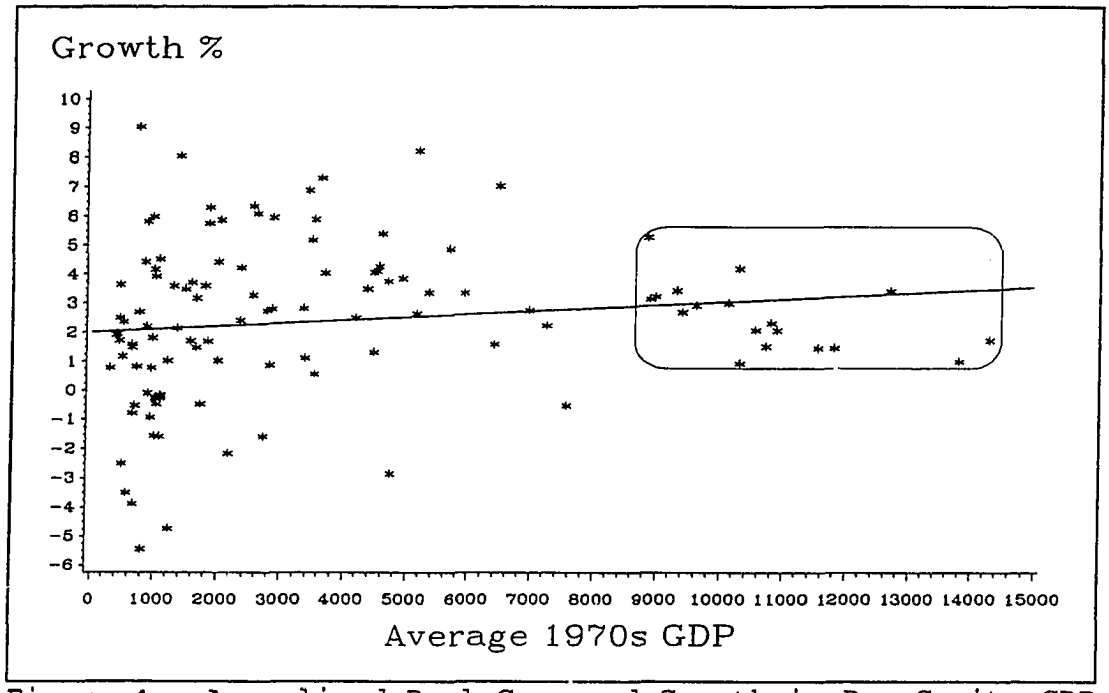

Figure 4. Annualized Real Compound Growth in Per-Capita GDP Versus Average Real (1985) Per-Capita GDP during the 1970s.

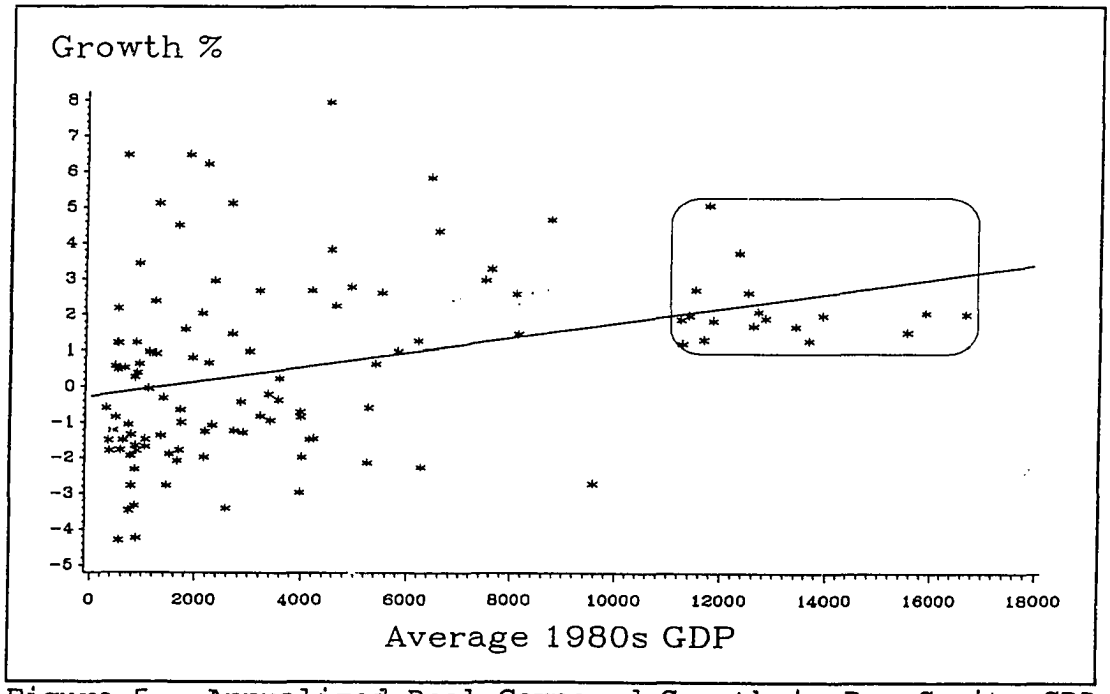

Figure 5. Annualized Real Compound Growth in Per-Capita GDP Versus Average Real (1985) Per-Capita GDP during the 1980s.

the range of growth rates among low-income countries exceeded 10% during both the 1970s and 1980s.

More formally, the null hypothesis that low-income and high-income countries are drawn from statistical populations with equal variances can be rejected with more than 99.5% confidence ($\alpha<.005$) for each decade (Table 2). In effect, sustained rapid growth or sustained stagnation is much more of a developing country phenomenon than an industrialized country one. Once a country has achieved a particular level of per-capita income, it appears less susceptible to dramatic swings in trade, consumption and production.[2] High economic volatility among low-income economies can also be ascribed to increased susceptibility from international economic cycles (Krasner 1976). If this hypothesis were true, we should then observe that open economies experience greater economic volatility than insulated economies. (The growth effects of openness to international trade are explored in Chapter III.)

TABLE 2

F-TESTS FOR THE NULL HYPOTHESES THAT HIGH-INCOME COUNTRY GROWTH AND LOW-INCOME COUNTRY GROWTH ARE DRAWN FROM EQUAL-VARIANCE POPULATIONS

Decade	df(low-inc.)	df(high-inc.)	F	P-value
1950s	55	8	7.66	.005
1960s	88	17	6.05	<.001
1970s	94	17	6.41	<.001
1980s	94	17	7.63	<.001

[2]Important exceptions to this rule could include Arab states in the Persian Gulf region. Although several of these states have relatively high per-capita incomes, their specialization in oil production and export has likely led to significant economic growth volatility. Unfortunately, reliable economic data could not be obtained for these states, resulting in their omission from my analyses.

Second, no pervasive "convergence effect" for national incomes can be measured. Indeed, high-income countries generally enjoyed higher economic growth rates than low-income countries during the post-World War II period. Table 3 demonstrates that during each of the four post-World War II decades regression line estimates between economic growth and per-capita income were positive, albeit statistically significant only in the 1960s and 1980s. These results are also corroborated by comparing the average economic growth rates for high-income countries with those for low-income countries (Table 4). For each decade except the 1950s, high-income country average growth rates exceeded low-income country average growth rates. Assuming unequal variances and large sample sizes, these differences were highly statistically significant during the 1980s ($\alpha<.001$) and weakly statistically significant during the 1960s ($\alpha<.1$).

TABLE 3

ORDINARY-LEAST-SQUARES SLOPE ESTIMATES OF REAL PER-CAPITA GDP GROWTH ON AVERAGE REAL PER-CAPITA INCOME BY DECADE

Decade	n	Slope Parameter	Standard Error	t-stat	P-value
1950s	65	.000087	.000108	.80	.427
1960s	107	.000246	.000082	2.99	.004
1970s	113	.000101	.000071	1.42	.159
1980s	113	.000203	.000051	3.97	<.001

TABLE 4

PER-CAPITA ECONOMIC GROWTH FOR HIGH-INCOME COUNTRIES AND LOW-INCOME COUNTRIES BY DECADE

Decade	Average High-Inc. Growth (%)	n_H	Average Low-Inc. Growth (%)	n_L	t-stat	P-value
1950s	2.19	9	2.74	56	-1.52	.139
1960s	3.40	18	2.79	89	1.67	.100
1970s	2.54	18	2.36	95	.44	.659
1980s	2.13	18	.32	95	5.20	<.001

There is, unfortunately, a slight selection problem in the measuring the growth-income relationship in Table 3. Namely, all other factors equal, high-growth economies within a decade are also slightly more inclined to have higher incomes than low-growth economies. Accordingly, this selection bias overstates the actual benefits which high-incomes may have conferred on economic growth. However, this selection bias is largely eliminated in Table 4 because the composition of the groups remains essentially static within and across decades.

A third important characteristic of the growth-income relationship concerns economic take-off. Namely, rapid sustained economic growth is experienced by several low-income countries during each decade. It is for these countries which the convergence effect may actually apply because they are able to control the deleterious effects of poor social, political and economic institutions which dog other low-income countries. The central questions which thus emerges from this data and for this dissertation as a whole are (1) what socio-political explanations can account for the sustained rapid growth which certain low-income countries have experienced and (2) what positive and normative implications do these relationships have for

developing nations in the post-Cold War era? These questions are discussed at length in the following sections.

Domestic Political Authority and Economic Growth

Domestic political regimes have always exerted a profound influence upon their national economies. Until recent times, however, economic growth (or stagnation) has typically been a byproduct of other primary regime goals such as regime survival (see Chapter I). Survival, as argued by Waltz (1979, 102-128), is the pre-eminent regime goal because it serves as the pre-requisite for all other goals; economic power is important to the regime to the extent that it increases its chances of survival.

What has become significant is that, in modern times, economic power is viewed by political regimes as a key to survival against both foreign and domestic political rivals. Although Waltz focuses his arguments on foreign military threats, regime survival can also be threatened by the economic dissatisfaction of domestic constituencies, as is amply demonstrated by Latin American and African cases throughout the twentieth-century. This strong linkage of economic conditions to regime survival has, suggests Krasner (1976, 318), led domestic political regimes to pursue four basic interests: *aggregate national income, social stability, political power and economic growth.*

Accordingly, one plausible set of explanations for the sustained rapid growth of certain low-income countries stems from the interaction between domestic politics and the domestic economy. As noted in Chapter I, relationships between political rights and income levels have been posited for some time. Seymour Martin Lipset (1981), for example, argues that high per-capita incomes strengthen democratically-reinforcing social supports such as higher educational levels. However, these social supports are, according to Lipset, more effective at maintaining

democratic regimes than converting authoritarian regimes to democratic ones.

> Once established, a democratic political system "gathers momentum" and creates social supports (institutions) to ensure its continued existence. Thus a "premature" democracy which survives will do so by (among other things) facilitating the growth of other conditions conducive to democracy, such as universal literacy, or autonomous private organizations. (Lipset 1981, 29)

The causal effects of per-capita income on democracy or authoritarianism can be investigated empirically using the Political Rights Index compiled by Freedom House (*Freedom at Issue; Freedom Review*) which ranks countries on a scale from 1-7 (1=democratic, 7=authoritarian). According to this data, low-income countries exhibited a considerably greater range of political authoritarianism than high-income countries (Figures 6 and 7) during the 1970s and 1980s. In particular, high-income industrialized countries were indeed uniformly democratic. Low-income economies, by contrast, ranged politically from democratic to highly authoritarian, although income also had a highly statistically significant democratically-reinforcing effect on low-income countries as well. Ordinary-least-squares regression estimates of per-capita income on political rights for low income economies during the 1970s and 1980s (Table 5) show a strong and increasing tendency for income to spur democracy.

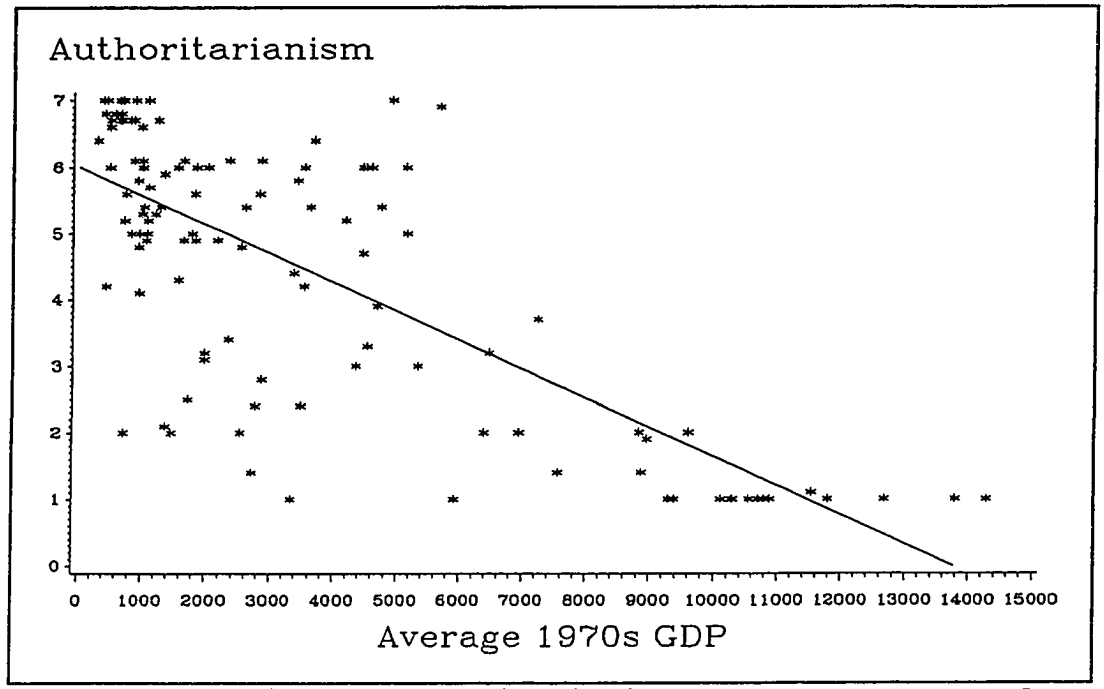

Figure 6. Political Authoritarianism Versus Average Real (1985) Per-Capita GDP (in $US) during the 1970s.

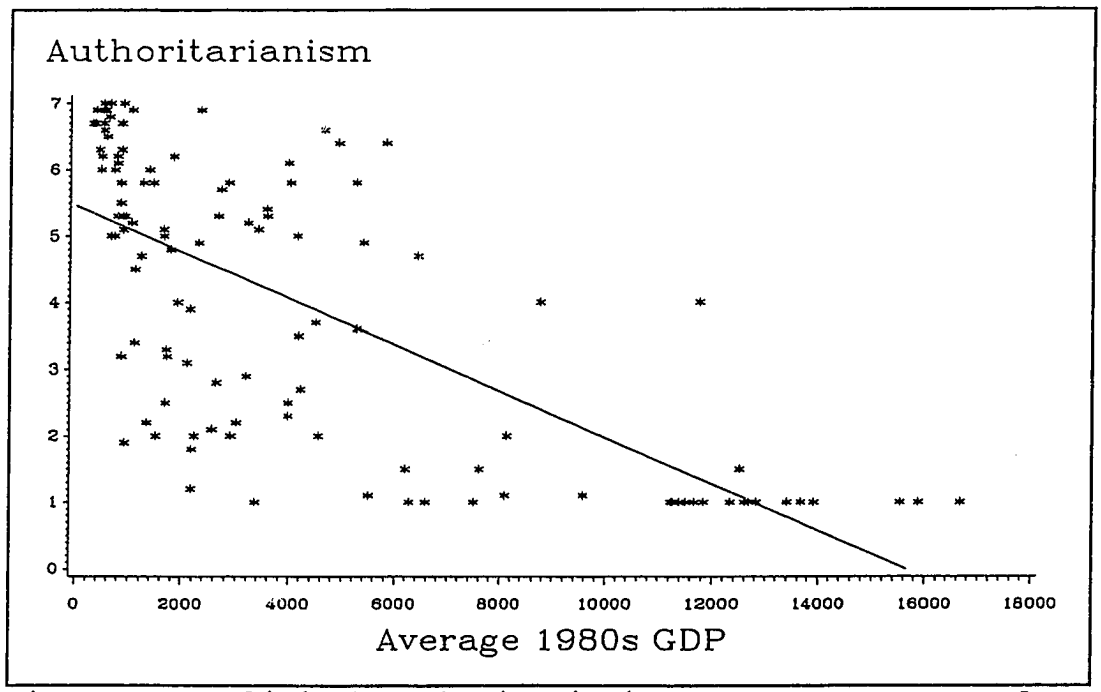

Figure 7. Political Authoritarianism Versus Average Real (1985) Per-Capita GDP (in $US) during the 1980s.

TABLE 5

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE IMPACT OF PER-CAPITA INCOME ON AUTHORITARIANISM FOR LOW-INCOME COUNTRIES DURING THE 1970s AND 1980s (n=95)

Variable	Coefficient	Std. Error	t-statistic	P-value
	For PR70, (R^2 = .208)			
constant	5.97	.247	24.20	<.001
GDP70	-.000410	.0000829	-4.94	<.001
	For PR80, (R^2 = .300)			
constant	5.73	.258	22.21	<.001
GDP80	-.000470	.0000745	-6.31	<.001

The fact that the income-democracy relationship holds for low-income countries is especially significant. Most high-income countries share a Western cultural heritage which could also be used to explain their democratic predispositions. However, because low-income countries during the 1970s and 1980s do not share this same cultural heritage, the fact that higher income levels are also democratically reinforcing among these countries is striking. These data thus strongly support Lipset's income-democracy hypothesis across all income sectors. Because high-income industrialized countries were uniformly democratic and exhibited little growth volatility, I will focus much of my analysis on low-income economies in order to better distinguish patterns among economic, political and cultural variables.

Another critical relationship to identify among these low-income economies is the economic growth impact of political authoritarianism. According to theories proposed by scholars such as Gerschenkron (1962) and O'Donnell (1973), political authoritarianism may be a necessary condition both for initiating a successful program of economic growth (by coordinating national resources) as well

as maintaining a successful growth program in the face of changing domestic political forces. By authoritarian, here, I refer to the political insulation of state economic policies and not the systematic suppression of human rights and civil liberties. Of course, some regimes do quell all opposition in particularly brutal ways. Still, lack of political pluralism does not always precipitate dramatic violations of human rights.

Although it may be theoretically necessary, political authoritarianism should not be a sufficient condition for spurring sustained, rapid economic growth. Authoritarian regimes, for example, may also reinforce the economically inefficient use of domestic resources, thereby underperforming more democratic states. Figures 8 and 9 graphically show the relationship between economic growth and authoritarianism during the 1970s and 1980s, respectively. During both of these decades, authoritarianism appears to have had a weakly negative impact on economic growth, although both high- and low-growth economy groups included the complete spectrum of strongly democratic through authoritarian regimes. Table 6 shows that even after controlling for per-capita income, the weakly negative (though statistically insignificant) impact of authoritarianism on economic growth remains during both the 1970s and the 1980s. Furthermore, political rights do not appear to have had an impact on the range of economic growth which countries experienced.

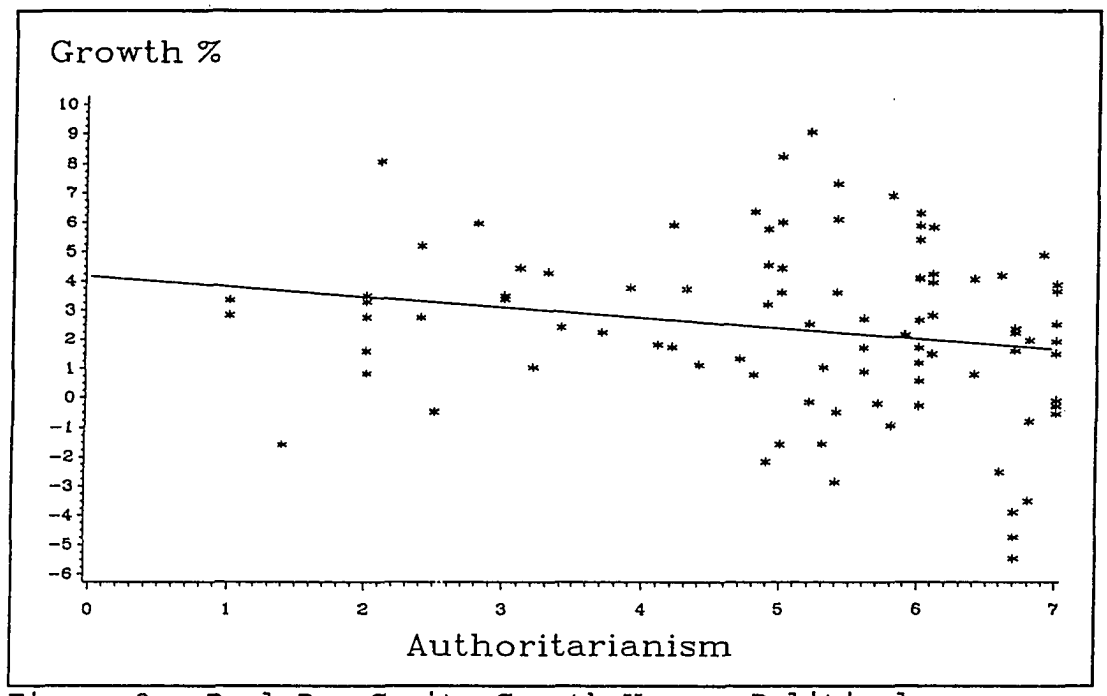

Figure 8. Real Per-Capita Growth Versus Political Authoritarianism for Low-Income Countries during the 1970s.

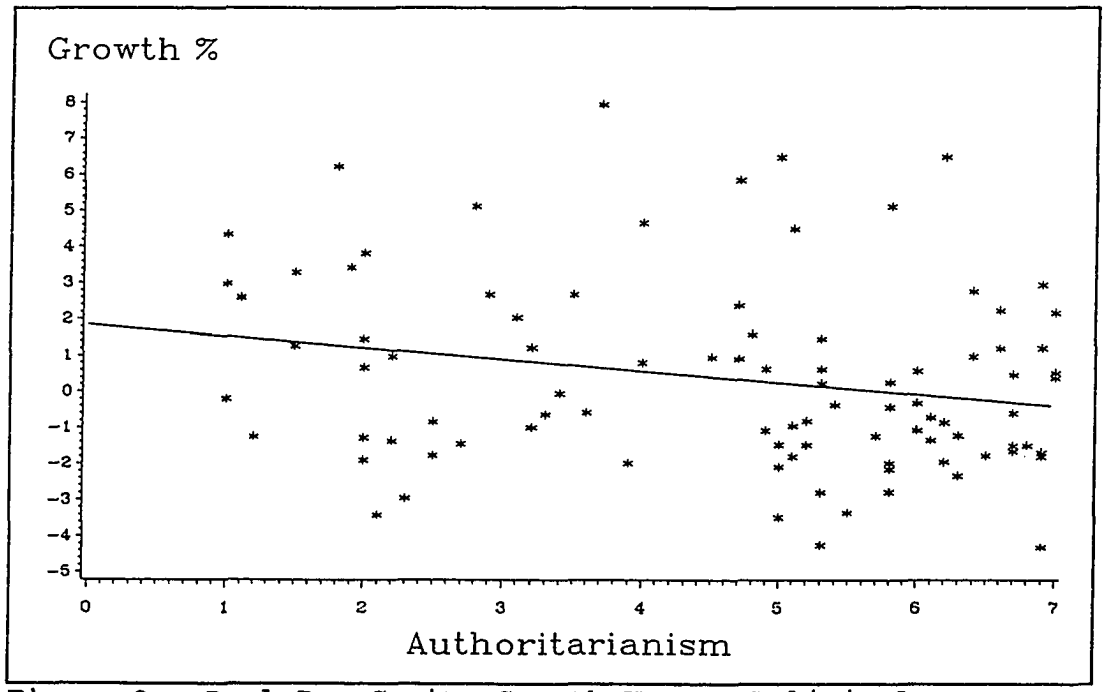

Figure 9. Real Per-Capita Growth Versus Political Authoritarianism for Low-Income Countries during the 1980s.

TABLE 6

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE IMPACT OF AUTHORITARIANISM ON REAL ECONOMIC GROWTH FOR LOW-INCOME COUNTRIES DURING THE 1970s AND 1980s (n=95)

Variable	Coefficient	Std. Error	t-statistic	P-value
	For CGDP70, (R^2 = .081)			
constant	2.18	1.27	1.72	.089
PR70	-.139	.197	-.71	.482
GDP70	.000376	.000177	2.13	.036
	For CGDP80, (R^2 = .079)			
constant	-.249	1.01	-.25	.806
PR80	-.0515	.162	-.32	.752
GDP80	.000301	.000139	2.17	.033

Moreover, these data generally do not support the finding of Limongi and Przeworski (1993, 7) that "when times are bad for growth, there will be more democracies; when times are propitious, there will be more dictatorships." Specifically, while the 1970s proved to be a considerably more prosperous decade for low-income countries (average CGDP70=2.36%) than the 1980s (average CGDP80=0.32%), Table 7 shows that they were also significantly more authoritarian (α=.045 for a two-tailed test), on average, during the 1970s (average PR70=5.03) than during the 1980s (average PR80s=4.51).[3]

[3]t-statistics and significance levels for Table 8 are equivalent under either equal or unequal variance assumptions due to the large sample sizes.

TABLE 7

LOW-INCOME COUNTRY t-TEST FOR LEVELS OF AUTHORITARIANISM DURING THE 1970s VERSUS THE 1980s
($n_{1970s} = n_{1980s} = 96$)

Average PR70	Std.Dev. PR70	Average PR80	Std.Dev. PR80	t-stat	P-value
5.03	1.66	4.51	1.92	2.01	.045

If a country's level of political rights does not systematically confer measurable economic growth benefits, however, does volatility in political rights or other political institutions exert a measurable influence on economic growth? Specifically, do national economies perform better in the face (or absence) of political instability? As to be expected, Tables 8-10 show that political instability in the form of COUPS (irregular executive transfers or successful coups), log(PDEATH) (where PDEATH is deaths attributed to domestic political violence)[4] and PVOL (variability in political rights) had a negative impact on economic growth throughout the post-World War II era.[5] What is striking about these results is that even those effects which were not statistically significant were still negative in sign. Thus, political instability in a wide range of forms can be viewed to negatively affect economic growth. The negative statistical relationship between political instability and economic growth may, however, be somewhat artificially enhanced by the

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[4]The log transformation was applied the PDEATH50, PDEATH60 and PDEATH70 in order to enhance their linear association with economic growth. LPD was coded as 0 for PDEATH figures <= 1.

[5]Coups and political death figures were not available for the 1980s from Taylor (1983) and political volatility was unavailable for the 1950s and 1960s from Freedom House in New York.

politically destabilizing effects of economic stagnation. However, this confounding interpretation is also mitigated because sustained growth can also spur political instability. Namely, sustained growth creates evolving political forces and domestic challengers to the prevailing political regime. Still, the potential political impact of economic stagnation cannot be disregarded entirely.

TABLE 8

ORDINARY-LEAST-SQUARES SLOPE ESTIMATES OF REAL PER-CAPITA GDP GROWTH ON IRREGULAR EXECUTIVE TRANSFERS BY DECADE FOR LOW-INCOME COUNTRIES, CONTROLLING FOR PER-CAPITA INCOME

Decade	n	Slope Parameter	Standard Error	t-stat	P-value
1950s	56	-.768	.271	-2.84	.006
1960s	89	-.109	.164	-0.66	.509
1970s	95	-.495	.250	-1.98	.051

TABLE 9

ORDINARY-LEAST-SQUARES SLOPE ESTIMATES OF REAL PER-CAPITA GDP GROWTH ON log(POLITICAL DEATHS) BY DECADE FOR LOW-INCOME COUNTRIES, CONTROLLING FOR PER-CAPITA INCOME

Decade	n	Slope Parameter	Standard Error	t-stat	P-value
1950s	56	-.237	.132	-1.79	.079
1960s	89	-.001	.096	-0.01	.995
1970s	95	-.350	.121	-2.89	.005

TABLE 10

ORDINARY-LEAST-SQUARES SLOPE ESTIMATES OF REAL PER-CAPITA GDP GROWTH ON VARIABILITY IN POLITICAL RIGHTS BY DECADE FOR LOW-INCOME COUNTRIES, CONTROLLING FOR PER-CAPITA INCOME

Decade	n	Slope Parameter	Standard Error	t-stat	P-value
1970s	95	-.085	.187	-0.45	.652
1980s	95	-.286	.185	-1.54	.127

Up to this point, I have shown that high per-capita incomes have exerted a strong influence on stabilizing economic growth and reinforcing democratic social supports throughout the post-World War II era. Sustained rapid growth, prolonged economic stagnation and wide fluctuations in political rights has, accordingly, been much more an artifact of low-income economies than high-income ones. No pervasive relationship, however, can be established between political rights and economic growth. During the 1970s and 1980s, low-income democracies did appear to grow more rapidly, on average, than their authoritarian counterparts. However, these differences were far from statistically significant in either decade.

What was statistically significant was the shift towards democracy in the 1980s even though these countries generally experienced far less real growth compared with the 1970s. Political turbulence, whether measured by successful coups, deaths attributable to domestic political violence or variability in political rights did exert a negative influence on economic growth throughout the four post-World War II decades for which data was available. Of course, this effect was reinforced statistically by the political discontent which sprang from economic stagnation. Still, regimes which faced political upheaval were also less

likely to focus on economic growth than on the direct threats to their own survival.

The question which then arises is what causes some low-income countries to have particular levels and variability in the political rights they offer their citizens. The political pre-dispositions of these countries and their policies are, I argue, determined in large measure by embedded national culture. The next section of this chapter, therefore, discusses the cultural foundations of political regimes and their policies.

Cultural Foundations of Authoritarianism and Economic Growth

National culture, referred to in sociology and the new institutional economics as a nation's informal (or cultural) institutions and constraints, represent the norms, habits, attitudes and beliefs that affect the decision-making of domestic economic agents. Not only does culture directly affect the behavior of domestic economic agents, but it also helps to establish the character of the domestic political regime and its economic policies. It is this interaction of culture with politics which can be effectively viewed within the framework of institutions.

Since the inception of the "human relations" school of organization theory during the 1930s, institutions have been productively viewed as the primary constraints which govern human behavior:

> Institutions are the rules of the game in a society or... the humanly devised constraints that shape human interaction.... [T]hey structure incentives in human exchange, whether political, social, or economic.... Institutions reduce uncertainty by providing structure to everyday life. They are a guide to human interaction, so that... we know (or can learn easily) how to perform tasks. We would readily observe that institutions differ if we were to try to make the same transactions in a different country--Bangladesh for example.... [I]nstitutions define and limit the set of choices of individuals (North 1990, 3-4).

Institutions can then be analytically subdivided into two classes--formal and informal, where formal institutions comprise constitutions, political systems, written laws, legal systems, and contractual relationships which arise as conscious responses to a wide array of prevailing social circumstances. Informal institutions (or culture in this analysis) represent the unconscious habits, attitudes and beliefs that affect the decision-making of domestic economic agents.

In effect, virtually all formal institutions are the direct or indirect result of policies of the prevailing domestic political regime. Domestic constitutions, laws, regulations and taxation are all typically enacted and enforced by the regime. Economic contracts and expectations are also highly dependent upon governmental policies and enforcement. Thus, the domestic political regime can and should be viewed as the primary group which establishes a nation's formal institutions through its political policies. In other words, the formal institutions affecting economic activities are largely the result of domestic political regime policy. Indeed, because of the influence of domestic regime policies upon national economic development and the deliberate way in which regime policies are devised, formal institutions embodied in regime policies are what best constitute a *national development strategy*. Furthermore, North observes that formal institutions (or constraints, as

he terms them) are "clearly related to the increasing specialization and division of labor associated with more complex societies" (North 1990, 46).

Informal institutions, in contrast, constitute the cultural underpinnings which both constrain behavior and give rise to formal institutions:

> Informal [institutions], although comprising the processes of society which are unconscious as contrasted with those of formal [institutions] which are conscious, [have] two important classes of effects: (a) [they] establish certain attitudes, customs, habits... and (b) [they] create the conditions under which formal [institutions] may arise (Barnard 1938, 49).

Further, as Granovetter (1985) has argued, these informal social institutions guide economic behavior to a considerable degree in both pre-industrial and industrial societies. Indeed, compared to formal institutions, which "make up a small (although very important) part of the sum of constraints that shape choices" (North 1990, 36), informal institutions are pervasive across society even though their effects may not be consciously perceived. Also, because they consist of long-term adaptations to socio-economic conditions, informal institutions are more persistent:

> Japanese culture survived the U.S. occupation after World War II; the post-revolutionary U.S. society remained much as it had been in colonial times; Jews, Kurds, and endless other groups have persisted through centuries despite endless changes in their formal status. Even the Russian Revolution, perhaps the most complete formal transformation of a society we know, cannot be completely understood without exploring the survival and persistence of many informal constraints (North 1990, 36-37).

The pervasiveness and persistence of informal institutions does not render them interpretable as conscious national policy choices. They are, therefore, distinct from the formal institutions which are constituted in domestic political regime policies. However, informal institutions

only give rise to a limited range of formal institutions, so that not all formal institutions are viable in every society. Moreover, the efficiency of formal institutions (and, thereby, national development strategies) may depend substantially upon a nation's prevailing informal institutions. Yet, how can the numerous types of informal institutions be rendered analytically tractable?

Important insights regarding the nature of informal institutions can be gained from the fields of social psychology and anthropology. Of particular interest, Hofstede's seminal works (1980; 1991) have identified and measured five basic cultural dimensions of nations:

(1) IND: **degree of individualism** (versus collectivism)-- "*Individualism* pertains to *societies in which the ties between individuals are loose: everyone is expected to look after... immediate family. Collectivism* as its opposite pertains to *societies in which people from birth onwards are integrated into strong, cohesive ingroups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty*" (1991, 51 emphasis his),

(2) LTO: **long-term orientation** (Hofstede and Bond 1988)-- thrift; perseverance; virtue of deeds over need for truth; willingness to subordinate oneself for a purpose,

(3) MAS: **desirability of assertive behavior** (versus modest behavior) in economic contexts,

(4) PDI: **power distance index**-- acceptance of social stratification or "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally" (1991, 28) and

(5) UAI: **uncertainty avoidance** (first used by Cyert and March 1963)-- "*the extent to which the members of a culture feel threatened by uncertain or unknown situations*" (Hofstede 1991, 113 emphasis his).

