

# Value Change in Global Perspective



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MICHIGAN

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and  
Ronald Inglehart**

**Ann Arbor**

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*For Janet and Marita*



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## Preface

This book is the product of a long but sporadic collaboration, for the two authors have been working together off and on for over a quarter of a century. We met at a conference on political socialization in Ann Arbor in the summer of 1967. That meeting led to a jointly authored article, which was published in 1970. In that same year, the first European Community survey measured Materialist/Postmaterialist values in Western Europe.

During the next dozen years both of us worked independently on studies of intergenerational population change. In the spring of 1983 we began to analyze the impact of intergenerational value change in West Germany, Britain, The Netherlands, France, Belgium, and Italy, producing two articles, one examining the impact of replacement on values in these six countries, and one that projected the likely impact of future generational replacement.

By the mid-1980s, when these articles appeared, the semiannual Euro-Barometer surveys, which monitor public opinion in the European Community (now European Union) countries, were an ongoing enterprise. We recognized that the analysis of intergenerational value change was, inherently, something that would require a long-term commitment in order to obtain stronger evidence. Several additional years elapsed, providing a longer time series. We were thus able to add Denmark and Ireland to our study, and to conduct more complex multivariate tests.

It gradually became apparent that a comprehensive analysis would need to go beyond Western Europe. By 1990–91, the forty-nation World Values Survey was well under way, and Inglehart, as the global coordinator of this survey, was able to begin analyzing these data in early 1992.

The 1990–91 World Values Survey covers an unprecedentedly broad range of the economic and political spectrum, including 70 percent of the world's population. The study includes data from all eight of the Western European societies we study over time, from two other members of the European Community, Portugal and Spain, as well as a sample of Northern Ireland. It includes surveys from five European countries that did not belong to the Community, as well as the United States and Canada. Japan and South Korea were sampled, as well as such low income countries as India and Nigeria. Twelve societies ruled (or recently ruled) by Communist parties were sampled, including the Russian Republic and the People's Republic of China.

In addition, four Latin American countries were surveyed: Argentina, Brazil, Chile, and Mexico.

The 1990–91 World Values Survey data greatly extend the scope of previous political attitude studies. As we will show, the same processes that contribute to value change in advanced industrial societies appear to contribute to similar change in all societies that have experienced enough economic growth in recent decades for younger cohorts to have had significantly more security in their formative years than older cohorts had.

We consider it crucial that scholars share their data. From 1970 to 1990, Inglehart was a coinvestigator in the EuroBarometer studies, and he initiated the program through which these data are made available to social scientists through the Inter-university Consortium for Political and Social Research (ICPSR) in Ann Arbor, Michigan. This program continues, and the Euro-Barometer Surveys we employ are available to scholars through the ICPSR, as well as through the Zentralarchiv für empirische Sozialforschung at Cologne, and the European Consortium for Political Research at Essex. Data from the 1981–83 World Values Survey have been available through the ICPSR since 1989. During 1991–94 Inglehart worked, supported by a grant from the National Science Foundation (SES 91-22433), to prepare the EuroBarometer surveys and the 1990–91 World Values Survey for the consortium. The 1990–91 World Values Survey data became available through the ICPSR in 1994.

In this book, we also use National Election Studies surveys conducted by the Center for Political Studies of the University of Michigan. These data were obtained directly from the ICPSR. The standard disclaimer applies. The consortium is not responsible for our analyses of these data or for our interpretation of them.

In the past decade, many scholars in the United States and Western Europe have analyzed EuroBarometer surveys. From time to time they have used these data to criticize the value change thesis. We disagree with much of this criticism, but it has been valuable and stimulating. In our book, we will discuss studies that use these data to criticize Inglehart's theory. Responding to thoughtful critiques has often led us to conduct additional analyses and to better specify our arguments.

A number of publications by the respective principal investigators have already analyzed the 1990–91 World Values Survey, but these data have a huge potential for further analysis. We hope this potential will be fully exploited now that they are available through the ICPSR. In this book we have examined some of the data for all forty societies, but have had little opportunity to explore questions that focus on single countries, or to address regional differences. Moreover, these surveys examine a wide range of domains, from politics to sexual and family norms, religious values, attitudes toward war, state-market relationships, and the environment. This study of

value change focuses on the gradual shift from Materialist concerns about physical and economic security toward greater emphases on freedom, self-expression, and the quality of life, or what we have called Postmaterialist values. Inglehart is currently working on a book that will explore changes in these other domains, but even it can only begin to tap a fraction of the information in these surveys. We hope that this book, by helping to introduce the scholarly community to the World Values Survey, will encourage scholars to make widespread use of these data.

We are indebted to many others who helped us over the years. We are grateful to several institutions. In addition to funding to document the 1990–91 World Values Survey, Inglehart was supported by grant SES 88-09098 from the National Science Foundation. The staff of the Commission of the European Communities has been very helpful, and we have also received support from the Institute for Social Research of the University of Michigan and the Department of Political Science at Michigan State University. However, we are even more grateful to individuals. We are especially indebted to Jacques-René Rabier, who directed the EuroBarometer surveys from their inception until 1986. Without his leadership, these studies would not exist. We are also grateful to Karlheinz Reif and Anna Melich who have directed the EuroBarometer studies from 1986 to the present. Georgia Aktan and Julio Borquez have helped prepare both the EuroBarometer data and the World Values Survey data for analysis and distribution. Jim Granato and Charles Ostrom provided extensive advice for the time-series analysis presented in chapter 3 and Sara McLaughlin assisted with the data analysis. Lucinda M. Ramsey helped with our estimates of demographic change. Michael Bratton conducted data analysis on his recent national survey of Zambia to provide us with information about that country, and Brian D. Silver helped us with demographic estimates that used Russian-language materials. Many scholars made helpful comments on earlier versions of this work. They include Michael F. Altfeld, Cleo H. Cherryholmes, William Claggett, Ada W. Finifter, Bernard M. Finifter, Jack H. Knott, Frank A. Pinner, Rick E. Rollenhagen, W. Phillips Shively, Vladimir Shlapentokh, Brian D. Silver, Kaare Strøm, Jan W. van Deth, Nicolas van de Walle, and Frank P. Zinni, Jr. Two anonymous reviewers made extensive suggestions. We are grateful to Janet W. Abramson for her careful editing of the original manuscript. Finally, we wish to thank Colin Day of the University of Michigan Press for his encouragement, Malcolm Litchfield for his editorial assistance, and Christina L. Milton for her help in the production process.



## CHAPTER 1

### **Studying Political Values**

Over two decades ago, Ronald Inglehart (1971) proposed a theory of value change that predicted value priorities in advanced industrial societies would tend to shift away from “Materialist” concerns about economic and physical security, toward a greater emphasis on freedom, self-expression, and the quality of life, or “Postmaterialist” values. Arguing that differences between the formative socialization of young Europeans and their elders were leading young birth cohorts to value relatively high levels of freedom and self-expression, he suggested that future intergenerational population replacement would bring about a shift toward new value priorities.

If this value shift is taking place, it has far-reaching implications. The growth of Postmaterialist values appears to have eroded the traditional bases of party realignments by contributing to a decline of social class voting (Dalton 1991; Dalton, Flanagan, and Beck 1984; Inglehart 1977, 1990; Knutsen 1990; Lipset 1981) and to the rise of new social movements (Ganzeboom and Flap 1989; Inglehart 1990; Klandermans 1990; Kriesi 1989; Offe 1990; Rohrschneider 1990). The rise of Postmaterialism appears to be especially important in contributing to environmental movements and parties (Bennulf and Holmberg 1990; Betz 1990; Hoffman-Martinot 1991; Müller-Rommel 1989; Rohrschneider 1993; Sciarini and Finger 1991).

Changing value priorities may be reshaping the nature of political cleavages and the meaning of “left” and “right,” giving rise to a New Politics axis. This new axis cuts across the traditional left-right dimension. Radical reform parties are at one pole of this new axis and Right authoritarian parties and movements like the Christian Coalition, the National Front, and the Republikaner Party are at the other pole (Huber 1989; Inglehart 1977, 1990; Kitschelt 1994; Kitschelt and Hellemans 1990; Lafferty and Knutsen 1985; Minkenberg 1990). Moreover, Dalton, Flanagan, and Beck (1984) and Inglehart (1990) argue that weakening party loyalties and low rates of voter turnout partly reflect the established parties’ failure to offer meaningful choices about the New Politics issues. Conversely, Crepaz (1990) demonstrates that the presence of a Green party or some other Postmaterialist party enhances electoral turnout.

The growth of Postmaterialism may have even broader implications.