The IND, MAS, PDI and UAI variables were distinguished and measured based on 116,000 questionnaires completed for 58

industrialized and developing countries representing all six populated continents. Moreover, these variables are not time-series like economic and political variables because their values (with the exception of IND, explained later) remain stable over long periods of time. Therefore, even though these measures were originally compiled during 1968 and 1972, they remained remarkably stable in a follow-up study some 15 years later. The empirical stability of these values is, thus, consistent with the theoretical stickiness of cultural institutions.

These cultural dimensions can be instrumental in explaining both conflict and cooperation among domestic economic agents. For example, increasing disparities in incomes may cause moderate social stress in cultures with a low tolerance for social stratification. Similarly, substantial numbers of foreign migrant workers (or significant ethnic and religious minorities) may pose special political problems in cultures with high uncertainty avoidance. Also, while a social emphasis on individual over collective concerns is typically viewed as an artifact of economic wealth, there is a significant spread in individualism among industrialized countries. Adjusting for wealth effects, a focus on individual concerns may have either a positive or negative impact on future economic efficiency and growth. As a result, economic cooperation and conflict can depend upon embedded cultural institutions in the context of prevailing socio-economic conditions. This cooperation and conflict among domestic economic agents, in turn, can largely determine the efficiency of national development strategies established through the formal institutions of political policy.

Hofstede's LTO variable is, unfortunately, calculated only for 22 countries, 20 of which are included

in his sample of 58 countries.[6] In order to complete the LTO index for all 58 countries, I have investigated three potential proxies for LTO--marginal propensity to save (MPS), gross domestic saving rate for 1980 (GDS80) and the arithmetic average of these measures (SAV). MPS represents the marginal propensity to save rather than consume incremental disposable national income[7]; GDS80 simply represents the percentage of gross domestic savings to gross domestic product in 1980, the approximate year of the CVS survey on which LTO is based. As measures of thrift, MPS, GDS80 and SAV are all theoretically appealing proxies because of the important thrift component in LTO. Of course, thrift can also be viewed to be an artifact of regime economic policies. However, the cultural predispositions toward thrift are reinforced by the stability of these measures through time in the face of changing regime policies.

More importantly, the thrift component of LTO is borne out by its high correlation with MPS (r=.584), GDS80 (r=.563) and SAV (r=.628).[8] These high correlations are especially striking given the vagaries associated with compiling national income accounting data and constructing a cultural index by survey. Although each measure of thrift appears closely related to LTO, the comparative strength of MPS, GDS80 and SAV as proxies for LTO can be distinguished by comparing their correlations with economic growth and

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[6]The LTO index is calculated based on Michael Bond's Chinese Value Survey (CVS) which was administered to students in 23 countries (Hofstede and Bond 1988).

[7]See Appendix A for a derivation of my calculation as well as data listings for all variables.

[8]These Pearson correlations are based on 22 countries listed in Appendix A. I excluded Poland from the analysis because of the difficulty in reliably estimating economic data from 1970 to 1990.

income variables during the 1970s and 1980s in which both economic growth and income information is available for all 22 relevant countries. Based on the correlations presented in Table 11, MPS emerges as the best proxy for LTO because its correlations with the more significant CGDP variables are most similar to LTO-CGDP correlations. SAV also appears as a reasonable proxy choice; however, it is far worse than MPS in its correlation with LTO-CGDP and only marginally better than MPS when comparing its GDP correlations with LTO-GDP correlations. Moreover, because CGDP correlations are far more significant in magnitude than the GDP correlations, they should be construed as representing stronger underlying relationships. I, therefore, calculate MPS for all 58 countries in which cultural data is otherwise available as a proxy for LTO.

TABLE 11

PEARSON CORRELATION MEASURES OF THRIFT WITH GDP INDICATORS (n=22)

	LTO	MPS	GDS80	SAV
CGDP70	.566	.625	.729	.718
CGDP80	.678	.596	.343	.559
GDP70	-.220	-.301	.128	-.175
GDP80	-.089	-.187	.270	-.041

Now that MPS has been established to be a close proxy for LTO, all five cultural variables may be compared against each other as well as with political and economic variables during the 1970s and 1980s. Table 12 presents the correlation matrix of all five cultural variables. Except for IND, the remaining four variables exhibit low correlations, indicating that each variable captures a substantially different cultural attribute.

Moreover, as Hofstede (1980, 49) explains, individualism (IND) is the least stable measure because it

is closely linked to prevailing national income. Thus, by removing the effects of average real per-capita income during the 1970s (its closest reference years) using a linear regression, a more theoretically stable measure of income-adjusted individualism index can be constructed (RIND). Table 13 indicates that not only is RIND more theoretically compelling as a cultural index, but this residual measure of individualism also greatly reduces its correlation with PDI attributable to national income. Accordingly, because MAS, MPS, PDI, RIND and UAI constitute largely independent yet reasonably complete measures of national culture, they represent a natural basis for measuring and modeling informal institutions.

TABLE 12

PEARSON CORRELATION MEASURES OF NATIONAL CULTURE INDICES[9]
(n=58)

	IND	MAS	MPS	PDI	UAI
IND	1.000				
MAS	.092	1.000			
MPS	-.241*	-.092	1.000		
PDI	-.693***	.044	.078	1.000	
UAI	-.284**	-.010	-.155	.197	1.000

[9]Asterisks *, ** and *** in correlation tables denote two-tailed significance at the .1, .05 and the .01 levels, respectively. Also, even though Hofstede argues that these cultural measures are ordinal in nature, the fact that they are constructed from algebraic combinations of ordered responses makes Spearman and Kendall correlations inappropriate. That is, if algebraic transformations were appropriate in constructing the indices, they must necessarily be cardinal in nature.

TABLE 13

PEARSON CORRELATIONS MEASURES OF INCOME-ADJUSTED INDIVIDUALISM WITH NATIONAL CULTURE INDICES (n=58)

	MAS	MPS	PDI	UAI
RIND	.043	-.360***	-.277**	-.332**

Now that reliable and reasonably complete indicators for national culture have been established, their impact on economic growth as well as their interaction with authoritarian regimes can be assessed for the 1970s and 1980s. In particular, two critical questions emerge: (1) does domestic culture exert a consistent influence on countries' propensity towards political rights and political turbulence and (2) does domestic culture exert consistent effects directly on economic growth?

First, the cultural determinants of political rights and turbulence can be explored by regressing these political variables on the five national culture variables and controlling for national income. Not every cultural variable, however, need have a direct influence on political rights or political turbulence. In order to determine which cultural variables best explain political rights and political instability, I utilize the C_p statistic analysis first developed by Mallows (1967) to identify best explanatory subsets of cultural variables.

The C_p statistic technique effectively identifies which subset of independent (in this case cultural) variables best explains the variance in the dependent variable, adjusting for statistical degrees of freedom. A regression's C_p statistic is an inverse function of its R^2 statistic. Thus, the lower the C_p statistic, the better the linear fit of the regression. The C_p statistic also adjusts for the number of independent variables in a regression subset and equates the C_p statistic of the full model (in

which all independent variables are included) to the number of regressors plus one. Subset regressions with C_p statistics less than the number of subset regressors plus one are considered to provide equal explanatory power to the full model. The best subset can, therefore, be identified as the regression with the fewest number of regressors and the lowest C_p statistic which is less than the number of regressors plus one. C_p statistic analysis is statistically equivalent to stepwise regression procedures but offers a more complete look at competing subset regressions.

Figures 10 and 11 represent C_p-plots for the subset regressions of political rights levels on national culture and national income during the 1970s and 1980s, respectively. The best regression subset for explaining 1970s political rights is circled in Figure 10 and contains the two cultural variables MAS and PDI as well as the national income variable, GDP70. Figure 11 identifies these same variables in its best subset regression for 1980s' political rights levels with the addition of the cultural variable UAI. These best subset regressions are presented in Table 14. The regressions show a strong propensity for those societies which accept social stratification and whose citizens are economically unassertive to have authoritarian tendencies. Citizens of democracies, by contrast, tend not to accept social stratification and are generally more assertive in economic contexts. Furthermore, societies which feel threatened by uncertain or unknown situations (i.e., with high UAI scores) experienced a significant trend towards democracy during the 1980s. Interpretation difficulties due to multiple colinearity are minimal here because these cultural variables are largely independent. Moreover, exactly the same subset selection and essentially the same regression coefficients are obtained if only low-income countries are used for the 1970s and the 1980s

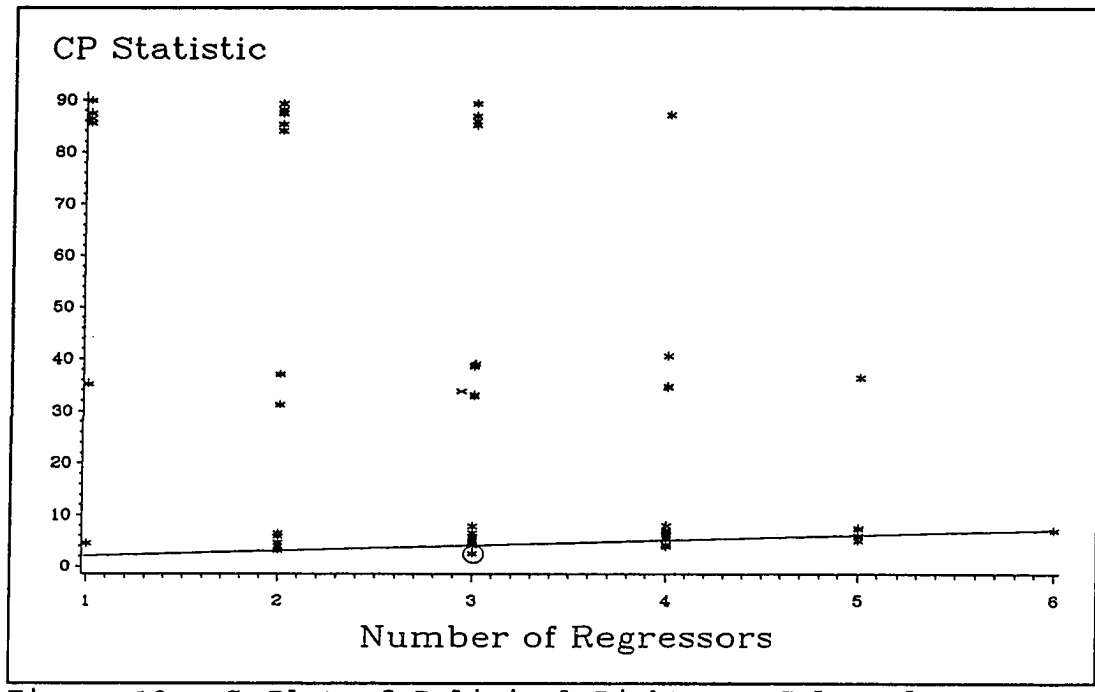

Figure 10. C_p-Plot of Political Rights on Cultural Variables and National Income for the 1970s.

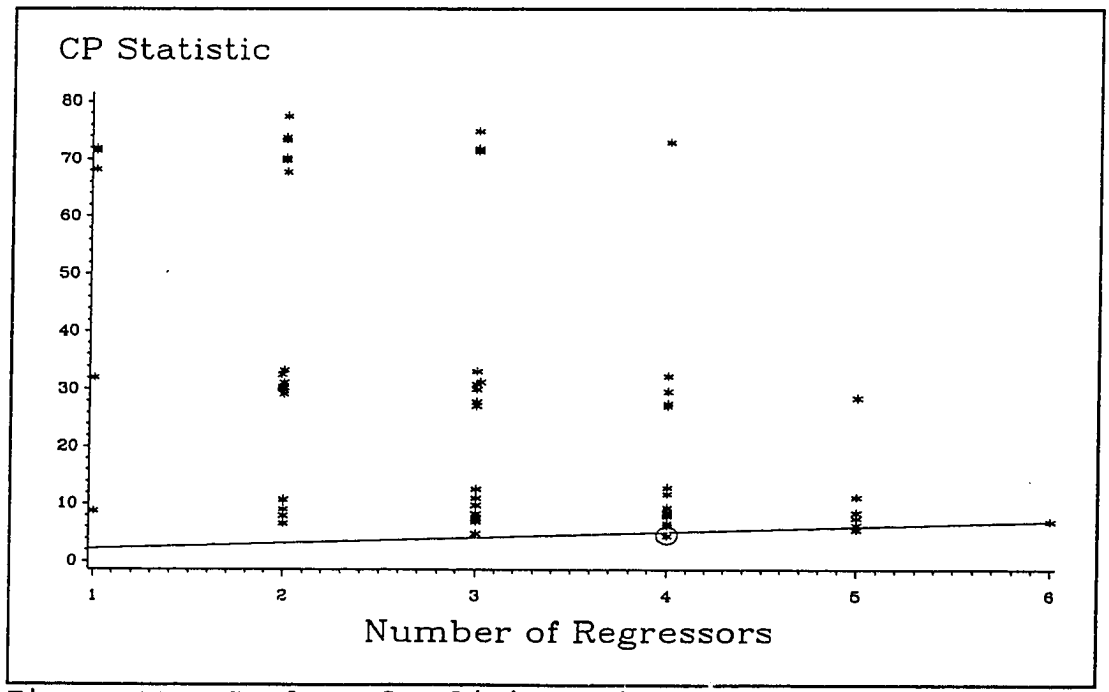

Figure 11. C_p-Plot of Political Rights on Cultural Variables and National Income for the 1980s.

TABLE 14

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE BEST SUBSET REGRESSIONS OF POLITICAL RIGHTS ON NATIONAL CULTURE AND REAL PER-CAPITA INCOME DURING THE 1970s AND 1980s (n=58)

Variable	Coefficient	Std. Error	t-statistic	P-value
	For PR70, (R^2 = .635)			
constant	4.42	.856	5.16	<.001
MAS	-.0147	.00907	-1.63	.109
PDI	.0203	.00986	2.06	.044
GDP70	-.000295	.0000526	-5.62	<.001
	For PR80, (R^2 = .583)			
constant	4.74	.957	4.96	<.001
MAS	-.0145	.00939	-1.55	.128
PDI	.0214	.0101	2.13	.038
UAI	-.0163	.00711	-2.29	.026
GDP70	-.000295	.0000526	-5.52	<.001

because per-capita income is used as a control variable. Because low-income countries' results are virtually identical to the full sample for the remaining C_p statistic analyses in this chapter, I employ all countries for which data is available during this analysis of national culture.

Whereas a culture's acceptance of social stratification and its assertiveness in economic contexts are strong indicators of a country's level of political rights, fear of uncertain or unknown situations (UAI) exerts an especially strong effect on the variability of political rights. Applying the C_p statistic technique to help determine the cultural bases of political rights variability, UAI was the only cultural variable selected as exerting a significant influence during both the 1970s and 1980s. Table 15 presents these best subset regressions and shows that societies which feel threatened by uncertain or unknown situations experienced significantly more variability in their political rights than other countries.

UAI also contributed significantly to the number of irregular executive transfer during the 1970s (Table 16), although none of the best subset regressions for irregular executive transfers during the 1950s, 1960s and 1970s demonstrated a strong goodness of fit ($R^2 < .21$). Moreover, UAI was significantly negatively related to the number of deaths attributable to domestic political violence during the 1950s and 1960s (Table 17). This demonstrates that while cultures which feel threatened by uncertain or unknown situations may be more prone to changes in domestic political rights, it does not necessarily translate into increased domestic violence. The domestic political regimes in these countries may thus be better able to tactically shift political rights in order to more peacefully quell domestic political disorder. Unfortunately, high UAI countries also appear to be potential powder-kegs. Yugoslavia, for example, has an exceptionally high UAI score and remained peaceful and politically stable throughout the Cold War era. However, their insecurity with uncertain or unknown situations combined with their ethnic diversity to foment a difficult to resolve civil war beginning in the early 1990s. Japan's high UAI measure may be less problematic for domestic political violence because of its ethnic homogeneity. Yet, it may play a decisive role in its international economic and political relations.

TABLE 15

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE BEST SUBSET REGRESSIONS OF POLITICAL RIGHTS VARIABILITY ON NATIONAL CULTURE AND REAL PER-CAPITA INCOME DURING THE 1970s AND 1980s (n=58)

Variable	Coefficient	Std. Error	t-statistic	P-value
	For PVOL70, (R^2 = .352)			
constant	.533	.650	.82	.416
UAI	.0295	.00828	3.57	<.001
GDP70	-.000180	.0000488	-3.69	<.001
	For PVOL80, (R^2 = .372)			
constant	1.33	.556	2.38	.021
UAI	.0147	.00702	2.10	.040
GDP80	-.000164	.0000337	-4.88	<.001

TABLE 16

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE BEST SUBSET REGRESSIONS OF IRREGULAR EXECUTIVE TRANSFERS ON NATIONAL CULTURE AND REAL PER-CAPITA INCOME DURING THE 1950s, 1960s AND 1970s

Variable	Coefficient	Std. Error	t-statistic	P-value
	For COUPS50, (R^2 = .201, n=48)			
constant	-.483	.570	-.85	.402
PDI	.0191	.00745	2.57	.014
GDP50	-.0000196	.0000670	-.29	.772
	For COUPS60, (R^2 = .206, n=58)			
constant	2.14	.521	4.11	<.001
MPS	-.0151	.00791	-1.91	.062
RIND	-.0160	.00667	-2.39	.020
GDP60	-.000104	.0000378	-2.76	.008
	For COUPS70, (R^2 = .160, n=58)			
constant	.285	.429	.67	.509
UAI	.00971	.00546	1.78	.081
GDP70	-.0000794	.0000322	-2.47	.017

TABLE 17

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE BEST SUBSET REGRESSIONS OF log(POLITICAL DEATHS) ON NATIONAL CULTURE AND REAL PER-CAPITA INCOME DURING THE 1950s, 1960s AND 1970s

Variable	Coefficient	Std. Error	t-statistic	P-value
For log(PDEATH50), (R^2 = .360, n=48)				
constant	5.17	2.05	2.53	.015
PDI	.0263	.0157	1.67	.102
RIND	-.0329	.0158	-2.08	.044
UAI	-.0294	.0141	-2.08	.043
GDP50	-.000366	.000137	-2.67	.011
For log(PDEATH60), (R^2 = .373, n=58)				
constant	4.17	1.86	2.24	.029
PDI	-.0220	.0155	1.42	.163
RIND	-.0239	.0141	-1.69	.096
UAI	-.0195	.0107	-1.82	.075
GDP60	-.000287	.000103	-2.80	.007
For log(PDEATH70), (R^2 = .206, n=58)				
constant	4.75	1.17	4.07	<.001
PDI	-.0309	.0144	-2.15	.037
GDP70	-.000287	.0000765	-3.76	<.001

Not only may domestic culture exert a strong influence over the character and stability of the domestic polity, but culture can also exert a direct influence over the national economy by shaping the expectations and interactions of domestic economic agents. From Table 18, which shows the best subset regressions from the C_p statistic analysis of real per-capita economic growth on national culture and per-capita income, two prominent cultural effects emerge. Namely, during the 1950s and 1960s culturally collective societies tended to economically grow faster than individualistic societies; in the 1970s and 1980s, however, those societies with high marginal propensities to save (associated with long-term orientations) tended to have high-growth economies, including the five Tigers of East Asia. The other cultural

variables, by contrast, did not exert consistent effects across decades. Moreover, the fact that RIND and MPS exerted consistent effects over the first two and last two decades of analysis, respectively, indicates that a structural economic change may have occurred between these periods, altering how culture affected domestic economic activity.

TABLE 18

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE BEST SUBSET REGRESSIONS OF REAL ECONOMIC GROWTH ON NATIONAL CULTURE AND REAL PER-CAPITA INCOME DURING THE 1950s, 1960s, 1970s AND 1980s

Variable	Coefficient	Std. Error	t-statistic	P-value
	For CGDP50, (R^2 = .262, n=48)			
constant	5.74	1.43	4.01	<.001
MAS	.0301	.0121	2.48	.017
PDI	-.0437	.0138	-3.17	.003
RIND	-.0247	.0122	-2.02	.050
GDP50	-.000201	.000119	-1.68	.100
	For CGDP60, (R^2 = .080, n=58)			
constant	4.99	.811	6.16	<.001
RIND	-.0276	.0131	-2.10	.041
GDP60	.0000525	.0000796	.66	.512
	For CGDP70, (R^2 = .187, n=58)			
constant	-.855	1.46	-.59	.560
MPS	.0532	.0177	3.01	.004
PDI	.0281	.0173	1.63	.110
GDP70	.0000907	.0000919	.99	.328
	For CGDP80, (R^2 = .328, n=58)			
constant	-1.85	.620	-2.98	.004
MPS	.0645	.0169	3.82	<.001
GDP80	.000187	.0000545	3.42	.001

In this section, we have investigated the impact of national culture (i.e., norms, attitudes, habits and beliefs) on political rights, political instability and economic growth. National culture, unlike domestic

political policies, remains remarkably stable across time and even through dramatic changes in economic and political conditions. Five measures of national culture can be distinguished which represent generally independent and exhaustive cultural dimensions--desirability of assertive behavior in economic contexts (MAS), marginal propensity to save (MPS), acceptance of social stratification (PDI), income-adjusted individualism (RIND) and uncertainty avoidance (UAI). During the 1970s and the 1980s, acceptance of social stratification and unassertive economic behavior exerted strong propensities towards authoritarianism. These authoritarian tendencies were counteracted, however, to a greater or lesser degree through democratic social supports (such as high educational levels) which higher income levels produced. Likewise, uncertainty avoidance (which refers to the extent to which societies feel threatened by uncertain or unknown situations) was strongly linked to variability in a country's political rights. Although uncertainty avoidance was also weakly linked to irregular executive transfers during the 1970s, it was negatively associated with deaths attributable to domestic political violence during the 1950s and 1960s. Moreover, even though all three measures of political instability (political rights variability, irregular executive transfers and deaths attributable to domestic political violence) had direct negative impacts on economic growth throughout the post-World War II period, their cultural causes remained distinct. Furthermore, a direct, positive impact of national culture on economic growth during the 1950s and 1960s occurred through cultural collectivism but shifted towards savings and a long-term orientation during the 1970s and 1980s.

Political Regimes as Economic Growth Predators and Promoters

This chapter began by showing how high per-capita income levels create both democratically reinforcing social supports and relatively stable economic growth. Sustained rapid economic growth or stagnation as well as political rights variability are ostensibly low-income country phenomena. Among low-income countries, there is little pervasive relationship between political rights and economic growth. What then explains why some low-income countries are able to achieve sustained growth associated with economic take-off while others stagnate? What, in effect, differentiates those domestic political regimes in low-income countries which act as either economic predators or promoters?

One clear answer lies in how effectively regimes promote domestic political stability. Instability whether it be in the form of political rights variability, irregular executive transfers and deaths attributable to domestic political violence creates direct measurable impediments to economic growth by causing regimes to become considerably more focused with their own survival rather than their nation's economic growth. Economic growth itself may also promote either domestic political stability or instability depending upon how domestic political forces evolve. Furthermore, each form of political instability has important cultural components for which nations are differently disposed.

Beyond political instability, however, domestic political regimes also affect their economies through their economic policies. Specifically, I argue in Chapter III that regimes influence their domestic economies by determining how efficiently regimes cause national resources to be employed. In effect, these resources are the intervening factors between political variables and economic

growth. Depending on how they are utilized, national resources can either promote or inhibit economic development.

CHAPTER III

THE ECONOMIC GROWTH CONSEQUENCES OF DOMESTIC POLITICAL POLICIES

Chapter II identified and measured the proximate effects of per-capita income, national culture, political rights and political instability on economic growth. The focus of this chapter is to examine how domestic political regimes affect their economies through their national economic policies. Economic policy effectiveness, I argue, is determined in large measure by how regime policies cause national resources to be utilized. Accordingly, this chapter distinguishes between two classes of resources--market and demographic--which can be used to help propel economic growth. The mere presence of beneficial resources, however, is not enough to ensure sustained growth. Rather, it is domestic regime policy which largely determines whether these resources will contribute to or detract from economic growth. Accordingly, this chapter explores how market and demographic policies can affect economic growth as well as their cultural predispositions.

Market Consequences of Regime Policy

Intuitively, market resources include those factors which directly comprise the domestic economy. This wide-ranging category may include natural resources (e.g., arable land, petroleum stocks, deposits of tradable metals, forests), goods and services as well as the macroeconomic factors which affect production and trade. Political regimes directly affect the utilization of these market resources by influencing how goods and services are produced

and traded. In particular, four primary regime policy areas can be identified which affect the domestic economy through the utilization of market resources:

(1) establishing and enforcing a system of laws and regulations,
(2) establishing and enforcing domestic fiscal policy--a system of taxes and expenditures,
(3) exerting control over financial institutions and markets, and
(4) controlling macroeconomic policies.[1]

Due to the breadth and impact of these policy areas, a brief investigation of each of their potentially beneficial as well as deleterious consequences is warranted.

First, the effect of legal and regulatory systems on economic interactions can differ substantially in form and intent. Some systems, associated with centrally-planned economies, are intended to extend the domestic influence of the regime. Such systems tend to be politically driven and do not foster economic development in that private contracts cannot be enforced except through political channels (Kornai 1990, 45). Even for economies in which regimes do not generally uphold private contracts, however, the enforcement of private contracts may be achieved through trust and reputation mechanisms. Trust may play an important role in enforcing contracts within tightly knit social groups where participants have substantial information about each other and where social sanctions can be effective (Greenwald and Stiglitz 1989, 18-19). The trust mechanism can be especially important in developing economies which are culturally collectivist (as opposed to individualist) in nature.

In contrast, reputation mechanisms typically utilize the threat of economic sanctions to enforce contracts.

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[1]This categorization is not the only way in which the direct economic functions of the state can be conceptualized. See Stiglitz (1989, 13-16) for an alternative, albeit similar, treatment.

Reputation mechanisms have not only been important in the historical development of markets (e.g., the law merchant and the Champagne Fairs; Milgrom, North and Weingast 1990) but also currently play roles in developing economies and in international financial arrangements. For example, repayment of foreign debt cannot generally be enforced through legal means, but rather through the threat of damaging a country's financial reputation, affecting its future ability to draw upon international capital markets.

Well-developed common or civil law systems are needed to enforce contracts where trust and reputation mechanisms cannot provide effective sanctions against contract violators. Thus, in large economies where transactions are generally not at arms length and where information is scarce, government-enforced law may be needed to foster broad economic development. Ideally, the legal costs of enforcing private contracts under common or civil law are minimal. If monitoring is effective and enforcement costs are small, parties will closely fulfill their obligations under a contract.

A degree of shirking can, however, be expected under reputation mechanisms to the extent that, *ceteris paribus*, most parties do not benefit from imposing an economic sanction. Rather, the threat of economic sanctions is used to prevent significant deviations from the terms of the contract. Likewise, small deviations from contractual terms are not likely to be enforced under either common or civil law systems with substantial enforcement costs. Nevertheless, regime policies can effectively promote long-run domestic economic development with a non-discretionary legal system by solidifying the expectations of economic agents.

Second, domestic fiscal policies (involving government commitments to secure private property revenues, the credibility of the tax structure and expenditures) also

play major roles in promoting domestic economic activity. Property rights entail both ownership (that is, the right to enjoy revenue) and control of a property's use (Schroeder 1988, 176). In these terms, certain classical liberals (e.g., libertarians) can claim that taxation infringes upon their ownership rights. However, private property rights are frequently subverted to a much more significant degree. Indeed, the citizens of Eastern Europe enjoyed neither of the property right privileges during most of the past four decades. Upholding property rights is not only essential for establishing market incentives in an economy (Kornai 1990; Lipton and Sachs 1990), but it also provides an important non-economic benefit and sense of personal satisfaction to private citizens.

In addition, a regime's credibility in adhering to a stable tax structure promotes private activity by reducing the economic uncertainty associated with transactions. As noted earlier, the economic predominance of England over Spain beginning in the seventeenth-century can be ascribed to England's expanding private sector activities. The increase in England's private sector activities was, according to North and Weingast (1989), precipitated by a stable, non-discretionary and incentive-compatible tax structure. Such was not the case in Spain, where the incentives for private initiative were largely removed through discretionary taxation. Likewise, Soviet citizens during the post-World War II period faced a similar discretionary tax system embodied in the "ratchet effect" (Berliner 1957).[2]

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[2]The ratchet effect refers to compensation standards which are set as a function of previous period performance. Thus, increased productivity in one period will produce a bonus in that period but will ratchet up the standards for future periods. Conversely, since reduced productivity may be punished only during the short period of productivity decline, slacking off may represent an individually

Moreover, when special taxes are needed to confront a national crisis such as war, citizens under a non-discretionary tax system may be quite willing to act honestly, confident that the tax change will be temporary in nature. In contrast, citizens under a discretionary tax system may be quite doubtful of favorable tax treatments, believing that they will eventually be punished for any resulting economic success. Thus, even the decollectivization of agricultural projects (which proved quite successful in China; Halpern 1991, 41-42) failed to a considerable degree in the Soviet Union during the late 1980s because farmers were doubtful that their lands and profits would not be expropriated (Litwack 1990, 10).

Further, by agglomerating capital through the tax mechanism, the domestic political regime becomes capable of financing large, productive public ventures. Throughout much of the developing world, large-scale national industries do not naturally arise because domestic resources will not accumulate sufficiently in domestic financial institutions and markets (if they exist at all). However, domestic political regimes may accumulate sufficient resources to create such an industrial base as in the case of Germany, 1855-1880, and Russia, 1880-1900 (Gerschenkron 1962, 14-19). Further, the newly industrialized countries of East Asia (i.e., Republic of Korea, Singapore, Taiwan and Hong Kong) have demonstrated that concerted government expenditures may help to establish internationally competitive or dominant industrial sectors with long-term profit potential (Wade 1990, 334).

Throughout all modern economies, government spending is typically intended to help achieve social goals which may not be pursued efficiently through the market mechanism alone. For example, social goals such as securing adequate

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efficient worker strategy.

security forces or public education would be subverted in a market context due to problems associated with providing public goods. That is, public goods such as mutual defense will tend to be underprovided if their costs are shared by all citizens but payment is not enforced (Olson 1965). The domestic political regime, in contrast, can reduce the contribution problems associated with public goods through state-enforced taxation.

Third, political regimes exert considerable influence over domestic financial institutions and, through them, on the domestic economy as a whole. In centrally-planned systems, financial institutions themselves are public enterprises which dictate resource allocations, credit availability and terms to industrial enterprises. Even in market-oriented economies (which assume less dominance of the state), the behavior and policies of financial institutions are determined in large measure by regime policies establishing the reserve requirements of commercial banks, borrowing rates from central banks, security underwriting practices for investment banks, surplus requirements for insurance companies and the like. Such policies largely determine which types of financial institutions will be viable in a given economy and what their relative influences will be. For example, the bank-based development of post-World War II Germany and Japan can be linked to the close associations and ownership among banks and industrial firms such as the *keiretsu* (Aoki 1988, 119-120).[3] By contrast, regulations in the United States which limit the cross ownership of financial and industrial

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[3]The *keiretsu* refers to financial groups of corporations linked through interlocking corporate directorates and mutual corporate stockholding. It is noteworthy that the *keiretsu* groups are formed along the lines of the pre-World War II *zaibatsu* corporate conglomerate groups which were owned exclusively by founding families such as Sumitomo and Mitsui.

firms preclude this sort of sector-led national economic development.

Fourth, by controlling macroeconomic policy, the domestic political regime establishes important incentives for domestic economic agents. For example, monetary policy, which affects credit availability, interest rates and foreign exchange rates as well as short-term growth, can be particularly significant for enterprise planning. Further, foreign trade and finance policies can substantially determine which enterprises may be financially viable and also which product markets may ultimately be profitable. Accordingly, control over macroeconomic policy, combined with legal, regulatory and tax systems, public expenditures and controls over financial institutions inevitably give the domestic regime considerable influence over domestic economic development.

The domestic political regime can thus affect national economic development to a significant degree through its control over the legal and regulatory systems, fiscal policies, financial institutions and macroeconomic policies. Unfortunately, as plausible as these economic effects of regime policy may appear intuitively, they are considerably more difficult to support statistically. Most of the policy effects discussed above are not quantifiable. Furthermore, little actual historical data is available across countries for those effects which can, in principle, be quantified.

For statistical indicators of the overall influence of regimes on market resources, I utilize two variables for which there is reasonably complete, consistent data--national price levels and national openness to international trade. National price levels, in this analysis, refer to the ratio of purchasing power parity over currency exchange rate relative to the U.S. dollar. Thus, countries with national price levels greater than 100% have high prices

relative to the United States; those with national price levels less than 100% have low prices.