During the past two decades there has been a remarkable worldwide trend toward democracy, which Samuel P. Huntington (1991) calls the “third wave of democratization.” Huntington argues that this movement began in Portugal in 1974, but it has since become a widespread phenomenon with the growth of democratic institutions not only in Western Europe but throughout Latin America, as well as in such Asian societies as South Korea, Taiwan, and the Philippines. In the early 1990s, about one-fifth of the states of sub-Saharan Africa achieved a successful transition from authoritarian to democratic rule (see Bratton and van de Walle 1994). The collapse of communism provided unanticipated opportunities for democracy throughout Eastern Europe, as well as for the successor states of the Soviet Union.

There are many reasons for this trend, but a key component appears to be public sentiment that favors more widespread popular influence in the political decision-making process. Such sentiments do not guarantee that democracy will prevail, but it may be difficult to maintain democratic political institutions without them. Political scientists have become increasingly aware of the linkage between culture and democracy, and the growth of democracy has led to a resurgence of research on political culture. The collapse of communism has led to a far-ranging series of empirical studies of political culture in the Soviet Union and its successor states by Ada W. Finifter and Ellen Mickiewicz (1992), James L. Gibson and Raymond M. Duch (1994), Arthur H. Miller and his colleagues (1993, 1994), and by William Zimmerman (Zimmerman 1993; Zimmerman and Yarsike 1992). Andrew J. Nathan and his colleagues (Nathan and Shi 1993) have studied Chinese political culture. Similarly, the third wave of democratization has led to a multiauthored work on *Political Culture and Democracy in Developing Nations* edited by Larry Diamond (1993), to research in Taiwan by Scott C. Flanagan and Huo-yan Shyu (1992), and to research in South Korea by Soo Young Auh (1991). Analyzing time series data from Italy, Robert D. Putnam and his colleagues (1993) have produced a major contribution demonstrating the durability of cultural factors and their impact on democratic political institutions. In addition, a twenty-nation group sponsored by the European Science Foundation has produced a multivolume series on political culture in Western Europe, relying largely upon the Euro-Barometer surveys sponsored by the Commission of the European Communities (see Borre forthcoming; Kaase and Newton forthcoming; Klingemann forthcoming; Niedermayer forthcoming; van Deth forthcoming).

Well before the recent surge toward democratization, Inglehart (1977) argued that two processes were gradually transforming the values of Western publics in ways that would be conducive to democracy. First, the shift toward Postmaterialist values contributes toward democratization. Second, there was a movement toward higher levels of “cognitive mobilization” that resulted partly from rising levels of education and partly from changes in the nature of

work, from relatively simple routine operations to tasks requiring relatively high levels of specialized knowledge and autonomous judgment. Higher levels of cognitive mobilization also facilitate the spread of democracy.

The spread of Postmaterialist values cannot guarantee that the trend toward democratization will continue, since values are only one factor contributing to the spread of democracy. Values alone do not determine political outcomes, for they interact with economic and political forces. Moreover, the relationship between values and democracy is complex. As Seymour Martin Lipset (1959) pointed out over three decades ago, democratic political systems promote values that help to sustain democratic institutions. This point has been made more recently by Edward N. Muller and Mitchell A. Seligson (1994), who further claim that democratic values themselves do not contribute to the maintenance of democratic institutions. Muller and Seligson are wise to remind us that the relationship between values and democracy is complex, but their conclusion that democratic values do not contribute to democracy is misguided. Their analyses do not address the question of whether cultural factors are responsible for the long-term survival or failure of democracy, but instead focus on short-term fluctuations during the 1980s.<sup>1</sup>

In fact, the spread of Postmaterialist values is empirically linked to the growth of democratization, even when we take into account that countries with higher levels of Postmaterialism are more developed economically (Inglehart 1992a). The growth of Postmaterialist values seems inherently conducive to mass support for democratization, since a major component of Postmaterialism is a heightened emphasis on free speech and autonomy (Gibson and Duch 1994). Moreover, Postmaterialist values are linked with mass participation in elite-challenging forms of political action that helped to bring down authoritarian regimes in Eastern Europe and the former Soviet Union, and that have been challenging authoritarian regimes in East Asia.

Our goal in this book is to explain the processes that contribute to value change. We believe there is abundant evidence that value change is occurring, but despite this evidence there is continuing controversy about whether there actually is a trend toward Postmaterialism. In chapter 2, we demonstrate that there has been a trend toward Postmaterialism in seven of the eight European Community societies that can be studied for a full two decades.<sup>2</sup> Using the EuroBarometer surveys sponsored by the Commission of the European Communities, we document a clear trend toward Postmaterialism in West Germany, Britain, The Netherlands, France, Italy, Denmark, and Ireland. Only Belgium fails to manifest a clear trend toward Postmaterialism. Using the U.S. National Election Studies surveys, we also show that there has been a trend toward Postmaterialism in the United States.

Although there has been a clear trend toward Postmaterialism, the movement toward Postmaterialist values has not been a simple, linear process.

Instead, it has been characterized by numerous fluctuations in response to current conditions. As we show in chapter 3, these short-term fluctuations are implicit in Inglehart's basic hypotheses about value change. Inglehart advances a "socialization" hypothesis postulating that an individual's basic values reflect the conditions that prevailed during his or her preadult years. He also advances a "scarcity" hypothesis that implies that there will be short-term changes: periods of prosperity lead to increased Postmaterialism, and periods of scarcity lead to Materialism. We argue that changing rates of inflation are the main source of short-term value change. Contradicting this, however, Harold D. Clarke and Nitish Dutt (1991) argue that increasing levels of unemployment contribute to *Postmaterialism*, a result that would not be consistent with the thesis that economic adversity contributes to Materialism. Chapter 3, we believe, demonstrates that Clarke and Dutt's claim is untenable. We examine individual-level data to show that there is no relationship between concerns about unemployment and Postmaterialism. We employ a time-series analysis that clearly demonstrates that unemployment does not contribute to Postmaterialist values. Moreover, our analyses clearly show that there is a long-term trend toward Postmaterialism in Western Europe, and that this trend is occurring at a rate very close to that predicted by a generational replacement thesis.

Although short-term fluctuations in values result from changing economic conditions, long-term trends are more important. For while short-term forces can lead to increases or decreases in Postmaterialism, long-term change continuously contributes to higher levels of Postmaterialism. This is because long-term change results from generational replacement. Older Europeans with Materialist values are continuously leaving these societies through death, while younger cohorts with Postmaterialist values are coming of age.

In chapter 4, we present a comprehensive analysis of the impact of generational replacement between 1970 and 1992. We first analyze census results to estimate the extent of generational replacement during these years, demonstrating that there has been considerable population replacement. Although replacement rates vary somewhat from society to society, in most of these societies about two-fifths of the adult population was replaced over the course of these two decades. We also examine the age-group distribution of these societies using the European Community surveys, and, as we show, generational replacement as measured by these surveys closely parallels actual census results.

We study the impact of generational replacement by examining values among birth cohorts for each of the 19 survey years for which we have data. We present tables showing scores on our measure of Materialist/Postmaterialist values for eight basic birth cohorts. As we demonstrate, young Europeans are consistently more likely to be Postmaterialists than their elders. We dis-

cuss alternative explanations for this relationship, providing evidence that the tendency of younger Europeans to have more Postmaterialist values results from differences between their formative socialization and that of their elders. As we will see when we follow given birth cohorts as they age, Belgium is the only country in which cohorts become even slightly more Materialist as they move through the life cycle.

Our main goal is to estimate the impact of generational replacement on value change, and, as we show, replacement can lead to six different outcomes. One possible outcome is for replacement to have no effect, but given our actual results, replacement must affect the overall distribution of values. As we show, replacement can *create* a trend, *contribute* to a trend, *prevent* a trend, and it can *impede* a trend. Under some conditions, replacement can *reverse* the direction of a trend. After examining the possible effects of replacement, we examine its actual effects. As we show, in Denmark, generational replacement contributed to the growth of Postmaterialism, and in Germany, Britain, The Netherlands, France, Italy, and Ireland, replacement was the major force that either caused or contributed to the trend toward Postmaterialism. Even in Belgium, where there was only a slight move toward Postmaterialism, replacement prevented a movement toward Materialism. We also use a combined sample of the six countries that can be studied over a 22-year period—Germany, Britain, The Netherlands, France, Belgium, and Italy—to show that replacement was the major force contributing to the rise of Postmaterialism.

Although there is abundant evidence that generational replacement contributes to a trend toward Postmaterialism, some scholars argue that the tendency of younger cohorts to have Postmaterialist values does not result from differences in formative socialization experiences. For example, Raymond M. Duch and Michael A. Taylor (1993) argue that the Postmaterialist values of the young reflect their higher levels of formal education. In chapter 5, we examine the multifaceted role of education in the learning of political values, and show that education is a powerful indirect indicator of the level of security that respondents experienced during their formative years. Thus, the very relationship that Duch and Taylor use to argue against Inglehart's socialization hypothesis actually supports Inglehart's theory.