In their raw form, however, the national price level index cannot be viewed as a measure of price distortion (stemming from regime intervention) because it includes the prices of both tradable and non-tradable goods and services. In the absence of government intervention, wealthier nations would naturally have higher prices than poorer countries for nontradable goods and services even if tradables were comparably priced. The price effects of per-capita income can, however, be filtered out through the use of annual regressions. Also, because the raw price data (in Summers and Heston 1991) is calculated as the country's purchasing power parity divided by its $US exchange rate, the United States serves as the reference country with price level=100% for every year. The price levels of other countries, in contrast, may take values in the range $(0,\infty)$. In order to maintain both the United States as the reference country and the theoretical price range $(0,\infty)$, I employ annual logarithmic regressions in the following form:

$$(3.1) \quad \log(\text{RAW\_PRICE}) = \alpha + \beta * \log(\text{GDP}/\text{GDP}_{US}) + \xi.$$

The observations for these annual regressions are the countries for which data is available. Annual income-adjusted price level measures are then calculated for each country through the equation:

$$(3.2) \quad P = \exp(\log(\text{RAW\_PRICE}) - \beta * \log(\text{GDP}/\text{GDP}_{US})).$$

These annual regressions not only have theoretical advantages over competing transformations in terms of maintaining the United States as the reference year and price levels in their theoretical range but also provide naturally stronger regressions (i.e., higher R^2 statistics) and more stable coefficients compared with competing linear regressions. Table 19 shows the annual regression coefficients fitted with equation (3.1). Although the

significance of the regressions begin to tail off during the late 1980s due to increased international price volatility, the explanatory power of the regressions themselves remains quite strong with remarkably stable estimates for α. Estimates for β, in turn, reflect the changing international strength of the U.S. dollar. Moreover, because the U.S. dollar is maintained as the reference currency, these income-adjusted price levels become price distortion measures which are comparable both across countries and through time. To create decade price level measures by country, simple averages of these income-adjusted price level measures are calculated. Decade trends for each country (TP) are calculated as the β coefficient of the price index regressed on year. Trend regressions are thus specified as:

$$(3.3) \quad P = \alpha + (\beta * \text{Year}) + \xi$$

In this form, extreme high or low levels of the resulting price distortion index can be interpreted as an indication of market intervention by the domestic political regime.

What is notable about this price distortion measure is its impact on economic growth during the post-World War II era. Table 20 lists the regression results of per-capita GDP growth (CGDP) on price level (P) and price trend (TP) controlling for per-capita GDP during each post-World War II decade. Although neither price level nor price trend systematically affected economic growth during the 1950s and none of the regressions exhibited high measures of R^2, domestic price declines exerted a significantly positive economic growth impact during both the 1960s and 1970s. These price declines then led to the increasingly positive impact of low price levels on economic growth during the 1970s and 1980s.

TABLE 19

ANNUAL LOGARITHMIC REGRESSIONS OF NATIONAL PRICE LEVELS ON REAL PER-CAPITA INCOME

Year	n	fitted(α)	fitted(β)	R^2
1950	56	4.19	-.006	>.999
1951	58	4.23	.005	>.999
1952	58	4.28	.022	.997
1953	62	4.29	.028	.996
1954	65	4.27	.026	.997
1955	65	4.30	.040	.994
1956	65	4.28	.064	.969
1957	65	4.26	.066	.966
1958	65	4.23	.070	.965
1959	65	4.21	.075	.959
1960	107	4.25	.130	.906
1961	108	4.25	.128	.908
1962	108	4.27	.143	.881
1963	108	4.30	.147	.868
1964	108	4.29	.132	.882
1965	108	4.31	.136	.877
1966	108	4.32	.150	.856
1967	108	4.33	.161	.816
1968	108	4.29	.154	.824
1969	108	4.28	.157	.811
1970	113	4.28	.170	.803
1971	114	4.33	.202	.755
1972	114	4.39	.202	.740
1973	114	4.52	.211	.741
1974	114	4.57	.221	.693
1975	114	4.54	.208	.746
1976	114	4.52	.211	.738
1977	114	4.53	.204	.772
1978	114	4.58	.211	.779
1979	114	4.61	.205	.782
1980	115	4.61	.196	.795
1981	115	4.52	.197	.787
1982	115	4.42	.194	.796
1983	115	4.35	.186	.797
1984	115	4.32	.193	.750
1985	115	4.27	.195	.751
1986	115	4.41	.244	.686
1987	112	4.52	.285	.660
1988	110	4.53	.283	.672
1989	109	4.50	.287	.664
1990	90	4.65	.364	.550

TABLE 20

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE IMPACT OF PRICE DISTORTION AND PRICE TREND ON REAL PER-CAPITA ECONOMIC GROWTH DURING THE 1950s, 1960s, 1970s AND 1980s

Variable	Coefficient	Std. Error	t-statistic	P-value
	For CGDP50, (R^2 = .063, n=65)			
constant	2.42	.772	3.14	.003
P50	-.00024	.00869	-.03	.978
TP50	.145	.0869	1.67	.100
GDP50	.000091	.000106	.85	.397
	For CGDP60, (R^2 = .162, n=107)			
constant	2.12	.705	3.00	.003
P60	.00173	.00836	.21	.836
TP60	-.361	.120	-3.01	.003
GDP60	.000250	.000079	3.15	.002
	For CGDP70, (R^2 = .124, n=113)			
constant	3.15	.705	4.47	<.001
P70	-.00686	.00713	-.96	.338
TP70	-.171	.0664	-2.57	.012
GDP70	.000119	.000068	1.75	.083
	For CGDP80, (R^2 = .178, n=113)			
constant	1.25	.642	1.95	.054
P80	-.0168	.00628	-2.68	.008
TP80	-.011	.0314	-.34	.732
GDP80	.000217	.000050	4.30	<.001

An alternative measure of government intervention in the national economy is the degree to which the regime facilitates or inhibits international trade. A common measure for representing openness to international trade is (imports+exports)/GDP. Unfortunately, as with national price levels, trade openness in its raw form cannot be construed to reflect government intervention in international trade. Rather, in the absence of government intervention, small countries would naturally have greater trade openness than large countries because of their limited ability to provide all goods and services domestically. As with the price distortion index, a size-adjusted openness

index can be calculated using the United States as a reference population and maintaining the index on the theoretical range $[0,\infty)$. Accordingly, Table 21 lists the results of annual regressions which filter out the significant effects of population on openness to international trade using the following estimation:

(3.4) $\log(\text{RAW\_OPEN}) = \alpha + \beta * \log(\text{POP}/\text{POP}_{US}) + \xi.$

Annual size-adjusted openness can then be calculated through the equation:

(3.5) $\text{OPEN} = \exp(\log(\text{RAW\_OPEN}) - \beta*(\log(\text{POP}/\text{POP}_{US}))).$

Unlike the price level regressions, measures of α, β and R^2 for size-adjusted openness all remain stable and significant throughout the post-World War II era. In this form, size-adjusted openness to international trade becomes a measure for government barriers to international trade largely in the form of tariff and quota barriers.

Because these size-adjusted openness measures are comparable both across countries and through time, decade averages are calculated for the 1950s, 1960s, 1970s and 1980s (OPEN50, OPEN60, OPEN70 and OPEN80). As with the price level index, annual trends of size-adjusted openness to international trade are then calculated for each country during the post-World War II decades as the estimated β in the following regression equation:

(3.6) $\text{OPEN} = \alpha + (\beta * \text{Year}) + \xi.$

TABLE 21

ANNUAL LOGARITHMIC REGRESSIONS OF OPENNESS TO INTERNATIONAL TRADE ((IMPORTS+EXPORTS)/GDP) ON POPULATION LEVELS

Year	n	fitted(α)	fitted(β)	R^2
1950	56	2.84	-.263	.623
1951	58	2.92	-.259	.675
1952	58	2.79	-.283	.620
1953	62	2.73	-.282	.643
1954	65	2.74	-.282	.645
1955	65	2.77	-.281	.658
1956	65	2.82	-.275	.629
1957	65	2.80	-.291	.605
1958	65	2.68	-.312	.573
1959	65	2.74	-.299	.565
1960	107	2.85	-.265	.675
1961	108	2.83	-.272	.637
1962	108	2.76	-.291	.607
1963	108	2.81	-.278	.624
1964	108	2.79	-.286	.598
1965	108	2.74	-.304	.561
1966	108	2.83	-.278	.598
1967	108	2.82	-.277	.599
1968	108	2.83	-.281	.586
1969	108	2.81	-.290	.570
1970	113	2.75	-.318	.505
1971	114	2.76	-.316	.513
1972	114	2.74	-.329	.466
1973	114	2.89	-.299	.516
1974	114	3.08	-.286	.578
1975	114	3.08	-.283	.552
1976	114	3.06	-.290	.529
1977	114	3.06	-.296	.507
1978	114	3.05	-.299	.505
1979	114	3.14	-.287	.526
1980	115	3.20	-.283	.540
1981	115	3.20	-.276	.583
1982	115	3.15	-.275	.606
1983	115	3.15	-.269	.590
1984	115	3.18	-.268	.589
1985	115	3.15	-.268	.617
1986	115	3.08	-.274	.622
1987	112	3.15	-.257	.706
1988	110	3.18	-.258	.740
1989	109	3.21	-.260	.731
1990	90	3.39	-.230	.657

Table 22 shows that, like price distortion, neither size-adjusted openness nor its trend significantly affected real per-capita economic growth during the 1950s and none of the openness regression exhibited large R^2 statistics during the post-World War II decades. However, size-adjusted openness did exert a significant, positive effect economic growth during both the 1960s and 1980s. Increasing openness to international trade, by contrast, exerted a significantly positive impact on economic growth during the 1970s but a negative impact during the 1980s. Thus, while size-adjusted openness to international trade had a positive (or at least neutral) impact on economic growth during the post-World War II era, trends in openness had a more uneven effect on economic growth.

TABLE 22

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE IMPACT OF SIZE-ADJUSTED OPENNESS TO INTERNATIONAL TRADE AND OPENNESS TRENDS ON REAL PER-CAPITA ECONOMIC GROWTH DURING THE 1950s, 1960s, 1970s AND 1980s

Variable	Coefficient	Std. Error	t-statistic	P-value
	For CGDP50, (R^2 = .042, n=65)			
constant	2.67	.549	4.86	<.001
OPEN50	-.0104	.0227	-.46	.649
TOPEN50	.700	.545	1.28	.204
GDP50	.000103	.000108	.95	.347
	For CGDP60, (R^2 = .147, n=107)			
constant	1.20	.478	2.52	.013
OPEN60	.0626	.0221	2.84	.005
TOPEN60	.503	.375	1.34	.183
GDP60	.000213	.000080	2.64	.009
	For CGDP70, (R^2 = .186, n=113)			
constant	.938	.556	1.69	.095
OPEN70	-.0162	.0246	-.66	.513
TOPEN70	1.43	.327	4.38	<.001
GDP70	.000125	.000067	1.86	.066
	For CGDP80, (R^2 = .292, n=113)			
constant	-2.03	.458	-4.43	<.001
OPEN80	.0788	.0159	4.94	<.001
TOPEN80	-.347	.142	-2.44	.016
GDP80	.000138	.000048	2.85	.005

In sum, the domestic political regime affects the utilization of market resources by establishing and enforcing a system of laws and regulations, enacting fiscal policies, exerting control over financial institutions and markets and controlling monetary policy. Although the economic impact of these policies can be significant, few can be analyzed statistically. Two factors which are both quantifiable and determined largely by regime policy--price distortion and size-adjusted openness to international trade--do exert significant economic influence. Both low domestic prices and high openness to international proved to

be of significant general economic benefit for countries during much of the post-World War II era.

Economic Effects of Demographic Policy

Compared with market resources, the effective utilization of demographic resources may require considerably more political tenacity to be effective. By demographic resources, I refer most specifically to population size, growth, density, distribution and health. For developing nations in the modern era, uncontrolled population growth has been viewed as a principal problem for achieving economic development. Specifically, if national energies are consumed largely by the need to meet basic human requirements for a rapidly increasing population, few other productive factors can be developed to a significant degree.

Currently, economic problems associated with uncontrolled population growth are especially acute in sub-Saharan Africa in which high fertility rates (the average number of children per mature female exceeds 7) have caused population size to swell by 2.9% annually (*Social Indicators of Development* 1992, xv). Yet, population growth poses problems for many other developing nations as well, particularly in Asia. Table 23 shows the relationship between decade population trends and economic growth during each post-World War II decade adjusted for per-capita income. During each decade, population exerted a consistently negative influence on real per-capita economic growth. Moreover, the negative influence of population growth on economic growth became increasingly strong during the 1980s and is likely to remain a persistent problem for many developing countries in the post-Cold War era.

TABLE 23

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE IMPACT OF POPULATION GROWTH ON REAL PER-CAPITA ECONOMIC GROWTH DURING THE 1950s, 1960s, 1970s AND 1980s

Variable	Coefficient	Std. Error	t-statistic	P-value
	For CGDP50, (R^2 = .039, n=65)			
constant	3.32	.748	4.44	<.001
TPOP50	-.327	.239	-1.37	.175
GDP50	.000021	.000117	.19	.853
	For CGDP60, (R^2 = .091, n=107)			
constant	3.09	.800	3.86	<.001
TPOP60	-.328	.278	-1.18	.240
GDP60	.000190	.000094	2.01	.047
	For CGDP70, (R^2 = .021, n=113)			
constant	2.56	1.01	2.53	.013
TPOP70	-.196	.338	-.58	.565
GDP70	.000064	.000095	.68	.499
	For CGDP80, (R^2 = .182, n=113)			
constant	-2.04	.878	2.33	.022
TPOP80	-.805	.288	-2.80	.006
GDP80	.000048	.000074	.66	.511

Few natural market forces seem capable of curtailing rapid, uncontrolled population growth other than Malthusian misery for the poorest, most economically strained nations. Indeed, it is the lack of natural forces which, in large measure, accounts for uncontrolled population growth. The domestic political regime can play a critical, if not determinative role, however, in changing natural patterns of population growth by altering the social and economic incentives for childbearing. Along these lines, a few nations such as China have taken strong (and sometimes cruel) measures to control their populations with the expectation of both current and future economic benefits.

If population growth is currently problematic for many developing countries, it has not necessarily been so

historically nor currently for industrialized countries. Historically, nations such as the United States needed large population increases to drive the utilization of natural resources, enjoy economies of scale and man national armies. In the United States, these benefits triggered the desire for large immigrations to supplement natural population growth. Population growth becomes problematic for developing countries precisely when these benefits cannot be realized to offset the costs associated with a growing population. Because population growth can be either beneficial and detrimental to overall, it is not surprising that the regressions in Table 23 exhibited low R^2 statistics, particularly prior to the 1980s.

The precise economic benefits of controlling unproductive population growth are, unfortunately, difficult to measure statistically. Population growth, for example, depends not only on total fertility rates (i.e., average number of children born per mature female) but also on mortality rates before and after maturity and the number of people of childbearing age. Each of these population growth factors, in turn, exerts country-specific economic effects depending on the domestic configuration of market resources. These inherent difficulties for statistically measuring the precise economic effects associated with the elements of population growth has led to considerable controversy over the importance of competing issues and their remedies.[4]

Demographic research, of course, covers a vast and fascinating literature which is well beyond the scope of this work. The important key, here, however, is that uncontrolled population growth can pose a particularly acute threat economic problem for many developing nations in the modern era. When natural forces do not control

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[4]See Hewitt and Smyth (1992) for an insightful survey of the issues and views related to population growth.

unproductively rapid increases in population, domestic political regimes must play a strong part in reducing unproductive population growth if they intend to foster economic growth. Although not historically problematic, threats to economic growth stemming from unproductively rapid population growth will likely become an increasingly important problem for many developing nations. Accordingly, demographic resources play an increasingly important role in assessing future economic development policies among nations.

Cultural Propensities Towards Market and Demographic Policies

Just as national culture exerts consistent effects on political rights and political stability, it also exerts strong and consistent effects on market policies and population growth. Once again employing best subset regressions with the C_p statistic analysis, Table 24 shows that marginal propensity to save (MPS) and uncertainty avoidance (UAI) strongly contributed to low price levels throughout the post-World War II era. It makes some sense that countries with high savings rates would also keep prices low in order to spur domestic consumption. However, this result also reinforces the notion that savings results more from cultural predispositions than government policy since regime policies appear to counteract, not reinforce, the propensity to save. Furthermore, countries which fear unknown situations and ideas perhaps depress domestic prices in an attempt for the regime to gain needed support among potentially volatile constituents. Moreover, these results are not driven by any one region of the world such as the Far East since those countries exhibit a wide range of uncertainty avoidance.

What is especially provocative about these regressions is the fact that despite changes in

international economic and political conditions across the post-World War II period, the best subset specification remains structurally stable with similar coefficients across time. This stability in regression structure and estimated coefficients indicates that propensities towards high- and low-price distortion has a strong cultural foundation.

TABLE 24

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE BEST SUBSET REGRESSIONS OF PRICE DISTORTION ON NATIONAL CULTURE AND REAL PER-CAPITA INCOME DURING THE 1950s, 1960s, 1970s AND 1980s

Variable	Coefficient	Std. Error	t-statistic	P-value
	For P50, (R^2 = .088, n=49)			
constant	73.8	6.74	10.95	<.001
MPS	-.229	.187	-1.22	.229
GDP50	.00194	.00118	1.64	.108
	For P60, (R^2 = .242, n=58)			
constant	103.5	8.95	11.56	<.001
MPS	-.431	.142	-3.04	.004
UAI	-.266	.0959	-2.77	.008
GDP60	.000721	.000723	1.00	.324
	For P70, (R^2 = .214, n=58)			
constant	127.1	14.2	8.95	<.001
MPS	-.495	.225	-2.20	.032
UAI	-.380	.153	-2.49	.016
GDP70	.00165	.000889	1.86	.069
	For P80, (R^2 = .126, n=58)			
constant	113.0	17.0	6.66	<.001
MPS	-.396	.269	-1.47	.148
UAI	-.277	.184	-1.51	.137
GDP80	.00150	.000871	1.72	.091

It is all the more striking, therefore, that uncertainty avoidance (UAI) also has such a strong negative impact on size-adjusted openness to international trade throughout the post-World War II period as shown in the best subsets regressions in Table 25. Countries which feel

threatened by uncertain or unknown situations are, thus, much more likely to insulate themselves from international trade largely through tariff and quota barriers. These best size-adjusted openness regressions also show an improved fit in terms of R^2 which corresponds with the increased significance of uncertainty avoidance in these regressions. Also, while collectivist countries (i.e., those with low RIND) showed a propensity towards openness to international trade during the 1960s, this trend did not continue during either the 1970s or the 1980s. Rather, countries with high marginal propensities to save (MPS) and high acceptance of social stratification (PDI) were increasingly open to international trade during these decades. This makes some sense because openness to international trade can cause uneven domestic economic benefits. To the extent that a culture is acceptant of this economic unevenness, the domestic political regime may be more willing to engage in higher levels of international trade. Furthermore, political regimes in countries with high marginal propensities to save may be more willing to engage in international trade because domestic consumption patterns may remain less volatile and politically less risky than in low savings countries.

TABLE 25

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE BEST SUBSET REGRESSIONS OF SIZE-ADJUSTED OPENNESS TO TRADE ON NATIONAL CULTURE AND REAL PER-CAPITA INCOME DURING THE 1950s, 1960s, 1970s AND 1980s

Variable	Coefficient	Std. Error	t-statistic	P-value
	For OPEN50, (R^2 = .177, n=49)			
constant	23.6	4.10	5.76	<.001
UAI	-.118	.0483	-2.44	.019
GDP50	.000530	.000466	1.14	.261
	For OPEN60, (R^2 = .306, n=59)			
constant	44.8	6.13	7.31	<.001
RIND	-.140	.0658	-2.12	.038
UAI	-.258	.0528	-4.89	<.001
GDP60	-.00013	.000379	-.36	.718
	For OPEN70, (R^2 = .317, n=58)			
constant	19.3	7.87	2.45	.018
MPS	.217	.0876	2.48	.017
PDI	.162	.0857	1.89	.064
UAI	-.208	.0599	-3.48	.001
GDP70	.000670	.000448	1.50	.141
	For OPEN80, (R^2 = .373, n=58)			
constant	10.9	10.6	1.03	.307
MPS	.313	.121	2.59	.012
PDI	.320	.115	2.78	.008
UAI	-.261	.0823	-3.17	.003
GDP80	.00138	.000492	2.81	.007

Table 26 shows that population growth is also strongly bound to national culture. For population growth, however, it is the degree of collectivism (-RIND) which has been the dominant cultural driver of population growth throughout the post-World War II period. Still, MPS and UAI again emerge as significant factors during both the 1970s and the 1980s. During these decades, population growth was significantly lower in those countries with high propensities to save and whose people feel threatened with uncertain or unknown situations. It is, therefore, likely that childbearing increases the perceived likelihood of

uncertain or unknown situations, thereby making reducing population growth in countries with high UAI.

Moreover, low-income countries have been significantly more likely than high-income countries to experience rapid population growth. The significance of this low-income/population growth relationship has become increasingly strong during the post-World War II era and reinforces the notion that economic problems arising from rapid population growth is much more of a developing country phenomenon rather than an industrialized country one.

TABLE 26

ORDINARY-LEAST-SQUARES ESTIMATES FOR THE BEST SUBSET REGRESSIONS OF POPULATION GROWTH ON NATIONAL CULTURE AND REAL PER-CAPITA INCOME DURING THE 1950s, 1960s, 1970s AND 1980s

Variable	Coefficient	Std. Error	t-statistic	P-value
	For TPOP50, (R^2 = .236, n=49)			
constant	3.65	.497	7.36	<.001
RIND	-.0191	.00785	-2.43	.019
GDP50	-.00018	.000064	-2.81	.007
	For TPOP60, (R^2 = .364, n=59)			
constant	3.55	.367	9.68	<.001
RIND	-.0146	.00595	-2.46	.017
GDP60	-.00018	.000036	-5.04	<.001
	For TPOP70, (R^2 = .581, n=58)			
constant	4.20	.636	6.60	<.001
RIND	-.0137	.00575	-2.37	.021
MPS	-.00651	.00650	-1.00	.321
UAI	-.00741	.00436	-1.70	.094
GDP70	-.00019	.000023	-8.38	<.001
	For TPOP80, (R^2 = .678, n=58)			
constant	4.97	.593	8.39	<.001
RIND	-.0156	.00535	-2.91	.005
MPS	-.0128	.00602	-2.12	.039
UAI	-.0158	.00408	-3.87	<.001
GDP80	-.00018	.000017	-10.30	<.001

This chapter has investigated the ways in which regime policies can affect market and demographic resources. As to be expected from neoclassical economic theory, both low price levels and openness to international trade have generally conferred economic growth benefits to countries which adopted these policies. However, these benefits have been uneven in their significance. During the 1950s for example, neither low prices nor high openness to international trade appeared to significantly benefit national economies. By the 1980s, however, both low prices and high openness to international trade greatly contributed to real per-capita economic growth.

Population growth also generally appeared to be a liability for increasing per-capita incomes. Yet, rapid population growth was much more of a developing country phenomenon than an industrialized country one. It is precisely for these low-income countries that rapid population growth has proven economically detrimental because of their needed to shift their national focus away from long-term investment and towards short-term subsistence needs.

Interestingly, price distortion, openness to international trade and population growth have all exhibited strong cultural foundations during the post-World War II era. Uncertainty avoidance (UAI), or the extent to which people feel threatened by uncertain or unknown situations, was strongly linked to low domestic prices but low openness to international trade from the 1950s through the 1980s. High levels of uncertainty avoidance also served to reduce population growth during the 1970s and 1980s due to the perceived additional risk of raising multiple children.

High marginal propensities to save (MPS) also exerted a strong, consistent influence over price levels, openness to international trade and population growth. From the 1950s through the 1980s, high MPS levels were associated

with low price levels. Also, MPS contributed to greater openness to international trade and lower population growth during the 1970s and the 1980s. The acceptance of social stratification (PDI) also contributed to openness to international trade during the 1970s and 1980s because these cultures were less susceptible to political instability resulting from uneven economic consequences of increased international trade.

Cultural individualism (RIND), by contrast, only played a significant role in population growth. During each post-World War II decade, collectivist cultures were much more likely to experience rapid population growth than individualist ones. The desirability of aggressive economic behavior (MAS) did not play a significant cultural role in determining price levels, openness to international trade or population growth during any post-World War II decade.

Chapter II and Chapter III have both examined the effects of isolated causal variables. Culture and national income, for example, not only affect economic growth directly but also through their influence over political rights, political stability and regime economic policies. However, these causal variables may also interact with each other to produce economic growth benefits. Certain policies may thus be economically effective under particular cultural or political conditions but not under others. Accordingly, the interactions and patterns of culture and politics for high-economic growth countries is the focus of the next chapter.

CHAPTER IV

INTERACTIONS OF POLITICS AND CULTURE AMONG HIGH-GROWTH ECONOMIES

In contrast to Chapter II and Chapter III which explored the isolated effects of political and cultural variables on economic growth, the purpose of this chapter is to identify the interactions among these variables in high-growth economies. Accordingly the first section of this chapter investigates whether particular regime policies are economically efficient responses to prevailing socio-political conditions. Next, economic growth clusters of policies and socio-political conditions are identified across decades for the post-World War II era. These high-economic-growth clusters are then used to posit an historical typology of sustained growth patterns for the post-World War II period. Policy implications of these socio-political interactions for current and future economic growth among nations are discussed in Chapter V.

Domestic Political Regime Policy as an Economic Response to Prevailing Socio-Political Conditions

Although the cultural foundations and the direct economic growth consequences of political rights, price distortion and openness to international trade were explored in the previous two chapters, it remains unclear whether the policies of domestic political regimes have been efficient economic responses to prevailing socio-political conditions during the post-World War II era. Specifically, using the data under investigation, what regime policies have been

economically efficient responses to political instability and rapid population growth?

In order to investigate the economic growth effects of policy responses to socio-political conditions, a means for measuring the significance of these statistical interactions must first be specified. Using a regression estimation, an interaction term may be defined as the policy response, say the level political rights (PR), multiplied by the condition, say the number of irregular executive transfers (COUPS). However, PR and COUPS must also be included individually as independent variables in order to eliminate the potential estimation bias in the interaction coefficient stemming from the correlation of either PR or COUPS with economic growth. If, for example, economic growth is positively correlated with PR, the average of COUPS > 0 and neither PR nor COUPS were included individually as independent variables, then the interaction coefficient would have a positive bias. Estimation bias in the interaction coefficient could also be eliminated by mean-adjusting the interacting terms, PR and COUPS; however, as argued below, a consistency problem would then arise.

Although employing each interaction terms as independent variables controls for potential bias in the interaction coefficient, the interaction terms may still suffer from a consistency problem. Specifically, if both variables can take on both positive and negative values, then negative values for the variables can produce the same effect as positive values; e.g., (-4)*(-6) = 2*12. It is generally desireable, however, that low values would interact to produce a low value while high values would interact to producce a high value. This estimation consistency is achieved so long as one of the interacting variables is strictly non-positive or non-negative. Fortunately, since PR as a policy response is strictly positive in value, an unbiased and consistent economic

growth interaction of PR and COUPS adjusted for income levels can be estimated by β_1 in the following equation:

$$(4.1) \quad CGDP = \beta_0 + \beta_1*(PR*COUPS) + \beta_2*PR + \beta_3*COUPS + \beta_4*GDP + \xi.$$

Like PR, price distortion (P) and openness to international trade (OPEN) are also policy responses with strictly positive values. Accordingly, their economic interactions with socio-political conditions can also be measured utilizing the regression specification in equation (4.1).

Table 27 lists the t-statistics for the β_1 coefficients of the level of political rights (PR) as a policy response to irregular executive transfers (COUPS), the log of political deaths per million population (LPD), the volatility in political rights (PVOL) and population growth (TPOP) for the 1970s and 1980s (the only decades for which PR is available). Strikingly, all of the t-statistics and corresponding regression coefficients are negative, albeit with uneven individual statistical significance. Moreover, the significance of the interaction coefficient exceeded the significances of the control variable coefficients, β_2 and β_3, for each regression estimation. The strong implication of these negative interaction coefficients is that authoritarian responses to political instability and rapid population growth have not generally been economically effective.

The fact that all of the t-statistics and regression coefficients are negative should not be entirely surprising since, adjusting for income levels, the measures of political instability and population growth are loosely related. However, as will be seen with price distortion and openness to international trade as policy responses, the loose relationship among socio-political conditions does not ensure that all interaction coefficients will be of the same sign, positive or negative. The fact that all of the interaction terms are negative and more significant than

their control coefficients, β_2 and β_3, in Table 27 is indicative of the negative economic power of authoritarianism as a policy response. Rather than being an economically efficient response to political stability and rapid population growth, curtailing political rights is generally detrimental to economic growth. One possible explanation for this result is that under times of socio-political stress, regimes may focus on policies such as regime survival. Under these conditions, economic growth as an explicit or implied regime goal may therefore be superseded by these more primary regime goals.

TABLE 27

STUDENT'S t-STATISTIC FOR THE REGRESSION COEFFICIENT OF PER-CAPITA ECONOMIC GROWTH ON THE INTERACTION OF POLITICAL RIGHTS ON POLITICAL INSTABILITY AND POPULATION GROWTH DURING THE 1970s AND 1980s (n=113)

Decade	Interaction Variable with Pol. Rights (PR)			
	COUPS	LPD	PVOL	TPOP
1970s	-1.95*	-1.01	-1.14	-2.51**
1980s			-.28	-1.04

Table 28 lists the t-statistics for price distortion (P) as a policy response to political instability (COUPS, LPD and PVOL) and population growth (TPOP) in the 1950s, 1960s, 1970s and 1980s. Unlike political rights, the interaction terms using price distortion as a policy response have an almost equal number of positive and negative t-statistics and regression coefficients. Also, the result that only one of the twelve coefficients were significant at the α=.05 level could potentially be a random event ascribable to simultaneous inference. Yet, what

remains unmistakable is that, for the measures of political instability, the interaction coefficients have trended up during the post-World War II era whereas the interaction coefficients have trended down for population growth. Consequently, a regime policy of lowering domestic prices in response to political instability has generally been of declining economic value throughout this period. Similarly, high domestic prices have been of decreasing economic value in the face of rapid population growth. Still, the pervasive influence of price distortion as an economic policy response to political instability or rapid population growth would appear to be less significant than the level of political rights.

TABLE 28

STUDENT'S t-STATISTIC FOR THE REGRESSION COEFFICIENT OF PER-CAPITA ECONOMIC GROWTH ON THE INTERACTION OF PRICE DISTORTION ON POLITICAL INSTABILITY AND POPULATION GROWTH DURING THE 1950s, 1960s, 1970s AND 1980s

Decade	Interaction Variable with Price Dist. (P)			
	COUPS	LPD	PVOL	TPOP
1950s	-1.18	-1.57		2.15**
1960s	.54	.37		.33
1970s	-.34	.83	.23	-.35
1980s			.48	-.33

Table 29 shows that openness to international trade as a policy response to political instability and population growth also had uneven economic effects during the post-World War II era. Furthermore, no clear trend emerged in the interaction coefficeints during this period. However, the strong negative interaction coefficients for political instability in the 1970s (COUPS70, LPD70 and PVOL70) and the strong positive coefficient in the 1980s (PVOL80) cannot be easily ascribed to simulataneous inference. Rather, openness to international trade appears to have had a structurally different effect on political instability during the 1970s compared with the 1980s. Specifically, reducing openness to international trade had a positive economic influence in the face of political turmoil during the 1970s but a negative one during the 1980s. The positive economic effect of reducing international trade in the face of political instability during the 1970s can be ascribed to reducing the economic volatility which international trade can precipitate in smaller economies (Krasner 1976). However, this benefit reversed itself during the 1980s due, perhaps, to greater explicit or implicit foreign political support for open economies which faced domestic political turmoil.

TABLE 29

STUDENT'S t-STATISTIC FOR THE REGRESSION COEFFICIENT OF PER-CAPITA ECONOMIC GROWTH ON THE INTERACTION OF OPENNESS TO INTERNATIONAL TRADE ON POLITICAL INSTABILITY AND POPULATION GROWTH DURING THE 1950s, 1960s, 1970s AND 1980s

Decade	Interaction Variable with OPEN			
	COUPS	LPD	PVOL	TPOP
1950s	1.06	.33		.04
1960s	.25	-1.55		-1.75*
1970s	-2.81***	-3.45***	-1.49	-1.02
1980s			2.65***	.20

The economic growth effects of policy responses to socio-political disturbances has been important but in varying degrees throughout the post-World War II era. During the 1970s and 1980s, authoritarianism exerted a negative economic impact in the face of both political instability and rapid population growth. Price distortion and openness to international trade exerted less consistent economic effects throughout these decades. Still, low domestic prices appears to have had a positive economic impact in the face of political instability during the early Post-World War II decades. Openness to international trade, by contrast, was a negative economic influence to politically unstable countries during the 1970s but a positive influence during the 1980s. Although these interactions are controlled both for per-capita income levels and potential statistical biases, they do not explain the ways in which high-growth economies have achieved their success during the post-World War II era. Identifying regime policy and socio-political condition clusters among

high-growth economies is, therefore, the focus of the next section.

Clustering the Regime Policies and Socio-Political Conditions of High-Growth Economies

Regime policy and socio-political condition patterns for high-growth economies during the 1950s, 1960s, 1970s and 1980s can be statistically distinguished through the use of cluster analysis. Cluster analysis is a statistical technique which partitions observations (i.e., countries) into mutually-exclusive, exhaustive groups so that observations within a group are similar and observations in different groups are dissimilar. For our purposes, high-growth economies for these decades can be grouped according to similar socio-political conditions and policies.

Unfortunately, more than a dozen prominent clustering methods have been proposed each with different capabilities for identifying appropriate numbers of clusters, cluster boundaries and distances between and within clusters.[1] Although each of these methods produces similar results when groups are sufficiently distinct, they diverge when group boundaries are fuzzy or non-convex. Moreover, the inconsistency of results among these methods as well as the unscientific use of clustering methods by many practitioners in the past has led to stinging evaluations of cluster analysis by prominent statisticians such as R. M. Cormack:

> The availability of computer packages of classification techniques has led to the waste of more valuable scientific time than any other "statistical" innovation (with the possible exception of multiple-regression techniques). (In Chatfield and Collins 1980, 214)

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[1]See Everitt (1979; 1980) for a thorough discussion of the capabilities and problems associated with clustering procedures.

Recognizing the descriptive rather than hypothesis testing role of cluster analysis, four legitimate objectives have been posited--data exploration, data reduction, hypothesis generation and prediction based on groups (Chatfield and Collins 1980, 214)--each of which is of interest in our present analysis.

Before the cluster analysis is performed, a principal components factor analysis is first employed for each decade in order to reduce the number of relevant factors due to linear redundancies among socio-political variables. The use of principal components greatly facilitates the cluster analysis by better controlling for short-term aberrations among variables and stabilizing permissible clusters regardless of the analytic technique subsequently employed. Whenever possible, visual techniques should also be used in addition to or as a replacement for analytic clustering methods. Unfortunately, for more than three variables, graphical representations remain difficult to employ.[2]

For the 1950s, 1960s and 1970s, six significant principal components emerge from the following socio-political variables--COUPS##, GDP##, LPD##, LPOP##, MAS, MPS, OPEN##, P##, PDI, PR##, PVOL##, RIND, TOPEN##, TP##, TPOP##, TPR## and UAI--whereas in the 1980s, only five significant principal components are distinguishable. These principal components (described in Appendix B) combine to account for 84.7%, 79.3%, 76.9% and 78.7% of the variation in the data for the 1950s, 1960s, 1970s and 1980s, respectively. The principal components are then clustered for each decade according to Ward's minimum variance procedure (also listed in Appendix B). Although Ward's

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[2]See Andrews (1972) for a potentially useful visual representation of n-dimensional observations using sine and cosine waves.

minimum variance clustering technique is slightly biased towards similarly-sized groups, alternative clustering algorithms produce nearly identical results for these socio-political variables due to the use of principal components.

Table 30 lists the regime policy and socio-political condition clusters for above-average growth developing countries during the 1950s, 1960s, 1970s and 1980s. Except for the 1950s in which four distinct clusters emerged, six clusters were identifiable during the 1960s, 1970s and 1980s. Countries and clusters are listed in Table 30 so that their proximity in the table reflects their socio-political similarity during each decade. Developing countries are used here because, as argued in Chapter II, high-income nations displayed relatively stable economic growth and high-levels of democracy throughout the post-World War II era. Sustained, rapid economic growth and dramatic ranges in regime policies and socio-political conditions were, thus, far more a developing country phenomenon than an industrialized country one. Also, the sample size is more limited than in previous sections because cultural data in this analysis is limited to only 58 countries.

TABLE 30

SOCIO-POLITICAL CONDITION AND POLICY CLUSTERS FOR ABOVE-AVERAGE GROWTH DEVELOPING COUNTRIES DURING THE 1950s, 1960s, 1970s AND 1980s (n=18)

Cluster ID#	Clusters By Decade			
	1950s	1960s	1970s	1980s
I	Austria W. Germany Italy Japan Spain	Brazil Turkey Mexico Egypt Malaysia Tanzania	Brazil Kenya Turkey Egypt Indonesia Malaysia South Korea Taiwan Philippines	Colombia Thailand Turkey Malaysia
II	Greece Peru Portugal Jamaica	Costa Rica Iran Thailand South Korea Taiwan	Colombia Mexico Guatemala Hong Kong Panama	Greece Spain Portugal
III	Brazil Finland France Turkey Israel Netherlands	Hong Kong Singapore	Ecuador Thailand	Egypt Indonesia Pakistan India
IV	Costa Rica Taiwan Philippines	Nigeria Pakistan Sier. Leone Panama Peru	Costa Rica Yugoslavia Greece Portugal Uruguay Nigeria	Singapore So. Korea Taiwan
V		Greece Portugal Spain Japan Yugoslavia	Ireland Israel	Ireland Jamaica Israel
VI		Ireland Jamaica So. Africa Israel	Singapore	Tanzania

Cluster I in the 1950s (Austria, West Germany, Italy, Japan and Spain) is striking because, except for Austria, these countries represent polito-military losers of World War II.[3] Although their economic infrastructures were severely damaged during the conflict, they appeared able to use both foreign economic assistance and their indigenous industrial skills to rapidly rebuild their economies and increase their per-capita incomes. Table 31 shows that these five countries were politically more stable (i.e., lower LPD50 and COUPS50) with lower prices (P50), less acceptance of social stratification (PDI), more wary of uncertain or unknown situations (UAI), more socially traditional (MAS) with lower population growth (TPOP50) and greater tendency towards openness to international trade (TOPEN50) than low-income country averages during the 1950s. Like cluster I, cluster II (representing Greece, Peru, Portugal and Jamaica) was also more politically stable and uncertainty avoidant with lower domestic prices and population growth than low-income country averages. However, these countries had lower propensities to save (MPS) than the low-income country average but were representative of the low-income country sample in most other respects.

Unlike the other high-growth clusters, cluster III (representing Brazil, Finland, France, Turkey, Israel and the Netherlands) had high domestic prices and individualistic cultures. Although their deaths ascribable to domestic political violence (LPD50) were low, they were more prone to irregular executive transfers (COUPS50) than low-income country averages of the 1950s. Cluster IV (representing Costa Rica, Taiwan and the Philippines) was less uncertainty avoidant, more prone to rapid population

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[3]Spain, though not a direct participant in World War II, was still politically aligned with the Axis nations.

growth with many more deaths ascribable to domestic political violence and greater savings propensities than both low-income country averages and the other high-growth economy clusters. On average, high-growth developing economies during the 1950s were more politically stable than the typical developing economy. However, other overarching economic growth relationships are difficult to discern for this decade.

TABLE 31

AVERAGE SOCIO-POLITICAL AND POLICY VARIABLES FOR HIGH-GROWTH ECONOMY CLUSTERS IN THE 1950s[4]

VARI-ABLES	I	II	III	IV	Low Inc
	n=5	n=4	n=6	n=3	n=39
LPOP50	3.35	1.73	2.59	1.83	2.46
LPD50	0.00	.46	.22	5.32	1.87
P50	62.41	68.83	94.32	69.59	72.17
GDP50	3557	1647	3452	1328	2270
PDI	41.40	58.00	47.83	62.33	58.51
UAI	77.60	79.00	73.33	66.33	72.77
MAS	70.40	49.50	37.33	43.33	48.62
RIND	52.76	48.78	61.74	44.97	55.58
TPOP50	.80	1.21	2.29	3.47	2.07
TOPEN50	.41	.14	-.32	-.09	-.08
COUPS50	0.00	0.00	.67	0.00	.56
MPS	25.04	8.65	25.01	38.36	26.47
OPEN50	15.76	15.39	17.22	12.86	16.60
TP50	.66	.49	-.47	-.59	.18

[4]Variables in Tables 31-34 are listed in order of decreasing measures of communality. The communality of a variable refers to the portion of the total variance which it explains in the principal components analysis and therefore its potential impact on the cluster analysis.

Socio-political variables exert a similar influence on principal components (as measured by their communality) from the 1960s through the 1980s. Accordingly, the communality-ordered socio-political variables is similar for the 1960s, 1970s and 1980s (Tables 32-34). The 1950s, by contrast, appears to represent a distinct environment in which the impact of socio-political factors on economic growth differed from that of subsequent decades. This apparent uniqueness of the 1950s may stem from a legacy of post-World War II international structural adjustments which dissipated during the late 1950s and early 1960s.

The six high-growth economy clusters for the 1960s exhibit a wide range of regime policies and socio-political conditions. Overall, high-growth economy clusters for the 1960s (Table 33) do not exhibit any systematic economic growth impact stemming from any single regime policy or socio-political condition. Cluster I in the 1960s (representing Brazil, Turkey, Mexico, Egypt, Malaysia and Tanzania) is socio-politically distinguished from low-income country averages by its high level of cultural individualism (RIND), increasing insulation from international trade (OPEN60 and TOPEN60) and higher acceptance of social stratification (PDI). Cluster II (representing Costa Rica, Iran, Thailand, South Korea and Taiwan), by contrast, is uncertainty avoidant (UAI) and culturally collective (RIND) with high savings propensities (MPS), increasing openness to international trade (TOPEN60), lower domestic price levels (P60) and lower acceptance of social stratification than low-income country averages. Although cluster III (representing Hong Kong and Singapore) is geographically proximate to most of cluster II, it is far less uncertainty avoidant (UAI), more open to international trade (OPEN60), more culturally collective (RIND) and more prone to save (MPS). Average domestic prices in cluster III are also higher than the low-income country average and all but one

of the high-growth clusters. Countries in cluster IV (representing Nigeria, Pakistan, Sierra Leone, Panama and Peru) are distinguished by their low propensities to save (MPS), political instability (COUPS60 and LPD60) and increasing domestic price levels (TP60). Cluster V (representing Greece, Portugal, Spain, Japan and Yugoslavia) is highly uncertainty avoidant (UAI), culturally collective (RIND) and politically stable (COUPS60 and LPD60) with rapidly decreasing domestic price levels (TP60) and low population growth (TPOP60). Cluster VI for the 1960s (representing Ireland, Jamaica, South Africa and Israel) also exhibited a rapid decline in domestic prices (TP60), though in the face of high existing price levels (P60). Countries in this cluster are generally not uncertainty avoidant (UAI), not acceptant of social stratification (PDI) and had relatively low propensities to save (MPS).

TABLE 32

AVERAGE SOCIO-POLITICAL AND POLICY VARIABLES FOR HIGH-GROWTH ECONOMY CLUSTERS IN THE 1960s

VARI-ABLES	I	II	III	IV	V	VI	L.Inc
	n=6	n=5	n=2	n=5	n=5	n=4	n=41
UAI	66.50	72.60	18.50	70.20	96.40	44.50	67.46
OPEN6	17.94	18.15	61.17	17.24	16.43	21.54	19.37
RIND	61.99	43.82	26.17	45.90	43.64	79.79	53.34
MPS	25.64	43.45	51.84	18.24	16.78	21.55	27.43
TOPEN	-.36	.67	-1.97	-.36	.24	.06	-.07
GDP60	1711	1941	2827	1337	3640	3305	2114
COUPS	.17	.40	0.00	2.00	.20	0.00	.66
TP60	.08	-.29	-.60	.68	-1.52	-1.02	-.20
MAS	51.17	36.40	52.50	45.60	49.20	61.50	48.17
P60	71.00	55.94	85.53	78.39	77.73	97.41	75.01
PDI	77.33	55.00	71.00	73.60	62.00	33.75	65.63
LPD60	1.73	2.02	1.64	4.57	.21	1.63	2.36
LPOP6	3.31	2.59	.96	2.35	3.08	1.40	2.54
TPOP6	2.84	3.09	2.47	2.50	.75	1.88	2.37

During the 1970s (Table 33), high-growth economies were generally more open to international trade (OPEN70 and TOPEN70) and with a greater propensity to save (MPS) compared with low-income country averages. Cluster I (representing Brazil, Kenya, Turkey, Egypt, Indonesia, Malaysia, South Korea, Taiwan and the Philippines) is further distinguished by its low variability in political rights (PVOL70), low domestic prices (P70) and relative political stability (COUPS70 and LPD70). Cluster II (representing Colombia, Mexico, Guatemala, Hong Kong and Panama) is also relatively politically stable (COUPS70 and LPD70) with low domestic prices (P70) but with higher uncertainty avoidance (UAI), cultural collectivism (RIND) and acceptance of social stratification (PDI). Cluster III (representing Ecuador and Thailand) has significantly lower prices than both the low-income country average and the

other high-growth clusters coupled with high levels of political instability (PVOL70, COUPS70 and LPD70), increasing authoritarianism (TPR70, PR70) and acceptance of social stratification (PDI). Cluster IV (representing Costa Rica, Yugoslavia, Greece, Portugal, Uruguay and Nigeria), while not as open to international trade (OPEN70), is uncertainty avoidant (UAI) with low propensities to save (MPS), rapidly increasing domestic prices (TP70) and slow population growth compared with low-income country averages. By contrast, cluster V (representing Ireland and Israel) had high domestic prices (P70) with low uncertainty avoidance (UAI), no variability in its highly democratic political structures (PVOL70, COUPS70 and PR70), high levels of individualism (RIND), low acceptance of social stratification (PDI) with a substantial number of deaths due to domestic political violence (LPD70). Singapore, the only country in cluster VI, is largely distinguished by the extraordinary increase in its openness to international trade (OPEN70 and TOPEN70), political stability (PVOL70, COUPS70 and LPD70), cultural collectivism (RIND) and low population growth (TPOP70) during the 1970s.

TABLE 33

AVERAGE SOCIO-POLITICAL AND POLICY VARIABLES FOR HIGH-GROWTH ECONOMY CLUSTERS IN THE 1970s

VARI-ABLES	I n=8	II n=5	III n=2	IV n=6	V n=2	VI n=1	L.Inc n=41
OPEN7	28.63	23.83	22.75	19.12	25.97	81.12	24.24
PVOL7	1.00	1.80	5.00	2.50	0.00	0.00	2.00
COUPS	.38	0.00	3.00	1.33	0.00	0.00	.68
UAI	65.88	75.60	65.50	90.67	58.00	8.00	67.07
P70	78.04	78.05	62.41	98.95	110.5	110.1	91.98
TOPEN	1.40	.67	1.09	.64	1.45	6.29	.99
LPD70	.96	.93	2.60	.92	3.32	0.00	1.85
TPR70	0.00	-.20	-4.50	-1.50	0.00	0.00	-.32
RIND	58.40	32.92	39.83	45.40	74.76	27.36	52.46
GDP70	2144	3770	2190	3836	6434	5155	3126
TP70	2.64	1.56	1.67	3.13	2.36	.53	2.79
PR70	4.64	3.72	5.20	3.90	1.50	5.00	4.18
PDI	71.13	81.20	71.00	62.00	20.50	74.00	66.29
MAS	47.75	54.20	48.50	35.67	57.50	48.00	47.63
LPOP7	3.71	2.24	2.85	2.26	1.21	.82	2.71
TPOP7	2.41	2.58	2.85	1.34	2.06	1.52	2.25
MPS	28.81	33.43	47.69	22.55	39.58	63.93	27.59

High-growth developing economies during the 1980s were also generally more open to international trade (OPEN80) but also less uncertainty avoidant (except for cluster II) than developing nation averages. Cluster I (representing Colombia, Thailand, Turkey and Malaysia) was also more democratic (PR80), accepting of social stratification (PDI) with lower prices (P80) and higher savings propensities (MPS) than developing country averages. Cluster II (representing Greece, Spain and Portugal), while uncertainty avoidant (UAI), highly democratic (PR80), not as open to international trade (OPEN80) with low propensity to save (MPS), experienced a rapid increase in domestic price levels (P80) with low population growth (TPOP80). Cluster

III (representing Egypt, Indonesia, Pakistan and India) was more authoritarian (PR80), less uncertainty avoidant (UAI), more accepting of social stratification (PDI) and more individualistic (RIND) with lower price levels (P80) than developing nation averages. Cluster IV (representing the East Asian Newly Industrialized Countries--NICS--less Hong Kong) was highly open to international trade (OPEN80), culturally collective (RIND) and increasingly democratic (TPR80) with low uncertainty avoidance (UAI) and lower population growth (TPOP80) than developing country averages. Hong Kong was not included among the other NICS in cluster IV because its income level placed it among industrialized nations which were excluded from the cluster analysis. Cluster V (represented by Ireland, Jamaica and Israel) was highly democratic (PR80) with high political stability (PVOL80), high and increasing domestic prices (P80 and TP80), low uncertainty avoidance (UAI), low acceptance of social stratification, high individualism (RIND) and accepting of aggressive economic behavior (MAS) compared with both developing-country averages and other high-growth clusters. Tanzania, the only member of cluster VI, was the only country in the sample to experience high economic growth during the post-World War II era with the combination of high domestic prices (P80), low but increasing openness to international trade (OPEN80 and TOPEN80), strong authoritarianism (PR80), rapid population growth (TPOP80) and low propensity to save (MPS). Domestic prices in Tanzania were, however, dramatically lowered during the 1980s which coupled with high individualism (RIND) helped to spur economic growth.

TABLE 34

AVERAGE SOCIO-POLITICAL AND POLICY VARIABLES FOR HIGH-GROWTH ECONOMY CLUSTERS IN THE 1980s

VARI-ABLES	I n=4	II n=3	III n=4	IV n=3	V n=3	VI n=1	L.Inc n=40
OPEN8	35.06	26.88	32.90	68.12	31.81	16.79	28.30
GDP80	3248	6598	1392	6556	5954	469	3449
PR80	2.85	1.23	4.13	4.13	1.67	6.00	3.59
P80	60.90	83.60	59.79	86.16	105.6	124.7	87.53
UAI	66.25	100.7	56.50	54.00	43.00	52.00	68.03
TP80	-.45	2.55	-.41	1.03	2.13	-11.0	-1.45
LPOP8	3.51	2.75	5.05	2.56	1.18	3.04	2.95
TPOP8	2.20	.48	2.40	1.61	1.16	3.12	2.09
PDI	75.25	60.00	72.50	64.00	28.67	64.00	66.25
PVOL8	1.75	1.00	1.75	1.67	0.00	0.00	1.75
RIND	51.20	47.24	67.65	34.71	73.06	68.98	53.15
MAS	48.25	43.33	51.25	44.00	61.00	41.00	47.40
TOPEN	1.73	.50	-.05	.30	.55	1.43	.51
TPR80	-.25	-1.00	-.75	-2.00	0.00	0.00	-.58
MPS	37.58	16.27	26.70	48.66	28.73	23.08	27.29

Most clusters in the 1950s through the 1980s did emerge from geographically proximate countries which shared similar political orientations as well as market, demographic and cultural compositions. However, high-growth, geographically proximate countries were not always clustered together and some clusters included countries which were geographically remote. What is striking, for example, is that of the four newly industrializing countries (NICs) of East Asia, only South Korea and Taiwan consistently clustered. Singapore, in particular, failed to cluster with any other country during the 1970s and was paired exclusively with Hong Kong during the 1960s. Singapore's clustering during these decades was due primarily to its disproportionately high marginal propensity to save (MPS) and size-adjusted openness to international

trade (ROPEN). Similarly, Hong Kong, which clustered with Colombia, Mexico, Guatemala and Panama for the 1970s diverged from the other NICs due both to high size-adjusted openness to international trade (ROPEN) and its commercial acceptance of foreign business practices, ideas and workers (UAI).

Thus, even though an export-orientation may have greatly contributed to the economic growth of all of the East Asian NICs, how export-oriented strategies were developed and implemented varied according to each country's desired openness to international markets and cultural predispositions. Most notably, Singapore and Hong Kong, with exports+imports in 1990 nearly four times GNP and two and one-half times GNP, respectively, were considerably more trading-oriented during the entire post-World War II period than either South Korea or Taiwan even after adjusting for size-effects. As argued by Stephan Haggard (1990), the producer-orientation of South Korea and Taiwan is ascribable to import substitution by these countries during the early phase of their industrialization in the 1950s. Singapore and Hong Kong, in contrast, were "commercial *entrepôts*" during these early post-war years. Although the East Asian NICs may now share similar export-oriented industrialization strategies in a general sense, the dissimilarity of their early stages of industrialization have led to persistent differences in domestic production, trading relationships and openness to foreign trade, ideas and workers.

Of course, uncovering the socio-political stories of each high-growth country case during the post-World War II period is well beyond the scope of this dissertation. However, the cluster analyses presented in this section do provide a window for identifying the socio-political patterns which have emerged in the post-World War II era. Specifying this socio-political typology of high economic growth cases is, thus, the subject of the next section.

A Socio-Political Typology of High-Growth Economies During the Post-World War II Era

Five prominent regime policy and socio-political condition patterns of high economic growth can be distinguished from the previous section's cluster analyses. This typology offers a stylized account of economic growth patterns based on socio-political clusters which recurred throughout the post-World War II era. No one country's experience may exactly fit a particular theoretical pattern. Yet, each pattern should have important developing country cases from which it draws support.

The first prominent pattern which emerges is that of the **economic rebuilders**. These countries, represented by cluster I of the 1950s, are former industrialized nations whose economic infrastructures are devastated by war. Although per-capita income levels following the conflicts place these nations in the developing country category, they have substantial skills and industrial experience in which to draw. These nations also help to propel their economic rebuilding through low domestic prices. They have highly stable political structures imposed upon them which, in turn, facilitates the planning of domestic economic agents. They also feel moderately threatened by uncertain or unknown situations, have slow growing populations and are unacceptant of social stratification domestically which limits their openness to international trade.

The second pattern which emerges is that of the **uncertainty avoiders**. These countries, represented by cluster II of the 1950s, cluster V of the 1960s, cluster IV of the 1970s and cluster II of the 1980s, are countries which feel highly threatened by uncertain or unknown situations. When they are prospering, it is typically due to internally-led growth during times of political stability. They are not high savings countries by nature. Still, national savings are tactically promoted by the

regime by keeping domestic prices high. These nations are typically collectivist ones which do not strongly promote international trade. Politically, these nations are volatile with weak tendencies towards democracy.

The third pattern which emerges, represented by cluster III of the 1950s, cluster VI of the 1960s, cluster V of the 1970s and cluster V of the 1980s, is that of the **individualistic nations**. These nations are by far the most individualistic nations in any period during the post-World War II era. They consistently have high domestic prices but are moderately open to international trade and do not feel threatened by uncertain or unknown situations. Politically, they tend to be stable democracies. Although they are highly individualistic, they are also strongly unacceptant of social stratification.

The fourth and fifth prominent patterns are that of the **thrifty nations**. All of these nations have high propensities to save increments to their disposable income. However, they are by no means homogeneous. In effect, two patterns of thrifty nations can be distinguished based on their openness to international trade. Thus, the fourth pattern is that of the **open thrifty nations**, represented by cluster III of the 1960s, clusters I and VI of the 1970s and cluster IV of the 1980s. These nations utilize low domestic prices and are collectivist by nature. Politically, they are stable authoritarian regimes.

The fifth pattern, represented by cluster IV of the 1950s, clusters I and IV of the 1960s, clusters II and III of the 1970s and cluster I of the 1980s, are the **closed thrifty nations**. They are highly authoritarian nations which are highly subject to political instability. They are collectivist by nature and tend to have low domestic prices.

What is provocative about all of these patterns, except for the economic rebuilders, is that they recur throughout the post-World War II era and are largely

distinguishable by their cultural dimensions. National cultures appear to economically favor only certain kinds of political institutions and policies. Consequently, no single policy prescription for economic growth can easily be generalized. Rather, the economic efficiency of political policies is highly dependent upon prevailing socio-political conditions with a strong emphasis on embedded national culture.

This chapter began with an empirical examination of the effectiveness of policy responses to both domestic political instability and population growth. Although systematic conclusions can be drawn, especially regarding the economic inefficiency of authoritarian responses to political instability, the relationships are statistically weak. In contrast, the identification of socio-political clusters among high-growth economies exposes the strong influence of national culture upon both the range and economic efficiencies of regime policies. Five prominent post-World War II era high-growth economy patterns can be distinguished based upon their socio-political configurations--economic rebuilders, uncertainty avoiders, individualistic nations, open thrifty nations and closed thrifty nations. All but the economic rebuilders are patterns that recur throughout the post-World War II period. The most striking feature of these patterns is the role of national culture as a primary determinant for the economic efficiency of political policies. Certain socio-political conditions should, of course, be economically favorable to any nation. What this chapter shows, however, is that being blessed with the right socio-political conditions, including national culture, is less important to national economic growth than fitting the right political policies to a nation's prevailing socio-political conditions. Therefore, no one set of political policy prescriptions would appear appropriate for all nations. Moreover, one nation's

successful economic growth experience may not be replicable by another nation using identical political policies if they are faced with significantly different socio-political conditions.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS FOR CURRENT AND FUTURE ECONOMIC DEVELOPMENT POLICY

Several important conclusions can be drawn from the previous chapters' economic growth analysis of socio-political factors during the post-World War II era. First, wide ranges of political rights and sustained, rapid economic growth or stagnation are ostensibly low-income country phenomena. High-income countries, by contrast, tend to be strongly democratic with relatively small variations in their economic growth patterns. Moreover, the strong effect which per-capita income exerts on political rights levels and economic growth variability persists even after accounting for cultural differences.

Second, political instability, whether it be in the form of irregular executive transfers, deaths attributable to domestic political violence or volatility in political rights levels, has exerted a pervasively negative effect on countries' economic growth during the post-World War II era. Although economic development has become a primary regime goal for most nations during the past several decades, domestic political instability for some nations has caused their domestic political regimes to shift their foci away from economic concerns to other goals such as their own political survival. Furthermore, domestic culture may predispose countries to different economic sources of political instability. For example, open trading practices can cause uncertainty avoidant countries to become politically unstable because they feel threatened by the uncertain or unknown situations which trade may precipitate.

Similarly, cultures which are unacceptant of social stratification may be politically destabilized by regime policies which create substantial wealth disparities.

Third, domestic culture strongly limits both the range and efficiencies of regime economic policies. Because culture embodies a society's norms, habits and attitudes, domestic economic policies can be shaped in large measure by the national culture. Uncertainty avoidant cultures, for example, have strong propensities towards low openness to international trade, low domestic price levels and low levels of population growth. Although high marginal propensity to save also predisposes an economy towards low domestic prices and low population growth, it precipitates greater openness to international trade. Likewise, the acceptance of social stratification contributes to openness in international trade because these countries are relatively insulated from the political instability which can result from the uneven domestic economic consequences of increased international trade.

Fourth, and most important in this dissertation, sustained economic growth can occur in substantially different ways for countries depending on their prevailing socio-political conditions. Accordingly, even though low domestic price levels and high openness to international trade have generally exerted positive (or at least neutral) economic growth effects during the post-World War II period, the significance of these effects has been uneven and weak. What matters more for a country's successful economic growth is the fit of its policies with its socio-political conditions. Consequently, only four prominent socio-political patterns of high-growth economies recurred throughout the post-World War II period--uncertainty avoiders, individualistic nations, open thrifty economies and closed thrifty economies--each of which displayed distinct policy propensities. Although the statistical

significance of these recurrent patterns remains somewhat difficult to assess since the cluster analyses on which they are based are hypothesis generating rather than hypothesis testing in nature, it is clear that sustained, rapid economic growth proves difficult to sustain if regime policies are ill-suited to a country's socio-political conditions.

To be sure, a development strategy which has been successful for one nation may not be appropriate for another faced with dissimilar international conditions, accustomed to different political traditions or endowed with distinct cultural institutions or market and demographic resources. Also, no one specific strategy appears optimal for all countries under all conditions. What is promising, however, is that, except for political instability, no one set of socio-political conditions necessarily predisposes a country towards economic stagnation.

These conclusions are, of course, based on the experience of the Cold War period in which virtually all cases of high, sustained economic growth were accompanied by both internal and external political stability. During these decades, many countries (particularly in East Asia and the West) benefited both from a stable international order (which required little military expenditure) and a free-trade oriented hegemon (i.e., the United States) which helped to open international markets. With the end of the Cold War and the absence of an economic (or possibly even a military) hegemon, political instability may be threatened from sources unknown in the post-World War II period. For example, although Yugoslavia remained politically stable throughout the Cold War, the end of the bipolar international order fomented divisive domestic conflict stemming from old cultural animosities. Accordingly, future domestic political instability may stem from substantially different sources than those experienced since World War II.

In addition to being an increasingly important source of potential conflict, cultural identification can also be expected to increasingly determine political alliances as well as international trading relationships. The European Economic Community (EEC) and the North American Free Trade Agreement (NAFTA) are important manifestations of this new multinational regionalization of economic activities. However, similar regional political and economic alliances can also be expected among non-Western countries because, as Samuel Huntington (1993, 25-27) argues, (1) cultural differences are real and basic to human interaction, (2) cultural awareness is escalating with increasing interactions among peoples, (3) popular identification according to world religions is strengthening, (4) non-Western civilizations are increasingly stressing indigenous social practices and (5) cultural differences are less easily compromised and resolved than are religious and political cleavages.

> Civilization identity will be increasingly important in the future, and the world will be shaped in large measure by the interactions among seven or eight major civilizations. These include Western, Confucian, Japanese, Islamic, Hindu, Slavic-Orthodox, Latin American and possibly African civilization. The most important [economic and political] conflicts of the future will occur along the cultural fault lines separating these civilizations from one another. (Huntington 1993, 25)

Accordingly, any application of this dissertation's socio-political explanations of economic growth for future industrializing economies must be reconciled with expected changes in international conditions, particularly regarding the evolving roles of demography and national culture.

Unfortunately, the conclusions of this dissertation may be unable to explain several important cases of economic development prior to World War II. As with future economic development, pre-World War II development is marked by

distinct international political and trade configurations. The experiences of regional first movers such as Meiji Japan (1867-1912), Argentina (1860-1914) and the United Kingdom and the United States in the early nineteenth-century, for example, do not appear to fit neatly into the post-World War II socio-political typology of high-growth economies. Also, Hungary, Romania and Bulgaria during the 1930s (like Cuba during the 1960s and 1970s) do not appear to fit well into Chapter IV's socio-political typology since these countries experienced sustained growth due largely to politically-motivated trade subsidies. Specifically, Germany effectively bound Hungary, Romania and Bulgaria as political allies during the 1930s by fostering their economic dependence through the use of trade subsidies (Hirschman 1945). (Cuba received similar trade benefits from the Soviet Union during the 1960s and 1970s in exchange for political support against the United States.) Even Soviet growth during the 1930s, fueled by terror for not meeting difficult plan objectives, does not appear to fit well into the post-World War II socio-political patterns of economic growth. However, because quantifiable measures for most of these socio-political factors are largely unavailable prior to World War II, it remains difficult to assess exactly how different pre-World War II patterns were compared with post-World War II patterns.

Another potential problem with this dissertation's socio-political explanations for economic growth lies with statistical identification. Specifically, a variable which appears statistically significant may not in fact be the underlying causal variable. The level of political rights in a nation, for example, may appear statistically significant because it correlates with a true causal variable, say the credible positive incentives which a regime may confer on domestic private enterprise. These credible regime commitments, argue North and Weingast, are

what primarily drive domestic economic growth by creating the conditions for spurring private sector activity.

> Providing for the security of a private market economy requires a set of political institutions that... limit future political discretion with respect to economic decisions. Because the development of a thriving market system requires a considerable range of investment that is vulnerable to political opportunism, fostering these investments requires providing them with adequate protection. This requires that the institutions of public choice be fashioned so that... property rights are protected. Devising such a structure provides for the [economic] role of a constitution. (Weingast 1993, ii)

Unfortunately, a regime's credible positive commitments to private enterprise have remained difficult to quantify. Even if future work were to find, for example, that political rights levels have less causal economic force than credible regime commitments to private enterprise, political rights levels may still act as a useful statistical proxy for either credible regime commitments or other political variables because they may be easier to quantify.

Last, causation is a potential problem with any social science investigation. Undoubtedly, there are interactions between socio-political and economic variables for which this dissertation does a great disservice. However, causal simplification is to some extent unavoidable whenever productive explanations are sought. The intent of this analysis is to provide a plausible causation of socio-political factors on economic growth based on tracing the causal path of several illustrative cases and statistically measuring the specified causation using available data. As with all theoretical specifications, the central policy-related question is not whether this socio-political explanation for economic growth is true or false, but rather, how powerful is the explanation it provides and how does its power vary under different conditions. The socio-political implications for economic growth in this

dissertation should, therefore, be complimentary with competing socio-political and non-socio-political explanations for economic growth which can provide insight under alternative conditions and regarding related socio-economic phenomena.

APPENDIX A

DATA DEFINITIONS, SOURCES AND LISTINGS

Data used in this dissertation are derived from a wide variety of sources. The purpose of this appendix is to describe the calculations and data sources that have been employed as well as to list all data used for analysis in this dissertation. This appendix is divided into the following three sections: (1) Data Codes, Sources, and Calculations, (2) Raw Data Listings and (3) Notes on Data.

Data Codes and Sources

Series — Series Definition--Reference Source--Calculation

COUPS50 - Number of irregular executive transfers (i.e., successful coups) from 1951-1960
-- Annual data from Taylor (1983)

COUPS60 - Number of irregular executive transfers (i.e., successful coups) from 1961-1970
-- Annual data from Taylor (1983)

COUPS70 - Number of irregular executive transfers (i.e., successful coups) from 1961-1970
-- Annual data from Taylor (1983)

CGDP50 - Annualized Compounded Growth (%) in Real Per Capita GDP from 1950-1960
-- Annual data from Summers and Heston (1991)
-- 100 * ((Real Per Cap. GDP_{1960}/Real Per Cap. GDP_{1950})^(1/10) - 1)

CGDP60 - Annualized Compounded Growth (%) in Real Per Capita GDP from 1960-1970
-- Annual data from Summers and Heston (1991)
-- 100 * ((Real Per Cap. GDP_{1970}/Real Per Cap. GDP_{1960})^(1/10) - 1)

CGDP70 - Annualized Compounded Growth (%) in Real Per Capita GDP from 1970-1980
-- Annual data from Summers and Heston (1991)
-- 100 * ((Real Per Cap. GDP_{1980}/Real Per Cap. GDP_{1970})^(1/10) - 1)

CGDP80 - Annualized Compounded Growth (%) in Real Per Capita GDP from 1980-1990
-- Annual data from Summers and Heston (1991)
-- 100 * ((Real Per Cap. GDP_{1990}/Real Per Cap. GDP_{1980})^(1/10) - 1)

GDP50 - Average Real GDP per capita during the 1950s (1951-1960) expressed in constant 1985 dollars at international prices (Chain Index)
-- Annual data from Summers and Heston (1991)

GDP60 - Average Real GDP per capita during the 1960s (1961-1970) expressed in constant 1985 dollars at international prices (Chain Index)
-- Annual data from Summers and Heston (1991)

GDP70 - Average Real GDP per capita during the 1970s (1971-1980) expressed in constant 1985 dollars at international prices (Chain Index)
-- Annual data from Summers and Heston (1991)

GDP80 - Average Real GDP per capita during the 1980s (1981-1990) expressed in constant 1985 dollars at international prices (Chain Index)
-- Annual data from Summers and Heston (1991)

GDS80 - 1980 Gross Domestic Savings Ratio (%)
-- *World Tables* (1992)
-- 100 * (Gross Domestic $Savings_{1980}$) / GDP_{1980}

IND - Individualism Index: the degree to which individuals look after and expect benefits from immediate family versus larger social groups
-- Hofstede (1991)

LTO - Long Term Orientation Index: associated with thrift, perseverance, virtue of deeds over need for truth and willingness to subordinate oneself for a purpose
-- Hofstede (1991)

LPD50 - Natural logarithm of PDEATH50
-- log(PDEATH50) if PDEATH50>=1,
0 otherwise if PDEATH50 is not missing

LPD60 - Natural logarithm of PDEATH60
-- log(PDEATH60) if PDEATH60>=1,
0 otherwise if PDEATH60 is not missing

LPD70 - Natural logarithm of PDEATH70
-- log(PDEATH70) if PDEATH70>=1,
0 otherwise if PDEATH70 is not missing

MAS - Desirability of Assertive Behavior Index: the desirability of assertive behavior in economic interactions
-- Hofstede (1991)

MPS - Marginal Propensity to Save
-- *World Tables* (1992)
-- Estimated as $\Delta(S/n) / \Delta(C/n + S/n)$, where $\Delta(S/n)$ is the absolute change in real per capita gross domestic saving from 1970-1990 and $\Delta(C/n)$ is the absolute change in real per capita private consumption from 1970-1990. (See Notes on Data section in this appendix for a derivation and further explanation of this measure.)

OPEN50 - Average Openness to International Trade Index during the 1950s (1951-1960) after adjusting for log of population
-- Annual population and (imports+exports)/GDP data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

OPEN60 - Average Openness to International Trade Index during the 1960s (1961-1970) after adjusting for log of population
-- Annual population and (imports+exports)/GDP data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

OPEN70 - Average Openness to International Trade Index during the 1970s (1971-1980) after adjusting for log of population
-- Annual population and (imports+exports)/GDP data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

OPEN80 - Average Openness to International Trade Index during the 1980s (1981-1990) after adjusting for log of population
-- Annual population and (imports+exports)/GDP data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

P50 - Average Price Level GDP % Index during the 1950s (1951-1960) after adjusting for per capita GDP
-- Annual GDP and raw price level data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

P60 - Average Price Level GDP % Index during the 1960s (1961-1970) after adjusting for per capita GDP
-- Annual GDP and raw price level data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

P70 - Average Price Level GDP % Index during the 1970s (1971-1980) after adjusting for per capita GDP
-- Annual GDP and raw price level data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

P80 - Average Price Level GDP % Index during the 1980s (1981-1990) after adjusting for per capita GDP
-- Annual GDP and raw price level data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

PDEATH50 - Deaths per million population resulting from domestic political violence during the 1950s
-- Annual death data from Taylor (1983)
-- (Total number of domestic political deaths from 1951 through 1960) / POP50

PDEATH60 - Deaths per million population resulting from domestic political violence during the 1960s
-- Annual death data from Taylor (1983)
-- (Total number of domestic political deaths from 1961 through 1970) / POP60

PDEATH70 - Deaths per million population resulting from domestic political violence during the 1970s
-- Annual death data from Taylor (1983)
-- (Total number of domestic political deaths from 1971 through 1980) / POP70

PDI - Power Distance Index: the extent to which less powerful members of society expect and accept that power is distributed unequally
-- Hofstede (1991)

POP50 - Average population (in millions) during 1950s (1951-1960)
-- Annual data from Summers and Heston (1991)

POP60 - Average population (in millions) during 1960s (1961-1970)
-- Annual data from Summers and Heston (1991)

POP70 - Average population (in millions) during 1970s (1971-1980)
-- Annual data from Summers and Heston (1991)

POP80 - Average population (in millions) during 1980s (1981-1990)
-- Annual data from Summers and Heston (1991)

PR70 - Average Political Rights Index for the 1970s
-- Computed as the average of the annual Political Rights Index published in the January-February Issues of *Freedom at Large* (1973-1981). Scale: 1 is most free; 7 is least free.

PR80 - Average Political Rights Index for the 1980s
-- Computed as the average of the annual Political Rights Index published in the January-February Issues of *Freedom at Large* (1982-1990) and the *Freedom Review* (1991). Scale: 1 is most free; 7 is least free.

PVOL70 - Political Volatility Index for the 1970s
-- Computed as the range in the Freedom House Annual Political Rights Index (see above) from 1973-1981.

PVOL80 - Political Volatility Index for the 1980s
-- Computed as the range in the Freedom House Annual Political Rights Index from 1982-1991.

RIND - Residual Individualism Index (after adjusting for GDP70)
-- (100/74.67) * (IND+27.05-(.00516*GDP70))

SAV - Savings Index
-- (MPS + GDS80)/2

TPOP50 - Annualized Compounded Population Growth Rate (%) from 1950-1960
-- Annual data from Summers and Heston (1991)
-- 100 * ((Pop.$_{1960}$/Pop.$_{1950}$)^(1/10) - 1)

TPOP60 - Annualized Compounded Population Growth Rate (%) from 1960-1970
-- Annual data from Summers and Heston (1991)
-- 100 * ((Pop.$_{1970}$/Pop.$_{1960}$)^(1/10) - 1)

TPOP70 - Annualized Compounded Population Growth Rate (%) from 1970-1980
-- Annual data from Summers and Heston (1991)
-- 100 * ((Pop.$_{1980}$/Pop.$_{1970}$)^(1/10) - 1)

TPOP80 - Annualized Compounded Population Growth Rate (%) from 1980-1990
-- Annual data from Summers and Heston (1991)
-- 100 * ((Pop.$_{1990}$/Pop.$_{1980}$)^(1/10) - 1)

TPR70 - Average Annual Trend in political rights during the 1970's
-- Computed as (PR81-PR73) from the Political Rights Index published in the January-February Issues of *Freedom at Large* (1973, 1981).

TPR80 - Average Annual Trend in political rights during the 1980's
-- Computed as (PR91-PR81) from the Political Rights Index published in the January-February Issues of *Freedom at Large* (1981) and the *Freedom Review* (1991).

TOPEN50 - Average Annual Change in Population-Adjusted Openness to International Trade Index during the 1950s (1950-1960)
-- Annual population and (imports+exports)/GDP data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

TOPEN60 - Average Annual Change in Population-Adjusted Openness to International Trade Index during the 1960s (1960-1970)
-- Annual population and (imports+exports)/GDP data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

TOPEN70 - Average Annual Change in Population-Adjusted Openness to International Trade Index during the 1970s (1970-1980)
-- Annual population and (imports+exports)/GDP data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

TOPEN80 - Average Annual Change in Population-Adjusted Openness to International Trade Index during the 1980s (1980-1990)
-- Annual population and (imports+exports)/GDP data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

TP50 - Average Annual Change in GDP-Adjusted Price Levels during the 1950s (1950-1960)
-- Annual GDP and price level data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

TP60 - Average Annual Change in GDP-Adjusted Price Levels during the 1960s (1960-1970)
-- Annual GDP and price level data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

TP70 - Average Annual Change in GDP-Adjusted Price Levels during the 1970s (1970-1980)
-- Annual GDP and price level data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

TP80 - Average Annual Change in GDP-Adjusted Price Levels during the 1980s (1980-1990)
-- Annual GDP and price level data from Summers and Heston (1991)
-- See Notes on Data section in this appendix for a complete description of this calculation.

UAI - Uncertainty Avoidance Index: the extent to which members of a culture feel threatened by uncertain or unknown situations
-- Hofstede (1991)

Raw Data Listings

TABLE 35

GDP GROWTH INDICATORS

obs	COUNTRY	CGDP50	CGDP60	CGDP70	CGDP80
1	ALGERIA	.	0.68	4.22	-0.43
2	ANGOLA	.	2.27	-5.47	0.52
3	ARGENTINA	0.82	2.38	1.31	-2.96
4	AUSTRALIA	1.53	3.31	1.46	1.26
5	AUSTRIA	5.72	3.87	3.42	1.96
6	BANGLADESH	.	1.42	1.80	0.95
7	BELGIUM	2.19	4.24	2.99	1.82
8	BENIN	.	0.19	-0.29	-1.69
9	BOLIVIA	-1.07	3.80	1.69	-1.78
10	BOTSWANA	.	4.57	8.05	6.21
11	BRAZIL	3.51	3.17	5.89	-0.85
12	BULGARIA	.	.	.	2.23
13	BURKINA FASO	.	-1.69	1.72	1.20
14	BURUNDI	.	-5.87	3.63	1.21
15	CAMEROON	.	2.15	3.93	-0.32
16	CANADA	1.31	3.39	3.41	2.04
17	CENTRAL AFR.R.	.	0.56	-0.53	-1.78
18	CHAD	.	-1.93	-2.53	-1.51
19	CHILE	1.73	2.45	0.56	0.23
20	CHINA	.	.	4.17	6.47
21	COLOMBIA	1.15	2.41	3.27	0.97
22	CONGO	.	4.08	1.48	2.94
23	COSTA RICA	3.70	3.30	2.82	-0.21
24	CYPRUS	2.66	6.28	3.49	4.33
25	CZECHOSLOVAKIA	.	4.48	3.85	0.97
26	DENMARK	2.53	3.66	1.51	2.08
27	DOMINICAN REP.	2.36	2.56	4.42	-1.26
28	ECUADOR	2.00	2.09	6.09	-1.29
29	EGYPT	0.84	3.68	3.59	1.58
30	EL SALVADOR	1.69	2.39	1.02	-1.01
31	ETHIOPIA	0.55	1.44	0.78	-0.60
32	FINLAND	4.15	4.39	2.91	2.61
33	FRANCE	3.69	4.81	2.06	1.68
34	GABON	.	7.53	2.64	-1.98
35	GHANA	.	1.61	-0.94	-1.35
36	GREECE	4.00	7.33	3.36	1.26
37	GUATEMALA	0.81	2.01	2.40	-1.99
38	GUINEA	.	-1.02	1.91	-1.80
39	HAITI	.	-1.02	2.20	-2.33
40	HONDURAS	0.62	1.83	2.14	-1.38
41	HONG KONG	.	7.26	7.04	5.05
42	HUNGARY	.	.	4.09	0.63
43	INDIA	2.47	0.57	0.81	3.42

obs	COUNTRY	CGDP50	CGDP60	CGDP70	CGDP80
44	INDONESIA	.	1.14	5.99	4.49
45	IRAN	.	5.21	-2.87	-0.37
46	IRAQ	3.88	2.57	4.86	.
47	IRELAND	1.95	4.37	3.34	2.96
48	ISRAEL	5.71	5.58	2.74	1.45
49	ITALY	5.16	5.16	3.14	1.86
50	IVORY COAST	.	3.08	1.70	-2.78
51	JAMAICA	6.30	4.09	-1.59	0.66
52	JAPAN	7.35	9.48	3.22	3.72
53	JORDAN	7.27	2.15	6.30	-1.24
54	KENYA	1.16	-1.06	4.42	0.26
55	LESOTHO	.	2.94	9.04	0.62
56	LIBERIA	.	3.19	-0.29	-3.35
57	MADAGASCAR	.	-0.33	-1.57	-3.48
58	MALAWI	2.55	1.46	2.35	-0.86
59	MALAYSIA	.	4.24	5.95	2.66
60	MALI	.	-2.46	2.50	0.47
61	MAURITANIA	.	1.34	-0.28	-1.66
62	MAURITIUS	-1.41	-1.76	5.18	3.81
63	MEXICO	2.57	3.47	3.75	-0.59
64	MOROCCO	0.03	5.07	3.71	0.80
65	MOZAMBIQUE	.	2.59	-4.75	-1.95
66	MYANMAR	3.39	2.85	1.94	2.17
67	NEPAL	.	0.65	2.69	1.21
68	NETHERLANDS	2.97	4.19	2.07	1.29
69	NEW ZEALAND	1.80	1.68	0.93	1.18
70	NICARAGUA	3.37	3.92	-2.17	-2.09
71	NIGER	.	4.10	-0.80	-4.31
72	NIGERIA	2.12	3.22	4.52	-4.25
73	NORWAY	2.57	3.68	4.19	1.97
74	PAKISTAN	0.62	4.90	0.77	2.37
75	PANAMA	1.84	5.09	2.80	-0.82
76	PAPUA N.GUINEA	.	4.43	-0.48	-1.90
77	PARAGUAY	-0.57	1.71	5.75	-1.08
78	PERU	2.96	3.28	0.87	-3.42
79	PHILIPPINES	3.89	2.03	3.17	-0.65
80	POLAND	.	.	4.06	-1.48
81	PORTUGAL	4.44	5.92	4.27	2.60
82	PUERTO RICO	.	6.54	1.58	3.28
83	RWANDA	.	1.89	1.59	-1.07
84	SENEGAL	.	0.83	-0.16	-0.06
85	SIERRA LEONE	.	4.56	-0.48	-1.80
86	SINGAPORE	.	6.30	8.23	4.65
87	SOMALIA	.	-1.82	-0.11	0.38
88	SOUTH AFRICA	1.24	4.08	1.11	-0.95
89	SOUTH KOREA	1.81	6.41	6.35	7.93
90	SOVIET UNION	.	.	4.04	2.76
91	SPAIN	5.05	6.53	2.22	2.57
92	SRI LANKA	1.72	0.23	3.48	2.03
93	SUDAN	.	.	-0.21	-1.49

obs	COUNTRY	CGDP50	CGDP60	CGDP70	CGDP80
94	SWEDEN	2.68	3.57	1.45	1.66
95	SWITZERLAND	3.25	3.25	0.99	1.50
96	SYRIA	.	3.78	6.89	-0.71
97	TAIWAN	4.17	5.62	7.30	5.83
98	TANZANIA	.	3.14	1.17	0.58
99	THAILAND	0.93	4.96	3.59	5.11
100	TOGO	.	5.57	1.49	-1.50
101	TRINIDAD&TOBAG	6.32	1.89	5.27	-2.72
102	TUNISIA	.	2.54	5.87	1.46
103	TURKEY	4.28	3.11	2.73	2.66
104	UGANDA	0.88	1.17	-3.90	6.46
105	UNITED KINGDOM	2.34	1.63	2.68	2.68
106	UNITED STATES	1.26	2.67	1.72	2.00
107	URUGUAY	1.21	0.11	2.50	-1.46
108	VENEZUELA	2.98	2.10	-0.53	-2.26
109	WEST GERMANY	6.71	3.71	2.31	1.90
110	YEMEN	.	.	5.81	5.11
111	YUGOSLAVIA	.	5.49	5.39	-2.14
112	ZAIRE	3.90	3.44	-3.52	-1.22
113	ZAMBIA	.	1.46	-1.58	-2.79
114	ZIMBABWE	1.75	0.71	1.02	0.91

TABLE 36

GDP LEVEL INDICATORS

obs	COUNTRY	GDP50	GDP60	GDP70	GDP80
1	ALGERIA	.	1592	2333	2840
2	ANGOLA	.	999	807	649
3	ARGENTINA	3118	3675	4457	3977
4	AUSTRALIA	7148	9269	11798	13666
5	AUSTRIA	3956	6361	9298	11382
6	BANGLADESH	.	921	957	1113
7	BELGIUM	5049	7000	10109	11840
8	BENIN	.	1146	1088	1048
9	BOLIVIA	1168	1345	1823	1685
10	BOTSWANA	.	683	1372	2181
11	BRAZIL	1504	1985	3525	3982
12	BULGARIA	.	.	.	4645
13	BURKINA FASO	.	413	439	525
14	BURUNDI	.	419	444	506
15	CAMEROON	.	780	999	1374
16	CANADA	7061	8812	12678	15881
17	CENTRAL AFR.R.	.	650	691	582
18	CHAD	.	626	494	355
19	CHILE	2696	3327	3527	3573
20	CHINA	.	.	981	1833
21	COLOMBIA	1605	1848	2531	2997
22	CONGO	.	1151	1643	2339
23	COSTA RICA	1804	2387	3336	3361
24	CYPRUS	1998	2922	4348	6582
25	CZECHOSLOVAKIA	.	3054	4911	5811
26	DENMARK	5685	8424	10710	12681
27	DOMINICAN REP.	1087	1351	1976	2175
28	ECUADOR	1334	1630	2602	2894
29	EGYPT	698	951	1281	1782
30	EL SALVADOR	1321	1652	1979	1718
31	ETHIOPIA	241	273	295	302
32	FINLAND	4503	6638	9608	12502
33	FRANCE	5120	7786	10884	12594
34	GABON	.	2751	5138	4009
35	GHANA	.	894	930	781
36	GREECE	1771	3127	5330	6198
37	GUATEMALA	1542	1799	2328	2155
38	GUINEA	.	405	387	375
39	HAITI	.	821	865	859
40	HONDURAS	993	1097	1342	1336
41	HONG KONG	.	3424	6466	11750
42	HUNGARY	.	.	4499	5394
43	INDIA	593	653	718	921
44	INDONESIA	.	629	959	1645
45	IRAN	.	3098	4737	3559
46	IRAQ	2828	3980	5671	.

obs	COUNTRY	GDP50	GDP60	GDP70	GDP80
47	IRELAND	2886	3988	5917	7497
48	ISRAEL	2840	4479	6950	8132
49	ITALY	3716	6167	8879	11234
50	IVORY COAST	.	1187	1555	1451
51	JAMAICA	1531	2182	2717	2234
52	JAPAN	2240	5126	8966	12325
53	JORDAN	893	1498	1843	2714
54	KENYA	625	623	827	845
55	LESOTHO	.	392	720	929
56	LIBERIA	.	824	999	844
57	MADAGASCAR	.	1109	997	737
58	MALAWI	353	411	503	486
59	MALAYSIA	.	1682	2859	4176
60	MALI	.	418	444	519
61	MAURITANIA	.	912	1011	860
62	MAURITIUS	2975	2968	3481	4546
63	MEXICO	2518	3372	4682	5269
64	MOROCCO	800	1173	1566	1920
65	MOZAMBIQUE	.	1294	1236	775
66	MYANMAR	246	366	413	522
67	NEPAL	.	608	742	863
68	NETHERLANDS	5255	7571	10548	11666
69	NEW ZEALAND	6744	8687	10293	11264
70	NICARAGUA	1389	1961	2162	1656
71	NIGER	.	641	660	559
72	NIGERIA	534	587	1058	883
73	NORWAY	5117	7111	10275	13914
74	PAKISTAN	579	817	942	1221
75	PANAMA	1361	2023	2844	3209
76	PAPUA N.GUINEA	.	1537	1719	1505
77	PARAGUAY	1233	1335	1833	2306
78	PERU	1704	2372	2818	2565
79	PHILIPPINES	977	1262	1643	1704
80	POLAND	.	.	4454	4148
81	PORTUGAL	1581	2536	4530	5503
82	PUERTO RICO	.	4449	6395	7608
83	RWANDA	.	479	640	732
84	SENEGAL	.	1082	1083	1106
85	SIERRA LEONE	.	888	1025	889
86	SINGAPORE	.	2230	5155	8751
87	SOMALIA	.	956	887	889
88	SOUTH AFRICA	2036	2572	3366	3406
89	SOUTH KOREA	884	1181	2535	4492
90	SOVIET UNION	.	.	3680	4919
91	SPAIN	2706	4826	7240	8092
92	SRI LANKA	1174	1252	1469	2097
93	SUDAN	.	.	1100	1047
94	SWEDEN	6597	9260	11537	13398
95	SWITZERLAND	8324	11576	13791	15531
96	SYRIA	.	1880	3420	3971

obs	COUNTRY	GDP50	GDP60	GDP70	GDP80
97	TAIWAN	1204	1855	3619	6425
98	TANZANIA	.	375	492	469
99	THAILAND	783	1182	1778	2638
100	TOGO	.	474	643	629
101	TRINIDAD&TOBAG	4197	6406	8846	9575
102	TUNISIA	.	1217	2021	2664
103	TURKEY	1491	1903	2762	3181
104	UGANDA	689	731	674	667
105	UNITED KINGDOM	5912	7375	9387	11511
106	UNITED STATES	9370	11525	14284	16665
107	URUGUAY	3938	3678	4176	4220
108	VENEZUELA	5844	7107	7561	6271
109	WEST GERMANY	5166	8004	10788	12825
110	YEMEN	.	.	869	1265
111	YUGOSLAVIA	.	2584	4588	5253
112	ZAIRE	421	545	567	436
113	ZAMBIA	.	999	1075	790
114	ZIMBABWE	996	969	1200	1233

TABLE 37

POLITICAL COUPS INDICATORS

obs	COUNTRY	COUPS50	COUPS60	COUPS70
1	ALGERIA	1	3	0
2	ANGOLA	0	0	1
3	ARGENTINA	2	4	2
4	AUSTRALIA	0	0	0
5	AUSTRIA	0	0	0
6	BANGLADESH	0	0	3
7	BELGIUM	0	0	0
8	BENIN	0	6	1
9	BOLIVIA	2	3	5
10	BOTSWANA	0	0	0
11	BRAZIL	2	1	0
12	BULGARIA	0	0	0
13	BURKINA FASO	0	1	2
14	BURUNDI	0	2	1
15	CAMEROON	0	0	0
16	CANADA	0	0	0
17	CENTRAL AFR.R.	0	1	1
18	CHAD	0	0	1
19	CHILE	0	0	1
20	CHINA	0	4	0
21	COLOMBIA	2	1	0
22	CONGO	0	3	1
23	COSTA RICA	0	0	0
24	CYPRUS	0	1	1
25	CZECHOSLOVAKIA	0	0	0
26	DENMARK	0	0	0
27	DOMINICAN REP.	0	4	0
28	ECUADOR	0	4	2
29	EGYPT	4	0	0
30	EL SALVADOR	1	1	0
31	ETHIOPIA	0	0	4
32	FINLAND	0	0	0
33	FRANCE	1	0	0
34	GABON	0	2	0
35	GHANA	0	1	2
36	GREECE	0	1	2
37	GUATEMALA	3	1	0
38	GUINEA	0	0	0
39	HAITI	3	1	0
40	HONDURAS	2	1	3
41	HONG KONG	0	0	0
42	HUNGARY	0	0	0
43	INDIA	0	0	0
44	INDONESIA	0	1	0
45	IRAN	1	0	0
46	IRAQ	1	6	0

obs	COUNTRY	COUPS50	COUPS60	COUPS70
47	IRELAND	0	0	0
48	ISRAEL	0	0	0
49	ITALY	0	0	0
50	IVORY COAST	0	0	0
51	JAMAICA	0	0	0
52	JAPAN	0	0	0
53	JORDAN	0	0	0
54	KENYA	0	0	0
55	LESOTHO	0	1	0
56	LIBERIA	0	0	1
57	MADAGASCAR	0	0	2
58	MALAWI	0	0	0
59	MALAYSIA	0	0	0
60	MALI	0	2	0
61	MAURITANIA	0	0	2
62	MAURITIUS	0	0	0
63	MEXICO	0	0	0
64	MOROCCO	2	0	0
65	MOZAMBIQUE	0	0	0
66	MYANMAR	1	1	0
67	NEPAL	1	0	0
68	NETHERLANDS	0	0	0
69	NEW ZEALAND	0	0	0
70	NICARAGUA	0	0	1
71	NIGER	0	0	1
72	NIGERIA	0	1	1
73	NORWAY	0	0	0
74	PAKISTAN	1	2	1
75	PANAMA	1	2	0
76	PAPUA N.GUINEA	0	0	0
77	PARAGUAY	1	0	0
78	PERU	0	3	1
79	PHILIPPINES	0	0	0
80	POLAND	0	0	1
81	PORTUGAL	0	0	1
82	PUERTO RICO	0	0	0
83	RWANDA	0	0	1
84	SENEGAL	0	0	0
85	SIERRA LEONE	0	2	0
86	SINGAPORE	0	0	0
87	SOMALIA	0	1	0
88	SOUTH AFRICA	0	0	0
89	SOUTH KOREA	1	2	1
90	SOVIET UNION	0	0	0
91	SPAIN	0	0	0
92	SRI LANKA	0	0	0
93	SUDAN	1	3	2
94	SWEDEN	0	0	0
95	SWITZERLAND	0	0	0
96	SYRIA	3	6	0

obs	COUNTRY	COUPS50	COUPS60	COUPS70
97	TAIWAN	0	0	0
98	TANZANIA	0	0	0
99	THAILAND	3	0	4
100	TOGO	0	3	0
101	TRINIDAD&TOBAG	0	0	0
102	TUNISIA	1	0	0
103	TURKEY	1	0	2
104	UGANDA	0	1	5
105	UNITED KINGDOM	0	0	0
106	UNITED STATES	0	0	0
107	URUGUAY	0	0	4
108	VENEZUELA	2	0	0
109	WEST GERMANY	0	0	0
110	YEMEN	2	5	1
111	YUGOSLAVIA	0	0	0
112	ZAIRE	1	1	0
113	ZAMBIA	0	0	0
114	ZIMBABWE	0	1	0

TABLE 38

POLITICAL DEATH INDICATORS

obs	COUNTRY	PDEATH50	PDEATH60	PDEATH70
1	ALGERIA	.	342.736	0.122
2	ANGOLA	.	6340.292	1322.590
3	ARGENTINA	351.486	5.837	171.360
4	AUSTRALIA	0.000	0.000	0.000
5	AUSTRIA	0.430	0.413	0.265
6	BANGLADESH	0.000	0.000	19.319
7	BELGIUM	0.225	0.424	7.257
8	BENIN	.	16.041	2.274
9	BOLIVIA	1106.158	146.667	45.400
10	BOTSWANA	.	0.000	1.297
11	BRAZIL	0.841	0.821	0.365
12	BULGARIA	0.000	.	0.000
13	BURKINA FASO	0.000	0.000	0.000
14	BURUNDI	0.000	33.597	21760.447
15	CAMEROON	.	35.943	0.000
16	CANADA	0.125	0.353	0.132
17	CENTRAL AFR.R.	0.000	1.142	0.000
18	CHAD	.	600.769	56.331
19	CHILE	6.461	2.182	67.658
20	CHINA	.	.	0.008
21	COLOMBIA	278.236	74.609	3.526
22	CONGO	.	439.114	30.367
23	COSTA RICA	54.924	0.000	0.000
24	CYPRUS	686.567	747.458	1512.195
25	CZECHOSLOVAKIA	.	1.841	0.135
26	DENMARK	3.147	0.000	0.000
27	DOMINICAN REP.	115.887	1074.814	14.858
28	ECUADOR	19.662	12.295	7.963
29	EGYPT	16.356	2.316	1.842
30	EL SALVADOR	3.080	1.618	29.561
31	ETHIOPIA	12.857	7.270	983.947
32	FINLAND	0.706	0.000	0.000
33	FRANCE	0.548	1.907	0.854
34	GABON	0.000	95.041	0.000
35	GHANA	.	9.179	0.101
36	GREECE	1.626	0.814	3.814
37	GUATEMALA	57.243	42.345	6.856
38	GUINEA	.	0.239	0.200
39	HAITI	.	61.108	5.017
40	HONDURAS	80.501	6.903	14.272
41	HONG KONG	.	26.521	0.000
42	HUNGARY	.	.	0.000
43	INDIA	6.794	7.439	1.338
44	INDONESIA	.	5376.822	0.074
45	IRAN	.	8.996	1.562
46	IRAQ	395.263	483.495	65.312

obs	COUNTRY	PDEATH50	PDEATH60	PDEATH70
47	IRELAND	0.344	0.000	16.583
48	ISRAEL	3.786	17.361	46.225
49	ITALY	1.010	0.863	2.255
50	IVORY COAST	0.000	0.213	0.000
51	JAMAICA	2.569	5.698	449.232
52	JAPAN	0.256	0.000	0.286
53	JORDAN	31.674	886.839	127.112
54	KENYA	1811.508	48.959	3.332
55	LESOTHO	.	30.801	0.000
56	LIBERIA	0.000	0.000	0.000
57	MADAGASCAR	0.000	0.000	23.607
58	MALAWI	26.571	5.223	11.236
59	MALAYSIA	.	90.749	4.832
60	MALI	.	1.045	0.000
61	MAURITANIA	0.000	2.715	0.000
62	MAURITIUS	0.000	37.333	0.000
63	MEXICO	5.823	6.461	4.405
64	MOROCCO	195.200	12.347	0.514
65	MOZAMBIQUE	0.000	259.320	223.108
66	MYANMAR	77.549	36.221	33.565
67	NEPAL	.	8.038	2.988
68	NETHERLANDS	0.000	0.000	1.168
69	NEW ZEALAND	0.000	0.000	0.000
70	NICARAGUA	205.517	86.743	24.570
71	NIGER	0.000	6.188	0.208
72	NIGERIA	3.238	33613.946	0.606
73	NORWAY	0.000	0.000	0.250
74	PAKISTAN	11.649	50.604	4263.012
75	PANAMA	47.431	41.481	0.000
76	PAPUA N.GUINEA	.	47.706	2.530
77	PARAGUAY	122.399	2.376	10.557
78	PERU	1.500	50.603	10.522
79	PHILIPPINES	289.872	13.041	87.245
80	POLAND	.	.	0.059
81	PORTUGAL	0.231	2.865	4.260
82	PUERTO RICO	.	1.168	4.376
83	RWANDA	0.000	8253.387	2.685
84	SENEGAL	.	3.536	0.000
85	SIERRA LEONE	.	2.404	3.036
86	SINGAPORE	.	0.000	0.000
87	SOMALIA	.	14.554	0.000
88	SOUTH AFRICA	39.977	6.817	26.628
89	SOUTH KOREA	23.107	4.775	1.156
90	SOVIET UNION	.	.	0.035
91	SPAIN	0.377	0.186	4.445
92	SRI LANKA	38.019	0.265	384.412
93	SUDAN	.	.	38.254
94	SWEDEN	0.000	0.000	0.731
95	SWITZERLAND	0.000	0.000	0.000
96	SYRIA	.	311.340	11.493

obs	COUNTRY	PDEATH50	PDEATH60	PDEATH70
97	TAIWAN	529.662	36.766	0.061
98	TANZANIA	.	7.252	0.443
99	THAILAND	3.570	15.367	22.671
100	TOGO	.	1.124	0.000
101	TRINIDAD&TOBAG	1.453	3.322	0.000
102	TUNISIA	.	421.445	0.175
103	TURKEY	0.986	3.193	3.538
104	UGANDA	5.344	393.068	2338.934
105	UNITED KINGDOM	0.039	0.735	25.184
106	UNITED STATES	0.304	1.611	0.414
107	URUGUAY	0.000	5.935	15.784
108	VENEZUELA	139.140	94.012	1.623
109	WEST GERMANY	0.076	0.205	0.698
110	YEMEN	.	.	5.655
111	YUGOSLAVIA	.	0.410	0.978
112	ZAIRE	125.475	683.627	4.351
113	ZAMBIA	.	358.835	3.040
114	ZIMBABWE	20.497	83.259	556.420

TABLE 39

POLITICAL RIGHTS INDICATORS

obs	COUNTRY	PR70	PR80	PVOL70	PVOL80	TPR70	TPR80
1	ALGERIA	6.1	5.8	3	1	0	-2
2	ANGOLA	6.7	7.0	1	0	0	0
3	ARGENTINA	4.7	2.3	4	5	0	-5
4	AUSTRALIA	1.0	1.0	0	0	0	0
5	AUSTRIA	1.0	1.0	0	0	0	0
6	BANGLADESH	4.1	4.5	5	3	1	2
7	BELGIUM	1.0	1.0	0	0	0	0
8	BENIN	7.0	6.9	0	1	0	-1
9	BOLIVIA	5.6	2.5	4	5	2	-5
10	BOTSWANA	2.1	1.8	1	1	-1	-1
11	BRAZIL	4.2	2.5	1	2	-1	-2
12	BULGARIA	7.0	6.6	0	4	0	-4
13	BURKINA FASO	4.2	6.6	4	1	3	0
14	BURUNDI	7.0	6.9	0	1	0	0
15	CAMEROON	6.1	6.0	1	0	0	0
16	CANADA	1.0	1.0	0	0	0	0
17	CENTRAL AFR.R.	7.0	6.5	0	1	0	-1
18	CHAD	6.6	6.7	1	1	0	1
19	CHILE	6.0	5.3	6	5	5	-4
20	CHINA	6.6	6.2	1	1	-1	1
21	COLOMBIA	2.0	2.2	0	1	0	1
22	CONGO	6.1	6.9	2	1	0	-1
23	COSTA RICA	1.0	1.0	0	0	0	0
24	CYPRUS	3.0	1.0	2	0	1	-2
25	CZECHOSLOVAKIA	7.0	6.4	0	5	0	-5
26	DENMARK	1.0	1.0	0	0	0	0
27	DOMINICAN REP.	3.1	1.2	2	1	-1	0
28	ECUADOR	5.4	2.0	5	0	-5	0
29	EGYPT	5.4	4.8	1	1	-1	0
30	EL SALVADOR	3.2	3.2	4	3	4	-3
31	ETHIOPIA	6.4	6.7	2	1	2	0
32	FINLAND	2.0	1.5	0	1	0	-1
33	FRANCE	1.0	1.0	0	0	0	0
34	GABON	6.0	5.8	0	2	0	-2
35	GHANA	5.8	6.1	5	5	-4	4
36	GREECE	3.0	1.5	5	1	-4	-1
37	GUATEMALA	3.4	3.9	3	3	3	-2
38	GUINEA	7.0	6.9	0	1	0	-1
39	HAITI	6.7	6.3	1	3	-1	-2
40	HONDURAS	5.9	2.2	3	1	-3	-2
41	HONG KONG	3.2	4.0	1	0	1	0
42	HUNGARY	6.0	4.9	0	4	0	-4
43	INDIA	2.0	1.9	0	1	0	-1
44	INDONESIA	5.0	5.1	0	1	0	1
45	IRAN	5.4	5.4	1	1	0	1
46	IRAQ	6.9	6.8	1	1	-1	1

obs	COUNTRY	PR70	PR80	PVOL70	PVOL80	TPR70	TPR80
47	IRELAND	1.0	1.0	0	0	0	0
48	ISRAEL	2.0	2.0	0	0	0	0
49	ITALY	1.4	1.0	1	0	0	0
50	IVORY COAST	6.0	5.8	0	1	0	0
51	JAMAICA	1.4	2.0	1	0	1	0
52	JAPAN	1.9	1.0	1	0	-1	0
53	JORDAN	6.0	5.7	0	1	0	-1
54	KENYA	5.0	5.8	0	1	0	1
55	LESOTHO	5.2	5.3	2	1	-2	1
56	LIBERIA	6.0	5.5	0	2	0	1
57	MADAGASCAR	5.3	5.0	1	2	1	-2
58	MALAWI	6.7	6.2	1	1	-1	1
59	MALAYSIA	2.8	3.5	1	2	1	2
60	MALI	7.0	6.7	0	1	0	-1
61	MAURITANIA	6.0	6.7	2	1	1	0
62	MAURITIUS	2.4	2.0	1	0	-1	0
63	MEXICO	3.9	3.6	2	1	-2	1
64	MOROCCO	4.3	4.0	2	0	-1	0
65	MOZAMBIQUE	6.7	6.2	1	1	0	-1
66	MYANMAR	6.8	7.0	1	0	0	0
67	NEPAL	5.6	3.2	3	1	-3	1
68	NETHERLANDS	1.0	1.0	0	0	0	0
69	NEW ZEALAND	1.0	1.0	0	0	0	0
70	NICARAGUA	4.9	5.0	1	3	1	-2
71	NIGER	6.8	6.9	1	1	1	-1
72	NIGERIA	4.9	5.3	4	5	-4	3
73	NORWAY	1.0	1.0	0	0	0	0
74	PAKISTAN	4.8	4.7	4	4	4	-3
75	PANAMA	6.1	5.2	3	3	-3	0
76	PAPUA N.GUINEA	2.5	2.0	2	0	-2	0
77	PARAGUAY	4.9	4.9	1	2	1	-1
78	PERU	5.6	2.1	5	1	-5	1
79	PHILIPPINES	4.9	3.3	1	3	1	-2
80	POLAND	6.0	5.0	0	4	0	-4
81	PORTUGAL	3.3	1.1	3	1	-3	-1
82	PUERTO RICO	2.0	1.5	0	1	0	-1
83	RWANDA	6.7	6.0	1	0	-1	0
84	SENEGAL	5.2	3.4	2	1	-2	0
85	SIERRA LEONE	5.4	5.1	2	2	1	1
86	SINGAPORE	5.0	4.0	0	0	0	-1
87	SOMALIA	7.0	7.0	0	0	0	0
88	SOUTH AFRICA	4.4	5.1	1	1	1	0
89	SOUTH KOREA	4.8	3.7	1	3	0	-3
90	SOVIET UNION	6.4	6.4	1	2	0	-1
91	SPAIN	3.7	1.1	3	1	-3	-1
92	SRI LANKA	2.0	3.1	0	2	0	2
93	SUDAN	5.7	5.2	1	3	-1	2
94	SWEDEN	1.1	1.0	1	0	0	0
95	SWITZERLAND	1.0	1.0	0	0	0	0
96	SYRIA	5.8	6.1	2	2	-2	2

obs	COUNTRY	PR70	PR80	PVOL70	PVOL80	TPR70	TPR80
97	TAIWAN	5.4	4.7	1	2	-1	-2
98	TANZANIA	6.0	6.0	0	0	0	0
99	THAILAND	5.0	2.8	5	1	-4	-1
100	TOGO	7.0	6.8	0	1	0	-1
101	TRINIDAD&TOBAG	2.0	1.1	0	1	0	-1
102	TUNISIA	6.0	5.3	0	1	0	-1
103	TURKEY	2.4	2.9	3	3	2	-3
104	UGANDA	6.7	5.0	2	2	-2	1
105	UNITED KINGDOM	1.0	1.0	0	0	0	0
106	UNITED STATES	1.0	1.0	0	0	0	0
107	URUGUAY	5.2	2.7	3	4	2	-4
108	VENEZUELA	1.4	1.0	1	0	-1	0
109	WEST GERMANY	1.0	1.0	0	0	0	0
110	YEMEN	6.1	5.8	2	1	0	0
111	YUGOSLAVIA	6.0	5.8	0	1	0	-1
112	ZAIRE	6.8	6.3	1	1	-1	0
113	ZAMBIA	5.0	5.3	0	1	0	1
114	ZIMBABWE	5.3	4.7	3	3	-3	3

TABLE 40

POPULATION LEVEL INDICATORS

obs	COUNTRY	POP50	POP60	POP70	POP80
1	ALGERIA	.	12.231	16.327	22.146
2	ANGOLA	.	5.413	6.795	8.648
3	ARGENTINA	19.079	22.444	26.278	30.512
4	AUSTRALIA	9.354	11.496	13.890	15.943
5	AUSTRIA	6.975	7.268	7.541	7.586
6	BANGLADESH	.	59.928	77.128	96.640
7	BELGIUM	8.904	9.439	9.783	9.880
8	BENIN	.	2.369	3.078	4.058
9	BOLIVIA	3.118	3.900	4.978	6.432
10	BOTSWANA	.	0.558	0.771	1.072
11	BRAZIL	62.993	85.289	109.489	137.109
12	BULGARIA	.	.	.	8.927
13	BURKINA FASO	.	5.104	6.305	8.021
14	BURUNDI	.	3.155	3.757	4.786
15	CAMEROON	.	5.926	7.608	10.334
16	CANADA	15.988	19.841	22.812	25.352
17	CENTRAL AFR.R.	.	1.751	2.082	2.693
18	CHAD	.	3.379	4.083	5.099
19	CHILE	6.965	8.707	10.420	12.234
20	CHINA	.	.	918.237	1061.82
21	COLOMBIA	13.697	18.818	24.107	29.753
22	CONGO	.	1.084	1.416	1.975
23	COSTA RICA	1.056	1.514	1.994	2.525
24	CYPRUS	0.536	0.590	0.615	0.670
25	CZECHOSLOVAKIA	.	14.123	14.846	15.504
26	DENMARK	4.448	4.774	5.059	5.123
27	DOMINICAN REP.	2.908	3.903	5.115	6.472
28	ECUADOR	4.018	5.368	7.158	9.312
29	EGYPT	23.355	29.789	36.925	47.046
30	EL SALVADOR	2.273	3.090	4.127	4.846
31	ETHIOPIA	19.989	25.861	33.513	41.596
32	FINLAND	4.248	4.563	4.709	4.902
33	FRANCE	43.767	48.776	52.715	55.302
34	GABON	.	0.484	0.655	0.997
35	GHANA	.	7.844	9.862	12.659
36	GREECE	7.995	8.602	9.176	9.924
37	GUATEMALA	3.424	4.605	6.126	8.110
38	GUINEA	.	4.183	4.994	6.242
39	HAITI	.	4.222	4.983	5.897
40	HONDURAS	1.677	2.318	3.153	4.453
41	HONG KONG	.	3.582	4.447	5.482
42	HUNGARY	.	.	10.551	10.645
43	INDIA	404.046	494.127	621.878	774.836
44	INDONESIA	.	107.154	134.302	164.611
45	IRAN	.	24.567	33.936	46.664
46	IRAQ	6.206	8.149	11.315	15.194

obs	COUNTRY	POP50	POP60	POP70	POP80
47	IRELAND	2.904	2.881	3.196	3.514
48	ISRAEL	1.849	2.592	3.483	4.277
49	ITALY	48.519	52.127	55.434	57.138
50	IVORY COAST	.	4.695	6.927	10.050
51	JAMAICA	1.557	1.755	2.019	2.299
52	JAPAN	89.869	99.345	111.725	120.898
53	JORDAN	1.547	2.006	2.604	3.584
54	KENYA	7.438	9.845	14.106	20.661
55	LESOTHO	.	0.974	1.213	1.571
56	LIBERIA	.	1.221	1.646	2.101
57	MADAGASCAR	.	6.087	7.752	10.210
58	MALAWI	3.199	4.021	5.340	7.346
59	MALAYSIA	.	9.642	12.418	15.927
60	MALI	.	4.785	5.993	7.529
61	MAURITANIA	.	1.105	1.394	1.762
62	MAURITIUS	0.582	0.750	0.896	1.027
63	MEXICO	33.146	45.811	62.657	79.214
64	MOROCCO	10.584	13.768	17.516	22.435
65	MOZAMBIQUE	.	8.530	10.793	14.008
66	MYANMAR	20.387	24.599	30.568	37.226
67	NEPAL	.	10.451	13.054	16.052
68	NETHERLANDS	10.843	12.354	13.693	14.563
69	NEW ZEALAND	2.168	2.650	3.040	3.276
70	NICARAGUA	1.450	1.833	2.442	3.170
71	NIGER	.	3.717	4.816	6.566
72	NIGERIA	38.907	59.357	75.884	101.271
73	NORWAY	3.441	3.742	4.008	4.168
74	PAKISTAN	43.952	53.533	72.301	98.108
75	PANAMA	1.012	1.350	1.767	2.206
76	PAPUA N.GUINEA	.	2.180	2.767	3.513
77	PARAGUAY	1.634	2.104	2.747	3.764
78	PERU	9.336	11.699	15.397	19.638
79	PHILIPPINES	25.049	32.972	43.544	55.410
80	POLAND	.	.	34.182	37.183
81	PORTUGAL	8.645	9.076	9.155	10.146
82	PUERTO RICO	.	2.568	2.971	3.316
83	RWANDA	.	3.248	4.469	6.208
84	SENEGAL	.	3.959	4.888	6.514
85	SIERRA LEONE	.	2.496	2.964	3.713
86	SINGAPORE	.	1.902	2.272	2.753
87	SOMALIA	.	3.092	4.174	5.404
88	SOUTH AFRICA	15.559	20.390	25.612	32.147
89	SOUTH KOREA	22.461	28.692	35.457	40.698
90	SOVIET UNION	.	.	255.125	277.590
91	SPAIN	29.207	32.240	35.769	38.477
92	SRI LANKA	8.864	11.310	13.639	15.878
93	SUDAN	.	.	16.861	22.298
94	SWEDEN	7.278	7.768	8.207	8.393
95	SWITZERLAND	5.038	5.873	6.367	6.505
96	SYRIA	.	5.441	7.570	10.592

obs	COUNTRY	POP50	POP60	POP70	POP80
97	TAIWAN	9.170	12.838	16.359	19.329
98	TANZANIA	.	11.858	15.790	20.874
99	THAILAND	23.810	31.300	41.860	52.065
100	TOGO	.	1.780	2.311	3.114
101	TRINIDAD&TOBAG	0.688	0.903	1.024	1.167
102	TUNISIA	.	4.691	5.727	7.338
103	TURKEY	24.344	31.635	40.413	50.832
104	UGANDA	5.988	8.281	11.427	14.261
105	UNITED KINGDOM	51.488	54.421	56.187	56.747
106	UNITED STATES	167.621	194.938	217.296	240.435
107	URUGUAY	2.375	2.696	2.851	3.015
108	VENEZUELA	6.188	9.052	12.940	17.580
109	WEST GERMANY	52.819	58.564	61.602	61.390
110	YEMEN	.	.	6.189	8.031
111	YUGOSLAVIA	.	19.521	21.462	23.176
112	ZAIRE	14.465	17.846	23.674	31.848
113	ZAMBIA	.	3.673	4.934	6.920
114	ZIMBABWE	3.220	4.480	6.168	8.539

TABLE 41

POPULATION TREND INDICATORS

obs	COUNTRY	TPOP50	TPOP60	TPOP70	TPOP80
1	ALGERIA	.	2.44	3.11	2.99
2	ANGOLA	.	2.11	2.48	2.65
3	ARGENTINA	1.86	1.51	1.66	1.35
4	AUSTRALIA	2.26	1.99	1.62	1.52
5	AUSTRIA	0.16	0.52	0.17	0.21
6	BANGLADESH	.	2.45	2.45	2.30
7	BELGIUM	0.54	0.56	0.21	0.11
8	BENIN	.	2.63	2.69	3.18
9	BOLIVIA	2.17	2.35	2.58	2.54
10	BOTSWANA	.	2.64	3.75	3.38
11	BRAZIL	3.23	2.82	2.38	2.17
12	BULGARIA	.	.	.	-0.04
13	BURKINA FASO	.	2.64	2.14	2.62
14	BURUNDI	.	1.36	2.08	2.81
15	CAMEROON	.	2.01	2.95	3.04
16	CANADA	2.69	1.76	1.21	0.99
17	CENTRAL AFR.R.	.	1.59	2.13	2.72
18	CHAD	.	1.77	2.06	2.41
19	CHILE	2.22	2.13	1.61	1.69
20	CHINA	.	.	1.83	1.45
21	COLOMBIA	3.11	3.09	2.19	2.00
22	CONGO	.	2.43	3.04	3.39
23	COSTA RICA	3.87	3.25	2.53	2.38
24	CYPRUS	1.49	0.71	0.23	1.10
25	CZECHOSLOVAKIA	.	0.49	0.63	0.26
26	DENMARK	0.70	0.73	0.39	0.03
27	DOMINICAN REP.	3.16	2.89	2.56	2.19
28	ECUADOR	2.95	2.86	2.99	2.39
29	EGYPT	2.36	2.50	2.15	2.45
30	EL SALVADOR	2.87	3.36	2.35	1.43
31	ETHIOPIA	2.77	2.53	2.69	2.88
32	FINLAND	1.00	0.39	0.37	0.42
33	FRANCE	0.91	1.06	0.60	0.47
34	GABON	.	0.92	4.69	3.61
35	GHANA	.	2.35	2.23	3.33
36	GREECE	0.96	0.55	0.93	0.43
37	GUATEMALA	2.96	3.04	2.80	2.89
38	GUINEA	.	1.55	1.97	3.12
39	HAITI	.	1.63	1.70	1.88
40	HONDURAS	3.32	3.11	3.38	3.38
41	HONG KONG	.	2.60	2.49	1.42
42	HUNGARY	.	.	0.36	-0.15
43	INDIA	1.67	2.33	2.30	2.14
44	INDONESIA	.	2.31	2.35	1.86
45	IRAN	.	3.42	3.24	3.58
46	IRAQ	2.89	3.17	3.51	3.50

obs	COUNTRY	TPOP50	TPOP60	TPOP70	TPOP80
47	IRELAND	-0.47	0.41	1.43	0.30
48	ISRAEL	4.51	3.47	2.69	1.85
49	ITALY	0.71	0.70	0.48	0.22
50	IVORY COAST	.	3.75	4.05	3.80
51	JAMAICA	1.32	1.43	1.33	1.34
52	JAPAN	1.19	1.04	1.13	0.56
53	JORDAN	3.18	3.09	2.43	3.65
54	KENYA	2.11	3.63	3.76	3.80
55	LESOTHO	.	2.02	2.45	2.70
56	LIBERIA	.	2.87	3.03	3.19
57	MADAGASCAR	.	2.38	2.58	2.97
58	MALAWI	3.00	2.50	3.03	3.40
59	MALAYSIA	.	2.85	2.40	2.64
60	MALI	.	2.48	2.14	2.53
61	MAURITANIA	.	2.28	2.42	2.41
62	MAURITIUS	3.09	2.31	1.54	1.07
63	MEXICO	3.26	3.28	2.93	2.04
64	MOROCCO	2.65	2.56	2.39	2.62
65	MOZAMBIQUE	.	2.20	2.57	2.64
66	MYANMAR	1.71	2.22	2.13	2.21
67	NEPAL	.	1.90	2.58	2.62
68	NETHERLANDS	1.28	1.28	0.82	0.55
69	NEW ZEALAND	2.20	1.71	0.99	0.90
70	NICARAGUA	2.43	2.67	3.04	3.38
71	NIGER	.	2.52	2.89	3.38
72	NIGERIA	4.50	2.52	2.50	3.14
73	NORWAY	0.93	0.80	0.54	0.36
74	PAKISTAN	1.77	2.80	3.14	3.13
75	PANAMA	2.87	2.95	2.48	2.14
76	PAPUA N.GUINEA	.	2.27	2.40	2.46
77	PARAGUAY	2.63	2.56	2.96	3.20
78	PERU	1.92	2.88	2.74	2.28
79	PHILIPPINES	2.76	3.01	2.56	2.44
80	POLAND	.	.	0.90	0.71
81	PORTUGAL	0.62	0.11	0.77	0.59
82	PUERTO RICO	.	1.23	1.66	0.82
83	RWANDA	.	2.99	3.40	3.26
84	SENEGAL	.	1.74	2.91	2.95
85	SIERRA LEONE	.	1.37	2.07	2.42
86	SINGAPORE	.	2.34	1.52	2.21
87	SOMALIA	.	3.52	2.66	2.94
88	SOUTH AFRICA	2.80	2.22	2.33	2.42
89	SOUTH KOREA	2.53	2.58	1.79	1.18
90	SOVIET UNION	.	.	0.90	0.89
91	SPAIN	0.89	1.04	1.02	0.41
92	SRI LANKA	2.56	2.38	1.65	1.47
93	SUDAN	.	.	2.96	2.75
94	SWEDEN	0.65	0.73	0.33	0.30
95	SWITZERLAND	1.34	1.57	0.08	0.61
96	SYRIA	.	3.21	3.35	3.57

obs	COUNTRY	TPOP50	TPOP60	TPOP70	TPOP80
97	TAIWAN	3.79	3.12	1.95	1.45
98	TANZANIA	.	3.03	2.96	3.12
99	THAILAND	2.51	3.07	2.71	1.80
100	TOGO	.	2.93	2.47	3.50
101	TRINIDAD&TOBAG	2.76	2.27	1.09	1.34
102	TUNISIA	.	1.96	2.22	2.36
103	TURKEY	2.83	2.53	2.32	2.36
104	UGANDA	2.44	4.10	2.70	2.34
105	UNITED KINGDOM	0.38	0.57	0.12	0.19
106	UNITED STATES	1.72	1.27	1.06	0.94
107	URUGUAY	1.47	1.02	0.37	0.60
108	VENEZUELA	3.92	3.80	3.55	2.77
109	WEST GERMANY	1.04	0.90	0.15	0.09
110	YEMEN	.	.	2.96	2.79
111	YUGOSLAVIA	.	1.02	0.91	0.66
112	ZAIRE	2.27	2.15	3.24	3.21
113	ZAMBIA	.	2.85	3.11	3.69
114	ZIMBABWE	4.00	3.83	2.93	3.41

TABLE 42

PRICE LEVEL INDICATORS

obs	COUNTRY	P50	P60	P70	P80
1	ALGERIA	.	101.17	130.28	136.16
2	ANGOLA	.	51.72	99.52	204.09
3	ARGENTINA	103.23	71.66	130.70	94.91
4	AUSTRALIA	71.20	77.44	108.02	98.87
5	AUSTRIA	64.82	72.70	110.87	114.12
6	BANGLADESH	.	39.33	38.75	28.94
7	BELGIUM	79.22	85.36	122.58	101.61
8	BENIN	.	43.77	64.85	59.99
9	BOLIVIA	213.27	51.01	75.98	83.37
10	BOTSWANA	.	55.39	88.34	88.30
11	BRAZIL	99.65	59.64	79.50	76.18
12	BULGARIA	.	.	.	63.31
13	BURKINA FASO	.	86.85	122.35	114.29
14	BURUNDI	.	85.45	99.20	104.48
15	CAMEROON	.	73.70	120.98	127.18
16	CANADA	109.69	105.43	110.80	96.06
17	CENTRAL AFR.R.	.	60.98	96.63	133.07
18	CHAD	.	61.05	97.67	115.14
19	CHILE	81.21	73.11	83.31	72.35
20	CHINA	.	.	58.55	28.40
21	COLOMBIA	85.06	68.41	66.43	63.98
22	CONGO	.	68.17	91.99	82.31
23	COSTA RICA	82.01	69.21	85.57	68.37
24	CYPRUS	84.07	85.56	94.53	87.27
25	CZECHOSLOVAKIA	.	84.92	80.87	63.99
26	DENMARK	67.39	81.97	134.66	126.76
27	DOMINICAN REP.	81.68	86.87	96.12	69.52
28	ECUADOR	56.48	58.06	65.38	64.22
29	EGYPT	70.76	70.08	73.25	65.07
30	EL SALVADOR	63.40	62.11	65.30	90.87
31	ETHIOPIA	79.10	97.00	117.90	88.14
32	FINLAND	89.88	90.03	115.47	126.44
33	FRANCE	88.08	88.00	113.17	108.50
34	GABON	.	85.80	130.37	153.92
35	GHANA	.	117.00	217.27	268.39
36	GREECE	86.02	89.98	103.23	88.05
37	GUATEMALA	62.61	65.07	72.53	77.98
38	GUINEA	.	184.40	251.59	205.63
39	HAITI	.	44.17	59.28	76.50
40	HONDURAS	71.90	88.05	92.32	102.53
41	HONG KONG	.	68.85	87.52	69.96
42	HUNGARY	.	.	57.28	56.16
43	INDIA	51.91	69.26	75.84	63.70
44	INDONESIA	.	48.99	85.74	58.14
45	IRAN	.	50.44	81.25	135.23
46	IRAQ	41.76	39.81	56.17	.

obs	COUNTRY	P50	P60	P70	P80
47	IRELAND	71.16	85.88	105.70	113.12
48	ISRAEL	140.92	115.67	115.34	114.67
49	ITALY	64.13	75.60	91.17	100.36
50	IVORY COAST	.	80.91	118.59	114.58
51	JAMAICA	86.45	101.16	114.19	89.00
52	JAPAN	54.45	71.60	110.07	127.39
53	JORDAN	56.68	57.71	94.77	78.95
54	KENYA	54.13	80.16	95.56	84.51
55	LESOTHO	.	74.78	73.81	55.96
56	LIBERIA	.	123.46	132.41	119.59
57	MADAGASCAR	.	52.67	90.50	86.74
58	MALAWI	56.88	70.13	89.41	88.14
59	MALAYSIA	.	71.98	81.55	67.77
60	MALI	.	67.92	116.86	96.41
61	MAURITANIA	.	77.00	103.77	119.23
62	MAURITIUS	39.07	37.48	50.47	42.55
63	MEXICO	41.62	55.83	68.78	57.23
64	MOROCCO	108.19	78.75	97.48	67.75
65	MOZAMBIQUE	.	30.60	45.59	43.57
66	MYANMAR	119.06	123.59	119.91	101.76
67	NEPAL	.	59.73	51.25	31.80
68	NETHERLANDS	57.92	72.75	120.44	109.49
69	NEW ZEALAND	75.78	71.29	85.55	86.35
70	NICARAGUA	69.88	63.92	79.35	92.36
71	NIGER	.	115.42	146.40	120.36
72	NIGERIA	84.50	115.94	165.98	130.25
73	NORWAY	80.67	95.26	140.82	132.58
74	PAKISTAN	48.68	57.55	59.62	52.23
75	PANAMA	97.66	98.20	94.99	99.46
76	PAPUA N.GUINEA	.	46.18	82.91	99.52
77	PARAGUAY	79.14	68.41	95.26	84.23
78	PERU	46.98	65.27	78.14	78.99
79	PHILIPPINES	80.27	63.80	62.84	65.24
80	POLAND	.	.	60.75	62.31
81	PORTUGAL	55.87	65.70	79.13	70.62
82	PUERTO RICO	.	115.90	121.88	106.76
83	RWANDA	.	42.81	66.16	88.89
84	SENEGAL	.	81.95	103.62	98.40
85	SIERRA LEONE	.	55.01	61.48	70.07
86	SINGAPORE	.	102.20	110.07	97.07
87	SOMALIA	.	42.29	84.00	97.86
88	SOUTH AFRICA	71.93	86.94	101.36	105.12
89	SOUTH KOREA	77.64	56.19	77.74	80.31
90	SOVIET UNION	.	.	200.01	130.12
91	SPAIN	57.95	55.52	85.00	92.13
92	SRI LANKA	49.11	54.54	51.09	28.91
93	SUDAN	.	.	77.07	85.49
94	SWEDEN	82.05	98.73	138.09	124.48
95	SWITZERLAND	61.71	67.75	118.55	127.91
96	SYRIA	.	72.19	59.25	49.32

obs	COUNTRY	P50	P60	P70	P80
97	TAIWAN	46.48	53.01	70.91	81.09
98	TANZANIA	.	107.56	133.78	124.71
99	THAILAND	42.04	50.86	59.43	53.34
100	TOGO	.	106.45	142.68	122.20
101	TRINIDAD&TOBAG	42.94	43.97	54.17	64.92
102	TUNISIA	.	85.44	100.46	73.49
103	TURKEY	89.45	60.88	78.79	58.52
104	UGANDA	56.11	71.11	80.71	88.64
105	UNITED KINGDOM	72.36	81.95	94.82	100.61
106	UNITED STATES	100.00	100.00	100.00	100.00
107	URUGUAY	49.49	55.68	79.87	75.63
108	VENEZUELA	101.01	90.68	84.42	73.71
109	WEST GERMANY	70.68	82.06	126.01	114.15
110	YEMEN	.	.	73.02	83.16
111	YUGOSLAVIA	.	105.84	79.91	69.47
112	ZAIRE	186.18	208.90	317.10	160.53
113	ZAMBIA	.	98.30	135.68	121.52
114	ZIMBABWE	74.97	102.16	128.52	104.33

TABLE 43

PRICE TREND INDICATORS

obs	COUNTRY	TP50	TP60	TP70	TP80
1	ALGERIA	.	0.09	4.41	2.37
2	ANGOLA	.	1.04	6.41	18.00
3	ARGENTINA	-7.64	0.73	4.59	-2.64
4	AUSTRALIA	0.99	0.31	3.28	-0.54
5	AUSTRIA	0.11	0.92	6.10	4.04
6	BANGLADESH	.	-0.06	-1.73	0.84
7	BELGIUM	0.21	0.79	6.38	1.05
8	BENIN	.	0.27	4.02	0.82
9	BOLIVIA	-16.61	1.21	3.80	-2.21
10	BOTSWANA	.	0.25	3.05	-0.98
11	BRAZIL	-5.66	1.75	2.24	2.95
12	BULGARIA	.	.	.	0.13
13	BURKINA FASO	.	0.71	5.25	7.21
14	BURUNDI	.	1.65	2.88	-0.35
15	CAMEROON	.	1.59	6.34	4.57
16	CANADA	1.47	-0.17	-1.23	0.55
17	CENTRAL AFR.R.	.	1.15	6.75	10.93
18	CHAD	.	1.56	5.02	6.92
19	CHILE	-2.04	-0.27	2.05	-3.58
20	CHINA	.	.	-1.19	-2.09
21	COLOMBIA	-3.54	-1.65	1.96	-1.65
22	CONGO	.	0.36	5.36	-0.52
23	COSTA RICA	-0.72	-1.27	2.93	1.05
24	CYPRUS	1.96	-2.03	2.14	1.43
25	CZECHOSLOVAKIA	.	3.18	-2.53	-0.77
26	DENMARK	0.57	1.91	7.83	3.74
27	DOMINICAN REP.	0.65	-0.11	1.67	-2.14
28	ECUADOR	0.97	-0.68	2.35	-1.44
29	EGYPT	1.54	-2.10	0.95	1.05
30	EL SALVADOR	1.11	-1.22	1.56	5.02
31	ETHIOPIA	1.92	1.02	-1.16	0.31
32	FINLAND	-0.64	0.19	5.57	5.51
33	FRANCE	0.17	0.21	5.93	2.01
34	GABON	.	-0.32	8.04	10.46
35	GHANA	.	-0.04	26.24	-57.01
36	GREECE	-2.11	0.09	3.05	1.45
37	GUATEMALA	0.67	-0.67	2.20	-1.06
38	GUINEA	.	2.71	-2.10	9.06
39	HAITI	.	0.96	1.23	5.67
40	HONDURAS	1.21	1.05	0.07	1.28
41	HONG KONG	.	-0.72	2.14	-0.71
42	HUNGARY	.	.	1.08	1.10
43	INDIA	0.22	0.53	0.22	0.35
44	INDONESIA	.	0.57	3.81	-2.67
45	IRAN	.	-0.62	7.81	1.95
46	IRAQ	0.47	-0.14	2.84	.

obs	COUNTRY	TP50	TP60	TP70	TP80
47	IRELAND	1.86	0.24	3.38	3.13
48	ISRAEL	-3.51	-4.28	1.33	3.57
49	ITALY	0.84	0.80	2.59	4.88
50	IVORY COAST	.	0.42	8.66	4.05
51	JAMAICA	3.04	-0.81	0.45	-0.30
52	JAPAN	1.63	1.11	5.91	5.66
53	JORDAN	-0.17	0.93	3.06	-2.13
54	KENYA	2.69	1.10	2.14	0.24
55	LESOTHO	.	1.20	-2.19	0.83
56	LIBERIA	.	-0.01	2.08	-2.65
57	MADAGASCAR	.	1.02	5.54	-1.27
58	MALAWI	1.89	-0.26	2.52	3.27
59	MALAYSIA	.	-0.48	1.09	0.07
60	MALI	.	4.61	5.28	5.45
61	MAURITANIA	.	2.12	2.67	5.05
62	MAURITIUS	-0.12	-0.02	0.56	0.47
63	MEXICO	0.90	0.76	0.74	-0.92
64	MOROCCO	0.90	-1.48	1.79	0.15
65	MOZAMBIQUE	.	0.24	0.79	-1.37
66	MYANMAR	4.11	0.16	-3.86	11.09
67	NEPAL	.	1.56	-3.45	-0.87
68	NETHERLANDS	0.84	1.60	7.19	1.68
69	NEW ZEALAND	0.47	-0.51	2.39	2.19
70	NICARAGUA	-1.84	0.21	2.10	3.16
71	NIGER	.	-3.81	6.98	2.97
72	NIGERIA	2.99	1.98	6.02	-8.12
73	NORWAY	1.46	1.30	5.42	3.59
74	PAKISTAN	-0.45	0.77	-0.59	-0.35
75	PANAMA	0.11	-1.16	0.78	2.77
76	PAPUA N.GUINEA	.	0.62	3.66	5.07
77	PARAGUAY	-4.60	0.43	4.13	-3.67
78	PERU	0.70	1.53	-1.15	4.64
79	PHILIPPINES	0.39	-2.51	1.97	1.11
80	POLAND	.	.	-3.21	-0.37
81	PORTUGAL	0.31	0.82	0.93	2.68
82	PUERTO RICO	.	0.00	-0.11	-0.91
83	RWANDA	.	-0.46	4.47	6.94
84	SENEGAL	.	-1.19	3.17	7.45
85	SIERRA LEONE	.	0.30	1.49	-0.94
86	SINGAPORE	.	-0.47	0.53	-0.19
87	SOMALIA	.	1.48	10.55	-18.14
88	SOUTH AFRICA	1.65	0.79	2.43	1.02
89	SOUTH KOREA	1.99	-0.55	3.95	0.02
90	SOVIET UNION	.	.	-8.93	2.06
91	SPAIN	0.62	0.90	5.47	3.53
92	SRI LANKA	-0.23	0.08	-3.48	0.50
93	SUDAN	.	.	2.50	3.98
94	SWEDEN	1.35	1.71	5.99	2.29
95	SWITZERLAND	-0.33	0.93	8.99	3.68
96	SYRIA	.	-1.39	-0.09	-2.67

obs	COUNTRY	TP50	TP60	TP70	TP80
97	TAIWAN	-1.44	0.88	2.00	3.27
98	TANZANIA	.	1.17	2.59	-11.04
99	THAILAND	1.62	0.13	0.99	0.31
100	TOGO	.	-1.44	4.33	6.86
101	TRINIDAD&TOBAG	0.69	-0.09	2.12	-2.27
102	TUNISIA	.	-1.00	2.12	-0.21
103	TURKEY	5.96	-0.61	4.09	-0.54
104	UGANDA	0.79	0.13	2.45	0.72
105	UNITED KINGDOM	1.28	0.11	3.60	0.56
106	UNITED STATES	0.00	0.00	0.00	0.00
107	URUGUAY	-1.91	0.47	2.72	-2.35
108	VENEZUELA	-1.45	-2.98	0.70	-4.90
109	WEST GERMANY	0.11	0.95	5.73	2.30
110	YEMEN	.	.	6.28	-3.03
111	YUGOSLAVIA	.	-10.51	3.10	1.88
112	ZAIRE	3.47	-7.80	23.26	-13.68
113	ZAMBIA	.	4.64	4.21	-0.57
114	ZIMBABWE	3.57	1.00	2.33	-3.55

TABLE 44

SOCIAL INDICATORS I

obs	COUNTRY	IND	RIND	MAS	PDI	UAI
1	ARGENTINA	46	67.00	56	49	86
2	AUSTRALIA	90	75.16	61	36	51
3	AUSTRIA	55	45.57	79	11	70
4	BELGIUM	75	66.75	54	65	94
5	BRAZIL	38	62.74	49	69	76
6	CANADA	80	55.68	52	39	48
7	CHILE	23	42.63	28	63	86
8	COLOMBIA	13	36.13	64	67	80
9	COSTA RICA	15	33.24	21	35	86
10	DENMARK	74	61.25	16	18	23
11	ECUADOR	8	28.94	63	78	67
12	EGYPT	38	78.26	53	80	68
13	EL SALVADOR	19	47.98	40	66	94
14	ETHIOPIA	27	70.34	41	64	52
15	FINLAND	63	54.14	26	33	59
16	FRANCE	71	56.03	43	68	86
17	GHANA	20	56.58	46	77	54
18	GREECE	35	46.23	57	60	112
19	GUATEMALA	6	28.16	37	95	101
20	HONG KONG	25	24.98	57	68	29
21	INDIA	48	95.54	56	77	40
22	INDONESIA	14	48.34	46	78	48
23	IRAN	41	58.37	43	58	59
24	IRELAND	70	89.05	68	28	35
25	ISRAEL	54	60.47	47	13	81
26	ITALY	76	76.60	70	50	75
27	JAMAICA	39	69.66	68	45	13
28	JAPAN	46	35.82	95	54	92
29	KENYA	27	66.67	41	64	52
30	MALAYSIA	26	51.27	50	104	36
31	MEXICO	30	44.02	69	81	82
32	NETHERLANDS	80	70.41	14	38	53
33	NEW ZEALAND	79	70.83	58	22	49
34	NIGERIA	20	55.69	46	77	54
35	NORWAY	69	57.57	8	31	50
36	PAKISTAN	14	48.46	50	55	70
37	PANAMA	11	31.29	44	95	86
38	PERU	16	38.16	42	64	87
39	PHILIPPINES	32	67.72	64	94	44
40	PORTUGAL	27	41.05	31	63	104
41	SIERRA LEONE	20	55.92	46	77	54
42	SINGAPORE	20	27.36	48	74	8
43	SOUTH AFRICA	65	99.99	63	49	49
44	SOUTH KOREA	18	42.80	39	60	85
45	SPAIN	51	54.45	42	57	86
46	SWEDEN	71	51.52	5	31	29

obs	COUNTRY	IND	RIND	MAS	PDI	UAI
47	SWITZERLAND	68	31.91	70	34	58
48	TAIWAN	17	33.96	45	58	69
49	TANZANIA	27	68.98	41	64	52
50	THAILAND	20	50.71	34	64	64
51	TURKEY	37	66.67	45	66	85
52	UNITED KINGDOM	89	90.49	66	35	35
53	UNITED STATES	91	59.30	62	40	46
54	URUGUAY	36	55.56	38	61	100
55	VENEZUELA	12	0.00	73	81	76
56	WEST GERMANY	67	51.34	66	35	65
57	YUGOSLAVIA	27	40.65	21	76	88
58	ZAMBIA	27	64.95	41	64	52

TABLE 45

SOCIAL INDICATORS II-- LONG-TERM ORIENTATION

obs	COUNTRY	GDS80	LTO	MPS	SAV
1	ARGENTINA	20.04	.	0.00	10.02
2	AUSTRALIA	23.66	31	5.81	14.74
3	AUSTRIA	26.49	.	27.37	26.93
4	BANGLADESH	2.11	40	0.00	1.06
5	BELGIUM	19.28	.	22.00	20.64
6	BRAZIL	21.05	65	23.85	22.45
7	CANADA	25.43	23	20.29	22.86
8	CHILE	16.82	.	48.53	32.68
9	CHINA	32.24	118	58.17	45.21
10	COLOMBIA	19.70	.	38.49	29.10
11	COSTA RICA	16.23	.	41.80	29.02
12	DENMARK	17.45	.	36.40	26.93
13	ECUADOR	25.88	.	48.08	36.98
14	EGYPT	15.16	.	0.00	7.58
15	EL SALVADOR	14.19	.	28.76	21.48
16	ETHIOPIA	4.86	.	20.78	12.82
17	FINLAND	28.19	.	32.10	30.15
18	FRANCE	22.99	.	15.61	19.30
19	GHANA	4.94	.	15.38	10.16
20	GREECE	19.70	.	0.00	9.85
21	GUATEMALA	13.14	.	12.32	12.73
22	HONG KONG	35.71	96	39.74	37.73
23	INDIA	17.37	61	33.94	25.66
24	INDONESIA	37.15	.	51.93	44.54
25	IRAN	29.31	.	46.12	37.72
26	IRELAND	14.35	.	54.61	34.48
27	ISRAEL	10.35	.	24.55	17.45
28	ITALY	24.26	.	17.59	20.93
29	JAMAICA	15.76	.	7.03	11.40
30	JAPAN	31.35	80	27.66	29.51
31	KENYA	18.12	.	11.86	14.99
32	MALAYSIA	32.92	.	41.88	37.40
33	MEXICO	24.90	.	42.01	33.46
34	NETHERLANDS	21.00	44	30.92	25.96
35	NEW ZEALAND	19.73	30	23.10	21.42
36	NIGERIA	27.29	16	17.95	22.62
37	NORWAY	33.79	.	38.03	35.91
38	PAKISTAN	6.86	0	20.91	13.89
39	PANAMA	24.41	.	34.57	29.49
40	PERU	27.47	.	0.00	13.74
41	PHILIPPINES	24.19	19	37.76	30.98
42	PORTUGAL	19.00	.	27.57	23.29
43	SIERRA LEONE	0.00	.	17.76	8.88
44	SINGAPORE	37.52	48	63.93	50.73
45	SOUTH AFRICA	39.12	.	0.00	19.56
46	SOUTH KOREA	24.29	75	46.54	35.42

obs	COUNTRY	GDS80	LTO	MPS	SAV
47	SPAIN	21.50	.	21.23	21.37
48	SWEDEN	18.87	33	22.76	20.82
49	SWITZERLAND	23.67	.	34.27	28.97
50	TAIWAN	32.28	87	35.52	33.90
51	TANZANIA	9.83	.	23.08	16.46
52	THAILAND	20.12	56	47.29	33.71
53	TURKEY	14.07	.	23.04	18.56
54	UNITED KINGDOM	19.11	25	12.09	15.60
55	UNITED STATES	18.29	29	3.00	10.65
56	URUGUAY	18.73	.	40.51	29.62
57	VENEZUELA	33.34	.	34.49	33.92
58	WEST GERMANY	22.89	31	31.37	27.13
59	YUGOSLAVIA	35.67	.	7.45	21.56
60	ZAMBIA	19.26	.	0.00	8.63
61	ZIMBABWE	15.84	25	3.01	9.43

TABLE 46

TRADE LEVEL INDICATORS

obs	COUNTRY	OPEN50	OPEN60	OPEN70	OPEN80
1	ALGERIA	.	21.50	29.65	23.76
2	ANGOLA	.	15.04	23.52	27.91
3	ARGENTINA	10.21	10.23	9.80	13.15
4	AUSTRALIA	15.39	13.46	13.68	16.48
5	AUSTRIA	17.01	19.62	24.39	30.76
6	BANGLADESH	.	13.79	13.77	20.17
7	BELGIUM	32.16	36.56	44.57	62.60
8	BENIN	.	8.40	16.92	22.18
9	BOLIVIA	12.83	17.64	17.10	13.09
10	BOTSWANA	.	12.99	20.58	29.25
11	BRAZIL	10.06	10.30	14.06	14.61
12	BULGARIA	.	.	.	34.01
13	BURKINA FASO	.	6.42	12.68	16.30
14	BURUNDI	.	6.55	8.90	12.26
15	CAMEROON	.	15.50	18.27	20.38
16	CANADA	19.88	20.71	24.70	28.66
17	CENTRAL AFR.R.	.	17.78	15.69	16.94
18	CHAD	.	11.17	17.33	23.28
19	CHILE	10.91	11.88	16.55	25.95
20	CHINA	.	.	14.55	34.98
21	COLOMBIA	13.99	13.05	15.61	16.40
22	CONGO	.	21.60	22.51	28.40
23	COSTA RICA	12.40	13.73	16.80	22.04
24	CYPRUS	13.56	14.82	17.47	22.88
25	CZECHOSLOVAKIA	.	14.58	20.85	32.36
26	DENMARK	23.18	20.38	19.95	24.57
27	DOMINICAN REP.	14.33	13.07	16.00	22.28
28	ECUADOR	11.95	12.09	18.62	21.33
29	EGYPT	25.06	21.41	32.16	38.99
30	EL SALVADOR	13.51	15.80	21.14	17.44
31	ETHIOPIA	7.71	12.72	15.41	21.04
32	FINLAND	14.60	14.80	17.93	19.65
33	FRANCE	18.27	17.89	25.28	30.42
34	GABON	.	15.97	18.98	21.89
35	GHANA	.	16.11	11.91	12.03
36	GREECE	8.92	11.48	15.86	22.70
37	GUATEMALA	9.32	11.41	15.73	14.30
38	GUINEA	.	7.31	13.42	24.61
39	HAITI	.	10.49	13.08	14.72
40	HONDURAS	13.81	15.20	20.51	21.66
41	HONG KONG	.	54.51	54.24	82.51
42	HUNGARY	.	.	32.97	33.07
43	INDIA	16.66	13.20	17.00	21.73
44	INDONESIA	.	18.58	37.50	42.85
45	IRAN	.	18.21	30.20	13.07
46	IRAQ	27.11	23.59	35.22	.

obs	COUNTRY	OPEN50	OPEN60	OPEN70	OPEN80
47	IRELAND	22.71	23.23	28.11	37.24
48	ISRAEL	11.08	16.20	23.83	26.79
49	ITALY	15.32	19.41	28.02	29.41
50	IVORY COAST	.	21.48	26.27	31.11
51	JAMAICA	17.27	19.33	19.92	31.39
52	JAPAN	18.50	15.96	19.46	19.34
53	JORDAN	15.77	14.55	25.52	39.46
54	KENYA	27.27	24.94	28.34	27.50
55	LESOTHO	.	15.63	25.36	39.92
56	LIBERIA	.	20.38	25.96	24.64
57	MADAGASCAR	.	14.33	13.90	14.86
58	MALAWI	17.36	19.18	21.82	21.46
59	MALAYSIA	.	32.84	38.14	58.26
60	MALI	.	8.47	14.14	21.96
61	MAURITANIA	.	15.89	22.88	31.90
62	MAURITIUS	13.87	15.21	19.94	28.10
63	MEXICO	16.01	11.35	12.14	21.41
64	MOROCCO	21.15	17.84	22.76	28.43
65	MOZAMBIQUE	.	21.41	22.66	24.69
66	MYANMAR	27.87	15.01	8.09	8.14
67	NEPAL	.	7.21	9.58	15.48
68	NETHERLANDS	42.63	39.72	42.30	52.94
69	NEW ZEALAND	16.56	13.47	15.57	19.66
70	NICARAGUA	13.13	14.76	17.84	13.16
71	NIGER	.	7.40	15.64	17.98
72	NIGERIA	14.23	15.00	27.30	34.08
73	NORWAY	29.25	26.94	26.91	28.02
74	PAKISTAN	16.02	17.48	21.46	28.01
75	PANAMA	16.67	18.35	21.43	21.04
76	PAPUA N.GUINEA	.	15.16	23.69	30.88
77	PARAGUAY	7.72	7.93	9.60	16.53
78	PERU	17.11	15.91	16.52	15.32
79	PHILIPPINES	15.11	20.74	28.66	35.26
80	POLAND	.	.	30.01	23.40
81	PORTUGAL	18.24	21.49	23.07	33.42
82	PUERTO RICO	.	31.32	35.43	43.59
83	RWANDA	.	8.24	10.41	11.61
84	SENEGAL	.	17.15	24.73	26.18
85	SIERRA LEONE	.	19.46	17.03	11.04
86	SINGAPORE	.	67.83	81.12	109.98
87	SOMALIA	.	9.33	19.69	21.47
88	SOUTH AFRICA	31.71	27.40	29.89	30.75
89	SOUTH KOREA	7.14	16.58	35.79	44.72
90	SOVIET UNION	.	.	10.58	17.41
91	SPAIN	6.82	13.65	17.60	24.52
92	SRI LANKA	42.47	32.34	28.14	31.41
93	SUDAN	.	.	14.46	12.93
94	SWEDEN	19.00	17.32	21.17	26.71
95	SWITZERLAND	20.94	22.13	23.44	28.43
96	SYRIA	.	13.90	18.94	19.08

obs	COUNTRY	OPEN50	OPEN60	OPEN70	OPEN80
97	TAIWAN	11.08	19.86	41.66	49.67
98	TANZANIA	.	23.00	21.45	16.79
99	THAILAND	24.08	22.37	26.88	39.24
100	TOGO	.	19.43	25.81	31.61
101	TRINIDAD&TOBAG	25.48	21.60	17.94	17.73
102	TUNISIA	.	16.48	22.99	32.46
103	TURKEY	6.66	8.76	10.84	26.34
104	UGANDA	74.92	77.35	76.39	26.43
105	UNITED KINGDOM	32.15	28.67	35.81	35.98
106	UNITED STATES	9.28	9.77	16.10	18.90
107	URUGUAY	8.63	8.15	9.59	13.74
108	VENEZUELA	18.86	17.35	20.87	23.05
109	WEST GERMANY	21.06	25.71	31.83	39.66
110	YEMEN	.	.	18.48	17.60
111	YUGOSLAVIA	.	19.59	22.07	27.59
112	ZAIRE	10.12	11.50	16.90	26.29
113	ZAMBIA	.	29.96	27.34	27.20
114	ZIMBABWE	30.92	24.99	19.96	23.19

TABLE 47

TRADE TREND INDICATORS

obs	COUNTRY	TOPEN50	TOPEN60	TOPEN70	TOPEN80
1	ALGERIA	.	-1.14	1.32	-1.29
2	ANGOLA	.	0.39	1.51	-1.00
3	ARGENTINA	0.42	-0.39	0.11	0.37
4	AUSTRALIA	-0.93	-0.17	0.43	0.28
5	AUSTRIA	0.47	0.19	0.71	0.41
6	BANGLADESH	.	-0.07	0.97	0.00
7	BELGIUM	0.17	0.46	1.21	0.92
8	BENIN	.	0.75	0.77	0.02
9	BOLIVIA	0.61	-0.04	0.25	0.77
10	BOTSWANA	.	0.48	1.15	0.69
11	BRAZIL	-0.43	0.10	0.24	-0.52
12	BULGARIA	.	.	.	1.04
13	BURKINA FASO	.	0.47	0.79	-0.02
14	BURUNDI	.	-0.19	0.56	0.28
15	CAMEROON	.	-0.43	0.42	-0.49
16	CANADA	-0.38	0.34	0.80	0.17
17	CENTRAL AFR.R.	.	0.04	0.22	-0.22
18	CHAD	.	0.20	0.61	1.09
19	CHILE	0.15	0.00	1.27	1.76
20	CHINA	.	.	1.09	2.69
21	COLOMBIA	0.37	-0.01	0.24	0.48
22	CONGO	.	-0.90	1.14	-0.72
23	COSTA RICA	-0.22	0.31	0.25	0.25
24	CYPRUS	0.22	-0.13	0.88	0.24
25	CZECHOSLOVAKIA	.	-0.15	1.72	0.53
26	DENMARK	-0.07	-0.48	0.41	-0.04
27	DOMINICAN REP.	-0.13	-0.06	0.32	1.51
28	ECUADOR	0.08	-0.03	0.78	1.01
29	EGYPT	-0.89	-0.70	2.98	-0.69
30	EL SALVADOR	-0.11	0.15	1.00	-0.62
31	ETHIOPIA	0.61	0.23	0.74	0.49
32	FINLAND	-0.13	-0.04	0.58	-0.47
33	FRANCE	-0.43	0.16	0.90	0.01
34	GABON	.	0.00	0.26	0.02
35	GHANA	.	-0.48	-0.83	2.28
36	GREECE	0.30	0.04	0.81	0.64
37	GUATEMALA	0.05	0.29	0.72	0.40
38	GUINEA	.	-0.21	1.35	0.87
39	HAITI	.	-0.52	1.01	-0.75
40	HONDURAS	-0.40	0.48	1.05	0.58
41	HONG KONG	.	-0.48	1.02	5.01
42	HUNGARY	.	.	1.17	-0.36
43	INDIA	-0.03	-0.40	1.26	0.27
44	INDONESIA	.	0.72	2.10	-0.24
45	IRAN	.	0.39	-0.20	-0.73
46	IRAQ	-0.22	-0.71	2.25	.

obs	COUNTRY	TOPEN50	TOPEN60	TOPEN70	TOPEN80
47	IRELAND	-0.83	0.12	1.58	0.78
48	ISRAEL	-0.11	0.70	1.31	-0.14
49	ITALY	0.22	0.35	1.13	-0.51
50	IVORY COAST	.	-0.21	0.95	0.04
51	JAMAICA	0.22	-0.12	0.89	1.01
52	JAPAN	-0.07	-0.07	0.54	-0.92
53	JORDAN	0.14	-0.52	2.61	1.09
54	KENYA	-0.85	-0.03	0.69	-0.01
55	LESOTHO	.	-0.31	1.89	0.71
56	LIBERIA	.	0.26	0.79	-1.24
57	MADAGASCAR	.	0.14	0.50	0.46
58	MALAWI	0.24	0.04	0.48	0.36
59	MALAYSIA	.	-0.65	1.92	2.68
60	MALI	.	0.14	0.63	0.31
61	MAURITANIA	.	-0.18	0.81	0.36
62	MAURITIUS	-0.02	0.03	0.83	1.76
63	MEXICO	-0.45	-0.25	0.66	0.83
64	MOROCCO	-0.60	-0.37	0.76	0.43
65	MOZAMBIQUE	.	0.22	0.61	2.09
66	MYANMAR	-0.10	-1.92	0.31	-0.97
67	NEPAL	.	-0.20	0.92	0.40
68	NETHERLANDS	-0.12	-0.65	0.79	0.31
69	NEW ZEALAND	-0.64	-0.18	0.66	0.00
70	NICARAGUA	0.13	0.08	0.68	-1.47
71	NIGER	.	0.07	1.43	-0.62
72	NIGERIA	0.00	0.12	1.92	1.87
73	NORWAY	-0.36	-0.35	0.41	-0.02
74	PAKISTAN	-0.26	-0.55	1.06	0.45
75	PANAMA	-0.31	0.09	0.73	-0.30
76	PAPUA N.GUINEA	.	0.60	0.94	0.48
77	PARAGUAY	0.13	-0.08	0.59	1.63
78	PERU	0.11	-0.43	0.95	-0.98
79	PHILIPPINES	-0.47	0.73	0.77	1.00
80	POLAND	.	.	1.27	-0.39
81	PORTUGAL	-0.08	0.45	0.49	0.64
82	PUERTO RICO	.	-0.34	1.69	0.53
83	RWANDA	.	0.14	0.75	-0.18
84	SENEGAL	.	-0.33	0.97	-0.68
85	SIERRA LEONE	.	-1.03	0.20	-0.58
86	SINGAPORE	.	-3.45	6.29	1.12
87	SOMALIA	.	-0.11	2.92	-3.09
88	SOUTH AFRICA	-0.68	-0.47	1.22	-0.25
89	SOUTH KOREA	0.37	1.40	2.01	-0.19
90	SOVIET UNION	.	.	1.03	-0.15
91	SPAIN	0.33	0.43	0.33	0.22
92	SRI LANKA	-0.29	-1.66	1.86	-0.91
93	SUDAN	.	.	-0.10	-0.81
94	SWEDEN	-0.28	-0.13	0.68	0.21
95	SWITZERLAND	0.01	-0.03	0.55	0.30
96	SYRIA	.	-0.49	0.87	0.60

obs	COUNTRY	TOPEN50	TOPEN60	TOPEN70	TOPEN80
97	TAIWAN	0.42	1.22	2.36	-0.02
98	TANZANIA	.	-0.47	-0.29	1.43
99	THAILAND	-0.73	0.03	1.39	2.12
100	TOGO	.	0.31	1.64	0.40
101	TRINIDAD&TOBAG	-0.83	-1.40	0.34	0.19
102	TUNISIA	.	-0.19	1.57	0.58
103	TURKEY	-0.71	-0.18	0.04	1.64
104	UGANDA	0.71	0.61	-0.42	-11.12
105	UNITED KINGDOM	-0.87	0.00	0.85	0.09
106	UNITED STATES	0.05	0.19	0.93	0.12
107	URUGUAY	-0.40	-0.23	0.56	0.52
108	VENEZUELA	0.06	-0.35	1.05	0.79
109	WEST GERMANY	1.09	0.38	0.94	0.17
110	YEMEN	.	.	2.26	-1.20
111	YUGOSLAVIA	.	0.36	-0.20	0.65
112	ZAIRE	-0.03	0.94	0.37	2.35
113	ZAMBIA	.	-0.33	0.26	0.08
114	ZIMBABWE	-1.12	-1.24	0.33	0.69

Notes on Data

Arab States-- Hofstede's cultural measurements for Arab-speaking countries are applied to Egypt only. Kuwait, Lebanon, Libya, Saudi Arabia and the United Arab Emirates which (for cultural purposes) Hofstede groups with Egypt are not used in my analysis. Iraq is excluded in the analyses of national culture because the unavailability of national savings data for Iraq prevents the calculation of LTO proxies (i.e., GDS80, MPS, SAV).

East Africa-- Hofstede's cultural measurements for East Africa are applied to both Ethiopia, Kenya, Tanzania and Zambia which (for cultural purposes) Hofstede groups together.

El Salvador-- MPS is calculated from 1970-1978 to avoid the economic fluctuations resulting from political turbulence after 1978.

Iran-- MPS is calculated from 1970-1977 to avoid the economic fluctuations resulting from political turbulence after 1977.

Missing-- Values (.) Decade averages and trends are treated as missing (.) if data for more than three years are unavailable. Observations with missing values are excluded from statistical calculations.

MPS-- The marginal propensity to save calculation is derived essentially from two standard relationships readily found in macroeconomic texts. First, disposable income is defined as that portion of national income which is available for either private consumption or gross domestic saving,

$$(A.1) \quad Y_d = C + S.$$

Second, as a first order approximation, consumption can be viewed as a function of autonomous consumption, C, and a marginal propensity to consume disposable income, (1-s), as follows:

$$(A.2) \quad C = \bar{C} + (1-s)Y_d.$$

Substituting (2) into (1) and rearranging terms, savings can be calculated as:

$$(A.3) \quad S = -\bar{C} + sY_d,$$

where 's' is the marginal propensity to save. Next, autonomous consumption can be disaggregated into per capita autonomous consumption, $\bar{c}$, multiplied by the population, n, as follows:

$$(A.4) \quad \bar{C} = n\bar{c}.$$

Substituting (4) into (3) and dividing through by 'n' produces the following per capita relationship:

$$(A.5) \quad (S/n) = -\bar{c} + s(Y_d/n).$$

Then, based on the stability of '$\bar{c}$' (associated with the consumption of "necessaries") and 's,' taking the first difference of (5) and rearranging terms produces:

$$(A.6) \quad s = \Delta(S/n) \; / \; \Delta(Y_d/n)$$
$$= \Delta(S/n) \; / \; \Delta(C/n + S/n).$$

Note that this measure is similar to the MPS calculation frequently used on a non-per capita basis for industrialized countries due to implicitly assumed slow population growth. For developing countries with high population growth, the per capita adjustment is necessary for stabilizing the autonomous consumption measure so that it may be cancelled out through first differences. Regression estimates are not used here since unsystematic estimation biases would be introduced across countries depending upon the volatility (rather than level) of annual changes in private consumption and gross domestic saving. Also, based on the theoretical property that $s \epsilon [0,1]$, estimates for 's' are censored at 0 and 1. The entire 1970-1990 period is used to estimate 's' if real growth occurred in both decades; otherwise, except due to political turbulence, only the decade with positive real growth is used. Figures are deflated with the countries' CPI when available or,

alternatively, with the GNP deflator.

Nigeria-- MPS is calculated from 1970-1978 to avoid the economic fluctuations resulting from political turbulence after 1978.

OPEN50,OPEN60-- These openness to international trade
OPEN70,OPEN80 measures represent decade averages of (imports+exports)/GDP=RAWOPEN adjusted for population relative to the United States. Annual data is estimated by the regression:

(A.7) $\text{Log(RAWOPEN)} = \alpha + \beta * \text{Log}(\text{POP}/\text{POP}_{US}) + \xi.$

Annual openness measures are then calculated through the equation:

(A.8) $\text{OPEN} = \text{EXP}(\text{LOG(RAWOPEN)} - \beta * (\log(\text{POP}/\text{POP}_{US}))).$

The log transformation is used in this estimation in order to maintain OPEN in its theoretical range of $[0,\infty)$ and adjust (downward) high levels of openness ascribable to specialization in small states. Decade averages are then calculated for each country by simple averages in the periods 1951-1960, 1961-1970, 1971-1980 and 1981-1990. The United States is used as the base (i.e., $\text{OPEN}_{US}=\text{RAWOPEN}_{US}$) because it is the largest international importer and exporter and thus serves as a natural reference country for measuring international trade.

P50,..,P80-- These national price level measures represent decade averages of (PPP_{GDP} / $US exchange rate) adjusted for GDP relative to the United States. Annual data is estimated by the regression:

(A.9) $\text{Log(RAWP)} = \alpha + \beta * \text{Log}(\text{GDP}/\text{GDP}_{US}) + \xi.$

Annual price level measures are then calculated through the equation:

(A.10) $\text{P} = \text{EXP}(\text{LOG(RAWP)} - \beta * (\log(\text{GDP}/\text{GDP}_{US}))).$

The log transformation is used in this estimation in order to maintain P in its theoretical range of $[0,\infty)$ and adjust

(upward) low price levels ascribable to low-cost non-tradable goods and services in low-income countries. This adjustment produces comparable measures for tradable goods across countries. Decade averages are then calculated for each country by simple averages in the periods 1951-1960, 1961-1970, 1971-1980 and 1981-1990. The United States is used as the base (i.e., $P_{US}=RAWP_{US}$) because of the central role of the $US in international financial flows.

Peru-- MPS is calculated from 1970-1976, a period of sustained real per capita growth.

PR70S,TR70S-- The annual Political Rights Index on which these variables are based was first published in 1973 by Freedom House, New York. Accordingly, PR70S and TR70S do not include political information prior to 1973.

TOPEN50--
TOPEN60
TOPEN70
TOPEN80 Decade trends in openness to international trade are measured by the regression slope coefficient of the annual population-adjusted openness measures on year. These coefficients thus represent average annual changes in openness to international trade. Years used in the regressions are 1950-1960, 1960-1970, 1970-1980 and 1980-1990.

TP50,TP60--
TP70,TP80 Decade trends in national price levels are calculated by the regression slope coefficient of the annual gdp-adjusted national price levels on year. These coefficients thus represent average annual changes in GDP-adjusted national price levels. Years used in the regressions are 1950-1960, 1960-1970, 1970-1980 and 1980-1990.

Venezuela-- MPS is calculated from 1970-1978, a period of sustained real per capita growth.

West Africa-- Hofstede's cultural measurements (except LTO) for West Africa are applied to Ghana, Nigeria and Sierra Leone which (for cultural purposes) Hofstede groups together.

APPENDIX B

HIGH-GROWTH COUNTRIES CLUSTER ANALYSIS LISTINGS

This appendix lists computer output from principal components factor analyses and cluster analyses for low-income, high-growth countries during the 1950s, 1960s, 1970s and 1980s. Principal components are then clustered according to Ward's minimum variance procedure for which both clustering descriptions and tree diagrams are listed. SAS was the statistical package used for all analyses in this appendix.

Principal Components Factor Analysis for 1950s Data

Eigenvalues of Correlation Matrix: Total = 14 Average = 1

	1	2	3	4
Eigenvalue	3.0799	2.4026	2.1021	1.7119
Difference	0.6773	0.3004	0.3902	0.3146
Proportion	0.2200	0.1716	0.1502	0.1223
Cumulative	0.2200	0.3916	0.5418	0.6640

	5	6	7	8
Eigenvalue	1.3974	1.1670	0.7140	0.3997
Difference	0.2304	0.4529	0.3144	0.0254
Proportion	0.0998	0.0834	0.0510	0.0285
Cumulative	0.7638	0.8472	0.8982	0.9268

	9	10	11	12
Eigenvalue	0.3743	0.2784	0.2041	0.0983
Difference	0.0959	0.0742	0.1058	0.0307
Proportion	0.0267	0.0199	0.0146	0.0070
Cumulative	0.9535	0.9734	0.9880	0.9950

	13	14
Eigenvalue	0.0676	0.0026
Difference	0.0650	
Proportion	0.0048	0.0002
Cumulative	0.9998	1.0000

Factor Pattern

	FACTOR1	FACTOR2	FACTOR3
RIND	-0.09045	0.34385	0.73319
MAS	-0.26088	0.28141	-0.32010
MPS	0.22045	-0.44363	0.10607
PDI	0.34500	0.64973	-0.30988
UAI	0.11930	0.26534	-0.44895
LPD50	0.59516	-0.45389	-0.29247
COUPS50	0.40394	0.66538	0.34764
P50	0.47676	-0.01158	0.64525
TP50	-0.35793	0.17536	-0.08835
OPEN50	-0.57644	-0.21799	0.34080
TOPEN50	-0.58381	-0.38593	-0.36270
LPOP50	-0.24415	0.74422	-0.15413
TPOP50	0.86080	-0.26962	0.11375
GDP50	-0.68940	-0.11455	0.48820

1950s Factors

Factor Pattern

	FACTOR4	FACTOR5	FACTOR6
RIND	0.32113	-0.30096	0.04876
MAS	0.03114	-0.59181	0.51068
MPS	0.32978	0.46312	0.44618
PDI	0.45529	0.14155	-0.07624
UAI	-0.62383	0.40087	-0.16773
LPD50	0.47030	-0.01273	0.21453
COUPS50	-0.15579	0.19651	0.17362
P50	-0.38606	-0.32790	0.06901
TP50	0.54976	-0.19289	-0.44572
OPEN50	0.33745	0.39567	-0.04405
TOPEN50	-0.21086	-0.23839	0.32076
LPOP50	0.12568	0.26809	0.48543
TPOP50	0.03109	-0.00086	0.12293
GDP50	-0.17555	0.30428	0.18871

Variance explained by each factor

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
3.079877	2.402562	2.102132	1.711939	1.397383	1.166996

Final Communality Estimates: Total = 11.860889

RIND	MAS	MPS	PDI	UAI
0.860060	0.861709	0.778980	0.870336	0.864187

LPD50	COUPS50	P50	TP50	OPEN50
0.913138	0.819786	0.905116	0.704780	0.768313

TOPEN50	LPOP50	TPOP50	GDP50
0.825509	0.960534	0.842688	0.885754

1950s Factors

Standardized Scoring Coefficients

	FACTOR1	FACTOR2	FACTOR3
RIND	-0.02937	0.14312	0.34878
MAS	-0.08470	0.11713	-0.15227
MPS	0.07158	-0.18465	0.05046
PDI	0.11202	0.27043	-0.14741
UAI	0.03874	0.11044	-0.21357
LPD50	0.19324	-0.18892	-0.13913
COUPS50	0.13115	0.27695	0.16538
P50	0.15480	-0.00482	0.30695
TP50	-0.11622	0.07299	-0.04203
OPEN50	-0.18716	-0.09073	0.16212
TOPEN50	-0.18956	-0.16063	-0.17254
LPOP50	-0.07927	0.30976	-0.07332
TPOP50	0.27949	-0.11222	0.05411
GDP50	-0.22384	-0.04768	0.23224

	FACTOR4	FACTOR5	FACTOR6
RIND	0.18758	-0.21537	0.04178
MAS	0.01819	-0.42351	0.43760
MPS	0.19264	0.33142	0.38234
PDI	0.26595	0.10130	-0.06533
UAI	-0.36440	0.28688	-0.14373
LPD50	0.27472	-0.00911	0.18383
COUPS50	-0.09100	0.14063	0.14878
P50	-0.22551	-0.23466	0.05914
TP50	0.32113	-0.13804	-0.38194
OPEN50	0.19712	0.28315	-0.03775
TOPEN50	-0.12317	-0.17060	0.27486
LPOP50	0.07342	0.19185	0.41596
TPOP50	0.01816	-0.00062	0.10534
GDP50	-0.10254	0.21775	0.16171

Principal Components Factor Analysis for 1960s Data

Eigenvalues of Correlation Matrix: Total = 14 Average = 1

	1	2	3	4
Eigenvalue	2.8949	2.4691	1.7758	1.6553
Difference	0.4258	0.6933	0.1206	0.3753
Proportion	0.2068	0.1764	0.1268	0.1182
Cumulative	0.2068	0.3831	0.5100	0.6282

	5	6	7	8
Eigenvalue	1.2800	1.0287	0.9020	0.5593
Difference	0.2512	0.1267	0.3427	0.1782
Proportion	0.0914	0.0735	0.0644	0.0400
Cumulative	0.7196	0.7931	0.8576	0.8975

	9	10	11	12
Eigenvalue	0.3811	0.3357	0.3106	0.2040
Difference	0.0454	0.0251	0.1065	0.0829
Proportion	0.0272	0.0240	0.0222	0.0146
Cumulative	0.9247	0.9487	0.9709	0.9855

	13	14
Eigenvalue	0.1211	0.0824
Difference	0.0387	
Proportion	0.0087	0.0059
Cumulative	0.9941	1.0000

Factor Pattern

	FACTOR1	FACTOR2	FACTOR3
RIND	0.11830	-0.30242	0.53040
MAS	-0.09641	-0.37215	0.74462
MPS	-0.45957	0.03406	-0.13277
PDI	-0.18928	0.62902	0.01079
UAI	0.84012	0.00741	-0.30801
LPD60	-0.05853	0.64586	0.15849
COUPS60	0.25813	0.57355	-0.02162
P60	-0.34902	-0.23264	-0.18897
TP60	0.03551	0.28551	0.72275
OPEN60	-0.91058	-0.02214	-0.05230
TOPEN60	0.76000	-0.07882	-0.20849
LPOP60	0.53994	0.22645	0.44148
TPOP60	-0.11554	0.56798	-0.05041
GDP60	0.11830	-0.76156	-0.01092

1960s Factors

Factor Pattern

	FACTOR4	FACTOR5	FACTOR6
RIND	-0.52373	0.25583	-0.32919
MAS	0.08717	-0.12553	0.25235
MPS	0.68121	0.35277	0.01051
PDI	0.04840	-0.49040	-0.30283
UAI	0.15354	-0.21521	0.06619
LPD60	-0.29355	0.35355	0.29879
COUPS60	-0.11551	-0.34130	0.51569
P60	-0.71167	0.06351	0.23975
TP60	0.30376	0.02791	0.30576
OPEN60	0.14342	-0.11751	-0.02547
TOPEN60	0.04825	0.42137	0.09567
LPOP60	0.15247	-0.03759	-0.41065
TPOP60	0.11506	0.59022	-0.05386
GDP60	0.35464	-0.00894	0.27014

Variance explained by each factor

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
2.894886	2.469121	1.775829	1.655262	1.279964	1.028740

Final Communality Estimates: Total = 11.103802

RIND	MAS	MPS	PDI	UAI
0.834883	0.789279	0.818589	0.766143	0.874998

LPD60	COUPS60	P60	TP60	OPEN60
0.746117	0.791833	0.779637	0.791689	0.867404

TOPEN60	LPOP60	TPOP60	GDP60
0.816313	0.731012	0.702988	0.792917

1960s Factors

Standardized Scoring Coefficients

	FACTOR1	FACTOR2	FACTOR3
RIND	0.04087	-0.12248	0.29867
MAS	-0.03330	-0.15072	0.41931
MPS	-0.15875	0.01379	-0.07476
PDI	-0.06539	0.25475	0.00608
UAI	0.29021	0.00300	-0.17345
LPD60	-0.02022	0.26157	0.08925
COUPS60	0.08917	0.23229	-0.01217
P60	-0.12056	-0.09422	-0.10642
TP60	0.01227	0.11563	0.40700
OPEN60	-0.31455	-0.00897	-0.02945
TOPEN60	0.26253	-0.03192	-0.11741
LPOP60	0.18651	0.09171	0.24861
TPOP60	-0.03991	0.23003	-0.02838
GDP60	0.04087	-0.30843	-0.00615

	FACTOR4	FACTOR5	FACTOR6
RIND	-0.31640	0.19988	-0.31999
MAS	0.05266	-0.09808	0.24530
MPS	0.41154	0.27561	0.01021
PDI	0.02924	-0.38313	-0.29437
UAI	0.09276	-0.16814	0.06434
LPD60	-0.17734	0.27622	0.29045
COUPS60	-0.06978	-0.26665	0.50129
P60	-0.42995	0.04962	0.23305
TP60	0.18351	0.02180	0.29722
OPEN60	0.08664	-0.09181	-0.02476
TOPEN60	0.02915	0.32920	0.09300
LPOP60	0.09211	-0.02937	-0.39918
TPOP60	0.06951	0.46112	-0.05235
GDP60	0.21425	-0.00699	0.26259

Principal Components Factor Analysis for 1970s Data

Eigenvalues of Correlation Matrix: Total = 17 Average = 1

	1	2	3	4
Eigenvalue	3.4893	2.6767	2.0947	1.8951
Difference	0.8127	0.5820	0.1996	0.1485
Proportion	0.2053	0.1575	0.1232	0.1115
Cumulative	0.2053	0.3627	0.4859	0.5974

	5	6	7	8
Eigenvalue	1.7467	1.1725	0.9674	0.8012
Difference	0.5742	0.2052	0.1662	0.1150
Proportion	0.1027	0.0690	0.0569	0.0471
Cumulative	0.7001	0.7691	0.8260	0.8732

	9	10	11	12
Eigenvalue	0.6862	0.3763	0.3203	0.2551
Difference	0.3099	0.0560	0.0652	0.0204
Proportion	0.0404	0.0221	0.0188	0.0150
Cumulative	0.9135	0.9357	0.9545	0.9695

	13	14	15	16
Eigenvalue	0.2347	0.1665	0.0775	0.0282
Difference	0.0682	0.0890	0.0493	0.0164
Proportion	0.0138	0.0098	0.0046	0.0017
Cumulative	0.9833	0.9931	0.9977	0.9993

	17
Eigenvalue	0.0117
Difference	
Proportion	0.0007
Cumulative	1.0000

1970s Factors

Factor Pattern

	FACTOR1	FACTOR2	FACTOR3
RIND	-0.12690	-0.16149	0.66623
MAS	0.22503	0.02374	0.35855
MPS	0.52031	-0.05967	-0.18234
PDI	-0.00469	0.78268	-0.02528
UAI	-0.83019	-0.20647	-0.19928
LPD70	-0.25084	-0.33275	0.25269
COUPS70	-0.56665	0.01038	-0.41155
P70	0.21102	-0.14286	-0.04657
TP70	-0.25589	0.00909	0.22554
OPEN70	0.89272	0.17746	-0.25675
TOPEN70	0.76280	0.21400	-0.26198
LPOP70	-0.22926	0.58103	0.48902
TPOP70	0.10310	0.36806	0.48674
PR70	-0.02314	0.75052	-0.30780
PVOL70	-0.63761	0.26394	-0.44153
TPR70	0.26753	-0.30231	0.39286
GDP70	0.21896	-0.76500	-0.32829

	FACTOR4	FACTOR5	FACTOR6
RIND	0.00093	0.44415	0.31066
MAS	0.49711	0.38238	-0.33973
MPS	0.41809	0.15020	0.18540
PDI	0.16709	-0.25572	-0.00029
UAI	-0.12814	-0.30628	-0.06145
LPD70	0.67282	0.26110	0.19028
COUPS70	0.24889	0.41423	0.40750
P70	-0.60888	0.57483	-0.26516
TP70	-0.64969	0.39096	0.14850
OPEN70	-0.05359	0.10579	0.12022
TOPEN70	-0.02523	0.30138	0.17028
LPOP70	-0.11481	0.13483	0.13743
TPOP70	0.20958	-0.06672	-0.47419
PR70	-0.02914	-0.00746	0.22072
PVOL70	0.22456	0.38633	-0.15347
TPR70	-0.06444	-0.47369	0.48678
GDP70	0.07335	0.00911	-0.17726

Variance explained by each factor

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
3.489334	2.676665	2.094708	1.895143	1.746693	1.172531

1970s Factors

Final Communality Estimates: Total = 13.075073

RIND	MAS	MPS	PDI	UAI	LPD70
0.779819	0.688504	0.539269	0.706563	0.885565	0.794569

COUPS70	P70	TP70	OPEN70	TOPEN70	LPOP70
0.890161	0.838581	0.713429	0.922874	0.816756	0.679540

TPOP70	PR70	PVOL70	TPR70	GDP70
0.656242	0.708178	0.894395	0.782796	0.777831

Standardized Scoring Coefficients

	FACTOR1	FACTOR2	FACTOR3
RIND	-0.03637	-0.06033	0.31805
MAS	0.06449	0.00887	0.17117
MPS	0.14911	-0.02229	-0.08705
PDI	-0.00135	0.29241	-0.01207
UAI	-0.23792	-0.07714	-0.09514
LPD70	-0.07189	-0.12432	0.12063
COUPS70	-0.16240	0.00388	-0.19647
P70	0.06048	-0.05337	-0.02223
TP70	-0.07334	0.00340	0.10767
OPEN70	0.25584	0.06630	-0.12257
TOPEN70	0.21861	0.07995	-0.12507
LPOP70	-0.06570	0.21707	0.23345
TPOP70	0.02955	0.13751	0.23237
PR70	-0.00663	0.28039	-0.14694
PVOL70	-0.18273	0.09861	-0.21078
TPR70	0.07667	-0.11294	0.18755
GDP70	0.06275	-0.28580	-0.15673

1970s Factors

Standardized Scoring Coefficients

	FACTOR4	FACTOR5	FACTOR6
RIND	0.00049	0.25428	0.26494
MAS	0.26231	0.21892	-0.28974
MPS	0.22061	0.08599	0.15812
PDI	0.08817	-0.14640	-0.00025
UAI	-0.06762	-0.17535	-0.05241
LPD70	0.35502	0.14948	0.16228
COUPS70	0.13133	0.23715	0.34754
P70	-0.32128	0.32910	-0.22614
TP70	-0.34282	0.22383	0.12665
OPEN70	-0.02828	0.06057	0.10253
TOPEN70	-0.01331	0.17254	0.14523
LPOP70	-0.06058	0.07719	0.11721
TPOP70	0.11059	-0.03820	-0.40441
PR70	-0.01538	-0.00427	0.18824
PVOL70	0.11849	0.22118	-0.13089
TPR70	-0.03400	-0.27119	0.41515
GDP70	0.03870	0.00521	-0.15118

Principal Components Factor Analysis for 1980s Data

Eigenvalues of Correlation Matrix: Total = 15 Average = 1

	1	2	3	4
Eigenvalue	3.9336	2.9067	2.4716	1.3940
Difference	1.0269	0.4351	1.0775	0.2999
Proportion	0.2622	0.1938	0.1648	0.0929
Cumulative	0.2622	0.4560	0.6208	0.7137

	5	6	7	8
Eigenvalue	1.0941	0.9087	0.8078	0.5078
Difference	0.1854	0.1008	0.3000	0.1624
Proportion	0.0729	0.0606	0.0539	0.0339
Cumulative	0.7867	0.8472	0.9011	0.9350

	9	10	11	12
Eigenvalue	0.3454	0.2831	0.1699	0.0867
Difference	0.0623	0.1132	0.0832	0.0229
Proportion	0.0230	0.0189	0.0113	0.0058
Cumulative	0.9580	0.9769	0.9882	0.9940

	13	14	15
Eigenvalue	0.0638	0.0163	0.0104
Difference	0.0475	0.0060	
Proportion	0.0043	0.0011	0.0007
Cumulative	0.9982	0.9993	1.0000

Factor Pattern

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
RIND	-0.02704	0.05082	-0.78524	0.19697	0.21329
MAS	-0.28305	0.26890	-0.54315	0.37320	0.30997
MPS	0.00771	0.44716	0.56418	0.20352	0.18344
PDI	0.69138	0.21713	0.22912	0.37390	-0.23162
UAI	-0.05462	-0.84620	0.06619	-0.21928	-0.35295
P80	-0.63398	0.37565	-0.19364	-0.56466	0.00953
TP80	-0.58420	-0.44316	0.29322	0.46016	0.20919
OPEN80	-0.05785	0.54440	0.73239	0.09323	0.26031
TOPEN80	0.16289	0.43639	0.13666	0.18381	-0.64249
LPOP80	0.72638	-0.38452	-0.14292	0.25070	0.16687
TPOP80	0.77099	0.34038	-0.09290	-0.21117	0.10260
PR80	0.70078	0.30461	0.13786	-0.47390	0.27189
PVOL80	0.56011	-0.56033	0.32523	0.06869	0.12102
TPR80	-0.11890	0.61138	-0.31778	0.27435	-0.29838
GDP80	-0.81089	-0.00903	0.50142	-0.03965	0.01628

Variance explained by each factor

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
3.933550	2.906692	2.471577	1.394035	1.094091

1980s Factors

Final Communality Estimates: Total = 11.799945

RIND	MAS	MPS	PDI	UAI
0.704209	0.682797	0.593386	0.771088	0.896072

P80	TP80	OPEN80	TOPEN80	LPOP80
0.899481	0.879171	0.912556	0.682233	0.786611

TPOP80	PR80	PVOL80	TPR80	GDP80
0.774041	0.901393	0.752829	0.653204	0.910875

Standardized Scoring Coefficients

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
RIND	-0.00687	0.01748	-0.31771	0.14130	0.19495
MAS	-0.07196	0.09251	-0.21976	0.26771	0.28332
MPS	0.00196	0.15384	0.22827	0.14599	0.16766
PDI	0.17576	0.07470	0.09270	0.26821	-0.21170
UAI	-0.01389	-0.29112	0.02678	-0.15730	-0.32259
P80	-0.16117	0.12924	-0.07835	-0.40506	0.00871
TP80	-0.14852	-0.15246	0.11864	0.33010	0.19120
OPEN80	-0.01471	0.18729	0.29632	0.06688	0.23793
TOPEN80	0.04141	0.15013	0.05529	0.13185	-0.58724
LPOP80	0.18466	-0.13229	-0.05782	0.17983	0.15252
TPOP80	0.19600	0.11710	-0.03759	-0.15148	0.09378
PR80	0.17815	0.10480	0.05578	-0.33995	0.24851
PVOL80	0.14239	-0.19277	0.13159	0.04928	0.11061
TPR80	-0.03023	0.21033	-0.12857	0.19681	-0.27272
GDP80	-0.20615	-0.00311	0.20287	-0.02845	0.01488

Cluster Analysis for 1950s Data

Ward's Minimum Variance Cluster Analysis

Eigenvalues of the Covariance Matrix

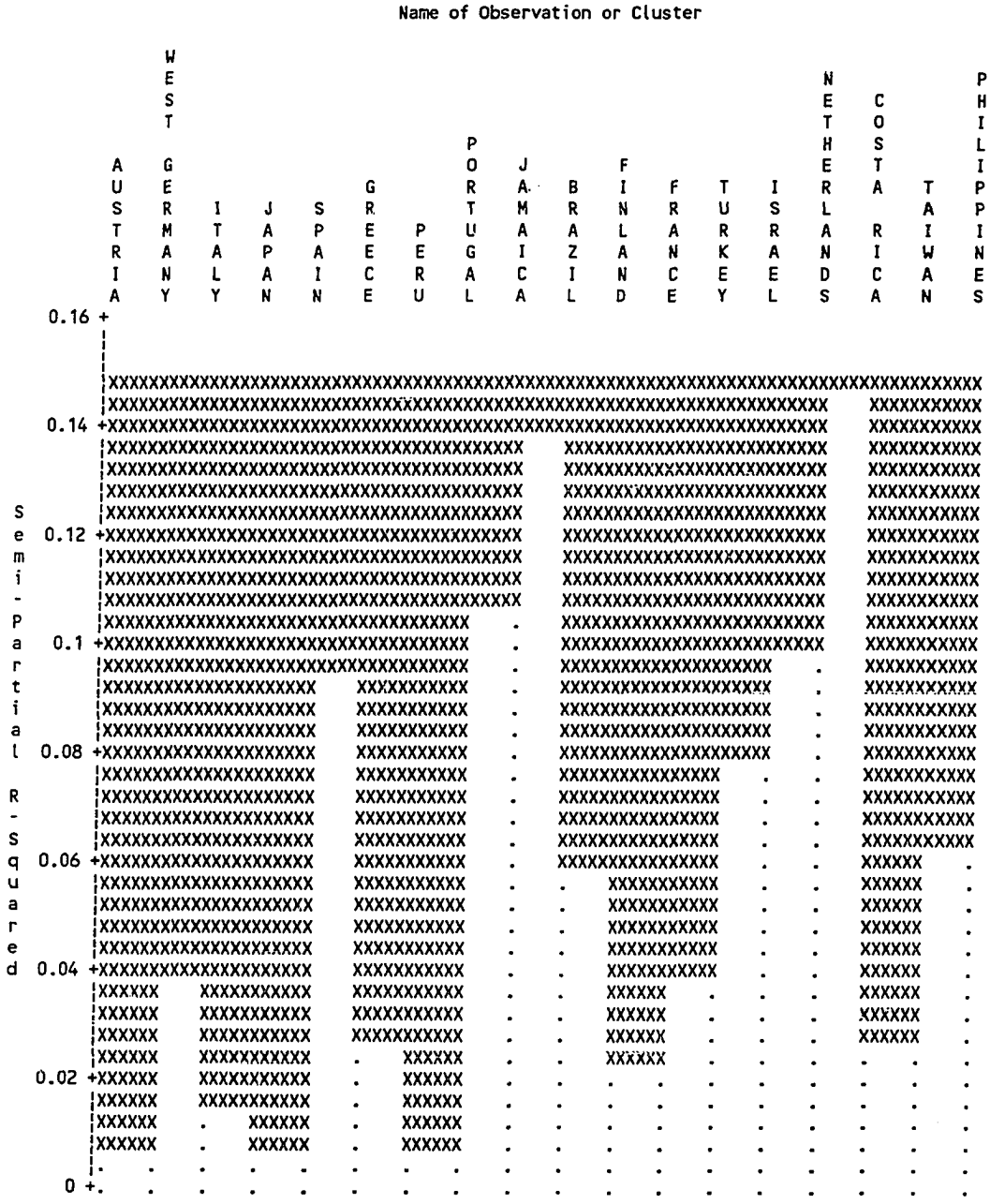
	Eigenvalue	Difference	Proportion	Cumulative
1	1.00000	1.73E-14	0.166667	0.16667
2	1.00000	1.93E-14	0.166667	0.33333
3	1.00000	6.33E-15	0.166667	0.50000
4	1.00000	2.33E-14	0.166667	0.66667
5	1.00000	2.71E-14	0.166667	0.83333
6	1.00000	.	0.166667	1.00000

Root-Mean-Square Total-Sample Standard Deviation = 1
Root-Mean-Square Distance Between Observations = 3.464102

NCL	Clusters Joined		FREQ	SPRSQ	RSQ	Tie
17	PERU	PORTUGAL	2	0.008067	0.9919	
16	AUSTRIA	WEST GERMANY	2	0.009348	0.9826	
15	JAPAN	SPAIN	2	0.009496	0.9731	
14	ITALY	CL15	3	0.016243	0.9568	
13	FINLAND	FRANCE	2	0.023813	0.9330	
12	GREECE	CL17	3	0.027713	0.9053	
11	COSTA RICA	TAIWAN	2	0.028678	0.8766	
10	CL16	CL14	5	0.039086	0.8376	
9	CL13	TURKEY	3	0.040028	0.7975	
8	BRAZIL	CL9	4	0.061226	0.7363	
7	CL11	PHILIPPINES	3	0.065251	0.6711	
6	CL8	ISRAEL	5	0.078432	0.5926	
5	CL10	CL12	8	0.096473	0.4961	
4	CL6	NETHERLANDS	6	0.098316	0.3978	
3	CL5	JAMAICA	9	0.107307	0.2905	
2	CL3	CL4	15	0.141584	0.1489	
1	CL2	CL7	18	0.148938	0.0000	

1950s Clusters

Ward's Minimum Variance Cluster Analysis Tree Diagram



Cluster Analysis for 1960s Data

Ward's Minimum Variance Cluster Analysis

Eigenvalues of the Covariance Matrix

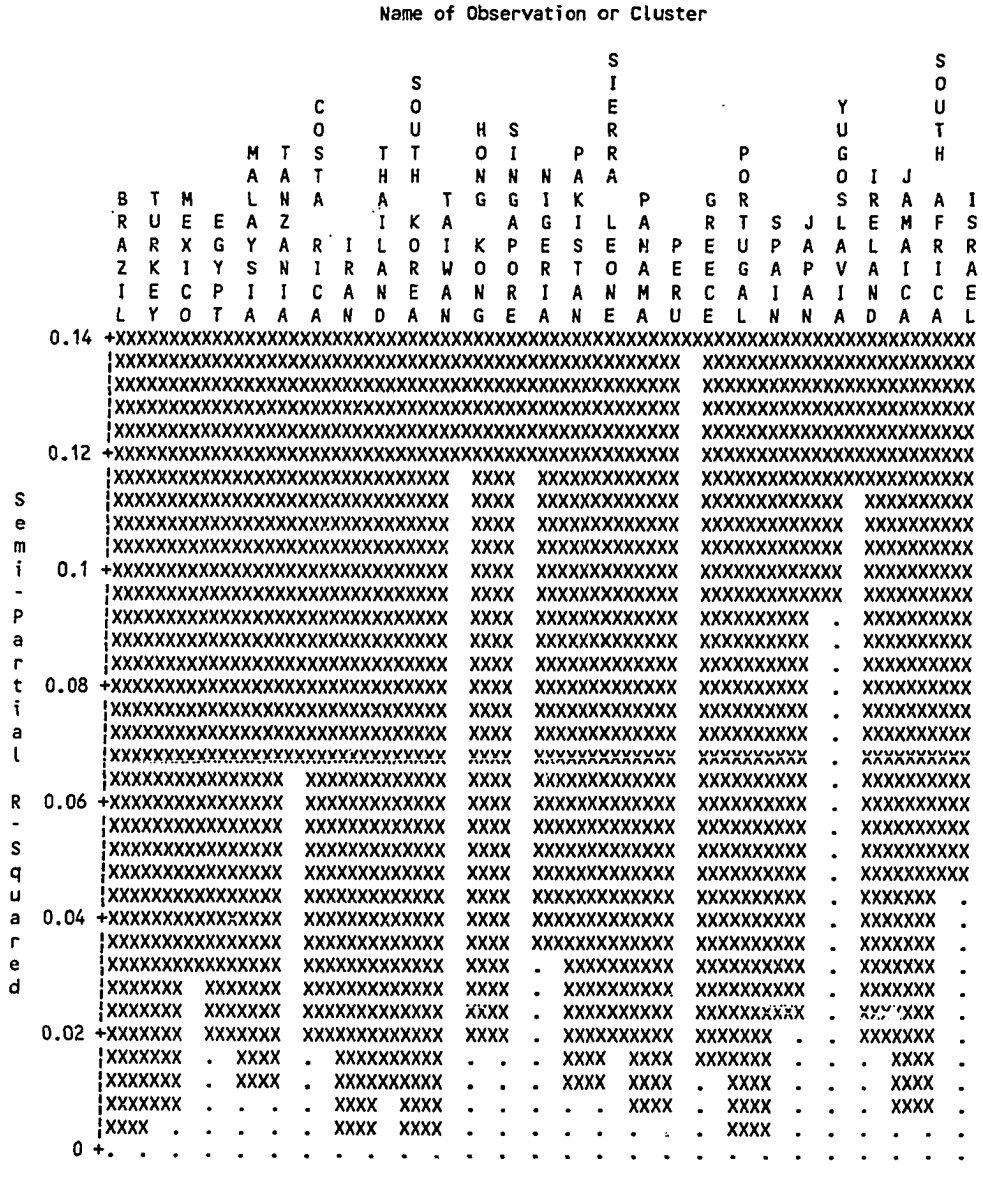
	Eigenvalue	Difference	Proportion	Cumulative
1	1.00000	5.55E-15	0.166667	0.16667
2	1.00000	4.22E-15	0.166667	0.33333
3	1.00000	5E-15	0.166667	0.50000
4	1.00000	2.22E-15	0.166667	0.66667
5	1.00000	1.05E-14	0.166667	0.83333
6	1.00000	.	0.166667	1.00000

Root-Mean-Square Total-Sample Standard Deviation = 1
Root-Mean-Square Distance Between Observations = 3.464102

NCL	Clusters Joined		FREQ	SPRSQ	RSQ	Tie
26	IRAN	THAILAND	2	0.003108	0.9969	
25	BRAZIL	TURKEY	2	0.003176	0.9937	
24	SOUTH KOREA	TAIWAN	2	0.004300	0.9894	
23	PORTUGAL	SPAIN	2	0.005577	0.9838	
22	PANAMA	PERU	2	0.009081	0.9748	
21	CL25	MEXICO	3	0.009243	0.9655	
20	JAMAICA	SOUTH AFRICA	2	0.009935	0.9556	
19	MALAYSIA	TANZANIA	2	0.010400	0.9452	
18	PAKISTAN	SIERRA LEONE	2	0.010986	0.9342	
17	CL26	CL24	4	0.013977	0.9202	
16	GREECE	CL23	3	0.017826	0.9024	
15	EGYPT	CL19	3	0.018423	0.8840	
14	HONG KONG	SINGAPORE	2	0.018589	0.8654	
13	IRELAND	CL20	3	0.020038	0.8453	
12	CL18	CL22	4	0.020116	0.8252	
11	COSTA RICA	CL17	5	0.021397	0.8038	
10	CL16	JAPAN	4	0.024642	0.7792	
9	CL21	CL15	6	0.033611	0.7456	
8	NIGERIA	CL12	5	0.037685	0.7079	
7	CL13	ISRAEL	4	0.049976	0.6579	
6	CL9	CL11	11	0.066433	0.5915	
5	CL10	YUGOSLAVIA	5	0.095097	0.4964	
4	CL5	CL7	9	0.117300	0.3791	
3	CL14	CL8	7	0.118498	0.2606	
2	CL6	CL3	18	0.119934	0.1407	
1	CL2	CL4	27	0.140652	0.0000	

1960s Clusters

Ward's Minimum Variance Cluster Analysis Tree Diagram



Cluster Analysis for 1970s Data

Ward's Minimum Variance Cluster Analysis

Eigenvalues of the Covariance Matrix

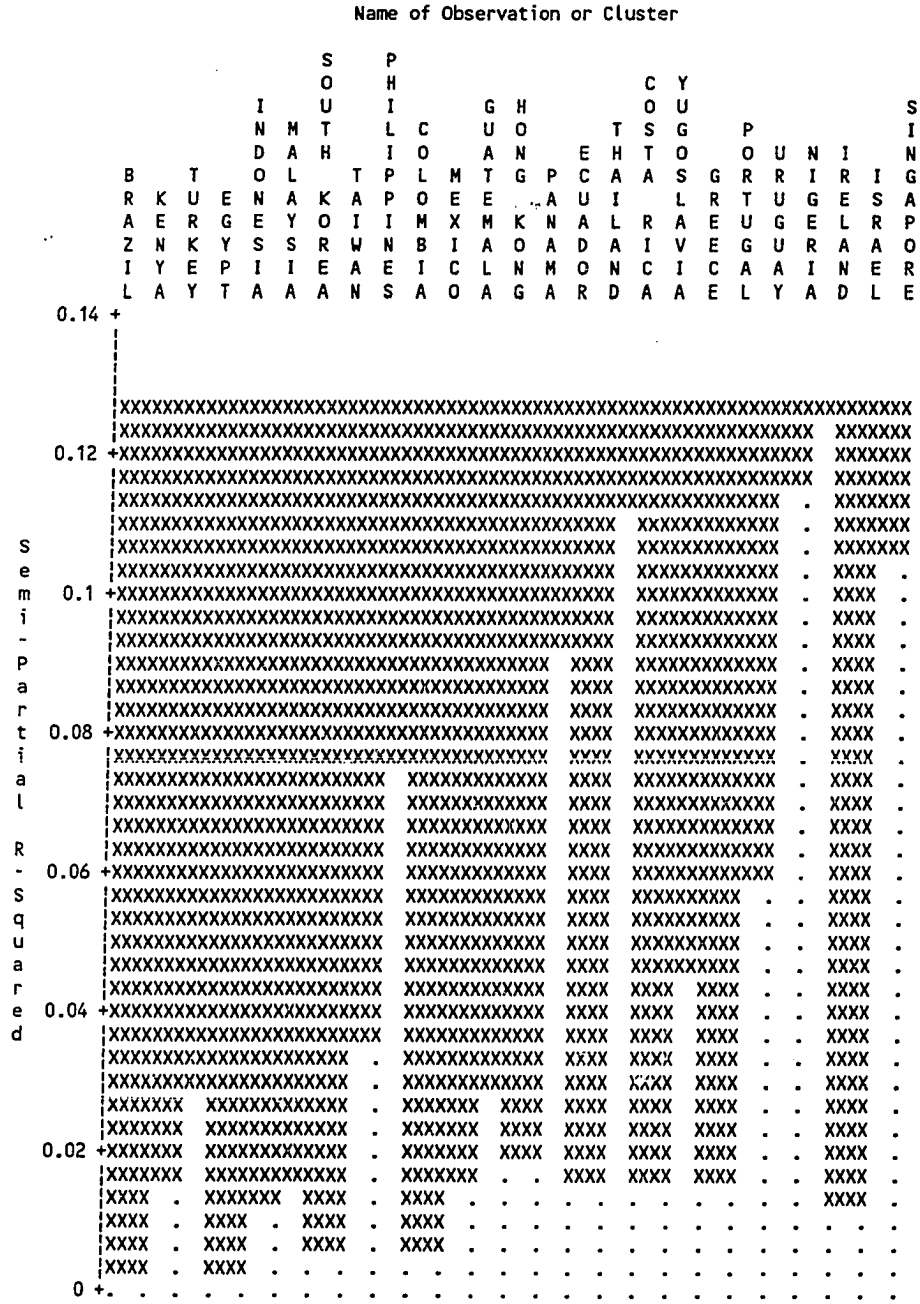
	Eigenvalue	Difference	Proportion	Cumulative
1	1.00000	2.44E-15	0.166667	0.16667
2	1.00000	1.33E-15	0.166667	0.33333
3	1.00000	5.88E-15	0.166667	0.50000
4	1.00000	3.22E-15	0.166667	0.66667
5	1.00000	7.44E-15	0.166667	0.83333
6	1.00000	.	0.166667	1.00000

Root-Mean-Square Total-Sample Standard Deviation = 1
Root-Mean-Square Distance Between Observations = 3.464102

NCL	Clusters Joined		FREQ	SPRSQ	RSQ	Tie
24	BRAZIL	KENYA	2	0.002210	0.9978	
23	EGYPT	INDONESIA	2	0.003678	0.9941	
22	SOUTH KOREA	TAIWAN	2	0.007194	0.9869	
21	COLOMBIA	MEXICO	2	0.007610	0.9793	
20	CL23	MALAYSIA	3	0.012915	0.9664	
19	IRELAND	ISRAEL	2	0.014255	0.9521	
18	GREECE	PORTUGAL	2	0.015882	0.9363	
17	CL24	TURKEY	3	0.015907	0.9204	
16	CL21	GUATEMALA	3	0.016307	0.9040	
15	COSTA RICA	YUGOSLAVIA	2	0.016893	0.8871	
14	CL20	CL22	5	0.016940	0.8702	
13	ECUADOR	THAILAND	2	0.018208	0.8520	
12	HONG KONG	PANAMA	2	0.018629	0.8334	
11	CL16	CL12	5	0.029417	0.8040	
10	CL17	CL14	8	0.030416	0.7735	
9	CL10	PHILIPPINES	9	0.035004	0.7385	
8	CL15	CL18	4	0.045343	0.6932	
7	CL8	URUGUAY	5	0.060386	0.6328	
6	CL9	CL11	14	0.077083	0.5557	
5	CL6	CL13	16	0.092410	0.4633	
4	CL19	SINGAPORE	3	0.105206	0.3581	
3	CL5	CL7	21	0.114911	0.2432	
2	CL3	NIGERIA	22	0.116237	0.1270	
1	CL2	CL4	25	0.126958	0.0000	

1970s Clusters

Ward's Minimum Variance Cluster Analysis Tree Diagram



Cluster Analysis for 1980s Data

Ward's Minimum Variance Cluster Analysis

Eigenvalues of the Covariance Matrix

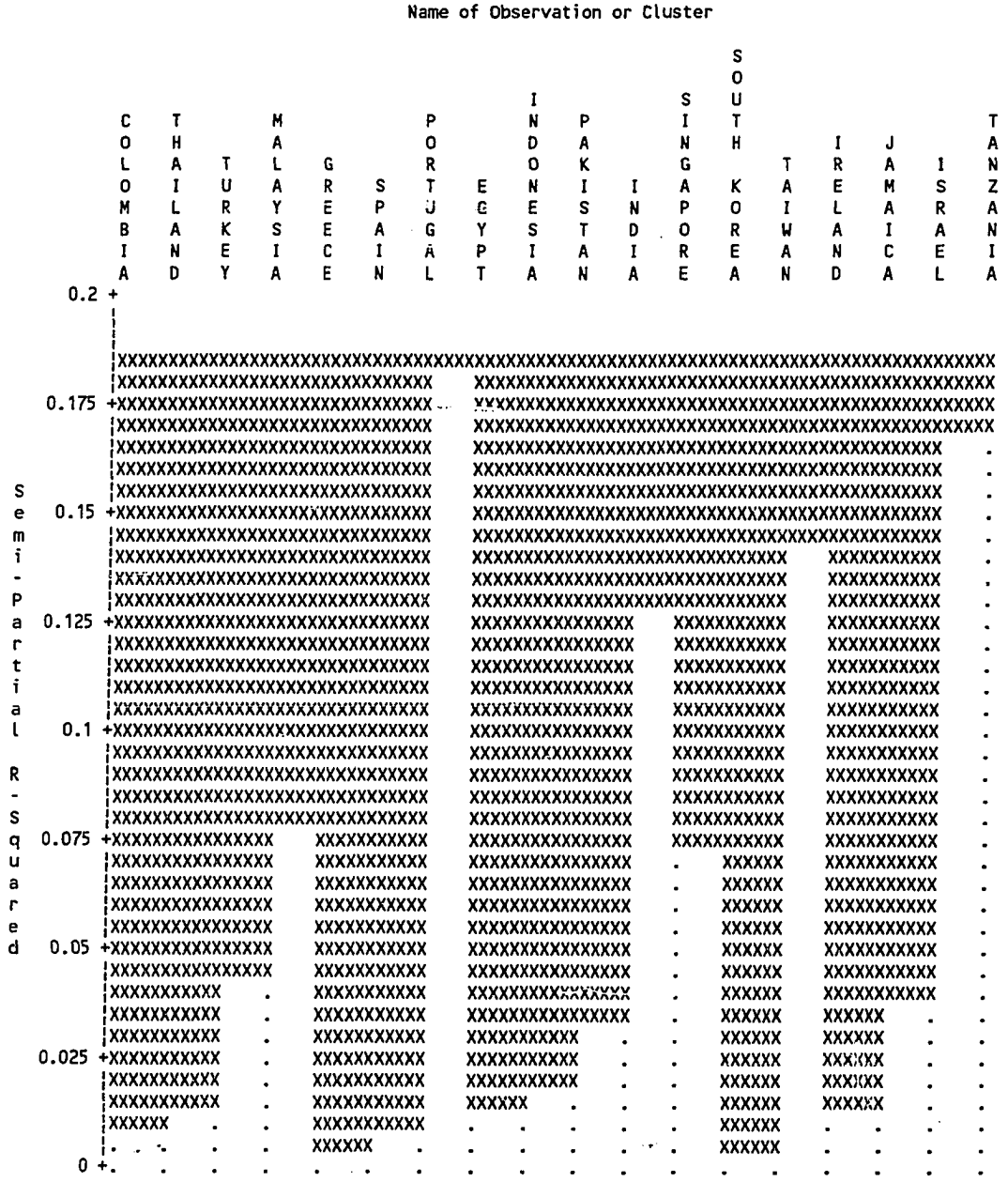
	Eigenvalue	Difference	Proportion	Cumulative
1	1.00000	1.09E-14	0.200000	0.20000
2	1.00000	2.89E-15	0.200000	0.40000
3	1.00000	4.66E-15	0.200000	0.60000
4	1.00000	5.44E-15	0.200000	0.80000
5	1.00000	.	0.200000	1.00000

Root-Mean-Square Total-Sample Standard Deviation = 1
Root-Mean-Square Distance Between Observations = 3.162278

NCL	Clusters Joined		FREQ	SPRSQ	RSQ	Tie
17	SOUTH KOREA	TAIWAN	2	0.002719	0.9973	
16	GREECE	SPAIN	2	0.005032	0.9922	
15	CL16	PORTUGAL	3	0.010740	0.9815	
14	COLOMBIA	THAILAND	2	0.010879	0.9706	
13	EGYPT	INDONESIA	2	0.012728	0.9579	
12	CL14	TURKEY	3	0.013733	0.9442	
11	IRELAND	JAMAICA	2	0.016276	0.9279	
10	CL13	PAKISTAN	3	0.020519	0.9074	
9	CL10	INDIA	4	0.034417	0.8730	
8	CL11	ISRAEL	3	0.039600	0.8334	
7	CL12	MALAYSIA	4	0.044833	0.7885	
6	SINGAPORE	CL17	3	0.077111	0.7114	
5	CL7	CL15	7	0.079919	0.6315	
4	CL9	CL6	7	0.130284	0.5012	
3	CL4	CL8	10	0.146824	0.3544	
2	CL3	TANZANIA	11	0.171593	0.1828	
1	CL5	CL2	18	0.182793	0.0000	

1980s Clusters

Ward's Minimum Variance Cluster Analysis Tree Diagram



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