Just as generational replacement has affected value change in the past, it is likely to affect future value change. Chapter 6 estimates the likely impact of future replacement upon value change. For all eight of the European societies we study over time, demographers have projected the future age distribution of the population for the next three decades. For all eight societies the rate of generational replacement will be slower during the next three decades than it was during the past two decades, mainly because of low birth rates during the late 1970s and 1980s. Nonetheless, there will be considerable replacement.

We use algebraic procedures to estimate the likely impact of this replacement upon future levels of Postmaterialism. Employing alternative assumptions about the future of values, we make projections for the years 2000, 2010, and 2020. As we show, even though generational replacement will be slow, replacement is likely to exert continuous pressure, pushing overall levels of Postmaterialism upward.

The value-change thesis implies that the shift from Materialist to Postmaterialist priorities is potentially a universal process: it should occur in any country that moves from conditions of economic insecurity to relative security. Until recently, however, we could not test this thesis adequately because most national surveys were conducted in relatively developed societies. This thesis can now be tested using the 1990–91 World Values Survey.

The 1990–91 surveys provide data from 40 societies containing 70 percent of the world's population. These surveys cover an unprecedentedly broad range of the economic and political spectrum, with data from such low income countries as China, India, and Nigeria, as well as from former state-socialist countries in Eastern Europe and the former Soviet Union. The 1990–91 World Values Survey studied a wide range of values, including the twelve-choice measure of Materialism/Postmaterialism developed by Inglehart some two decades ago. Given the diversity of societies studied, one may initially ask whether the very concept of Materialism/Postmaterialism can be measured. Chapter 7 addresses this question by analyzing the structure of values in all 40 societies. As we demonstrate, there are interesting and important differences in the structures of values across this wide range of societies. For example, factor analyses demonstrate that valuing economic growth tends to load as a Materialist value in Western societies, whereas in former state-socialist countries (as well as the PRC) valuing economic growth tends to be a Postmaterialist value. In these societies the public associates economic growth with freeing the economy from state control. There are also differences between the structures of values in Western societies and in developing countries. However, valid measures of Materialism/Postmaterialism can be constructed across a very wide range of societies.

Only data over time can demonstrate the presence of a trend, but we can make inferences about change by analyzing the recent World Values Survey. In chapter 8, we examine the relationship between levels of economic development and values and demonstrate that citizens in wealthy societies are more likely to have Postmaterialist values than those in poorer societies. We then examine the relationship between age and values. In most societies the young are clearly more likely to have Postmaterialist values than their elders. However, the strength of this relationship varies greatly from society to society. For example, in South Korea, which has experienced the most rapid economic growth of any of the societies we study, there is a very strong tendency for the

young to be more Postmaterialist than their elders. In societies with very little growth in per capita income, such as Nigeria, there is only a very weak relationship between age and values. That the young are more Postmaterialist than their elders in the vast majority of societies suggests that there may be an intergenerational trend toward Postmaterialism. We can also make some comparisons over time by using the 1981–83 World Values Survey. The 1981–83 surveys measured Materialist/Postmaterialist values in 19 societies, and the 1980 National Election Study can be used to measure these values in the United States. We compare the 1990–91 World Values Survey with these measures of values in the early 1980s, and show that there was movement toward Postmaterialism in 18 of these 20 societies.

Our concluding chapter discusses the implications of our findings. We explain why generational replacement is a gradual process, but also explain why its effects, though gradual, are often the major force changing political values. We discuss the implications of our extensive analysis of Germany, Britain, The Netherlands, France, Belgium, Italy, Denmark, and Ireland for the much wider range of countries for which we now have measures of Postmaterialism. We also discuss the ways in which the broad range of data from the World Values Surveys helps place the Western European data in global perspective. Value change, we argue, is not a uniquely Western phenomenon. Rather, the rise of Postmaterialist values is closely linked with prosperity and seems to occur wherever a society has experienced enough economic growth in recent decades that the younger birth cohorts have experienced significantly greater economic security during their formative years than did older cohorts. Moreover, where value change has occurred, intergenerational differences are remarkably robust. The shift toward Postmaterialist values does not simply reflect current conditions; it also has a long-term component that seems to reflect the distinctive formative experiences that birth cohorts experienced as many as 40 or 50 years ago.



## CHAPTER 2

### Value Trends in Western Europe and the United States

Inglehart's value-change thesis assumes that the economic security created by advanced industrial societies gradually changes the goal orientations of mass publics. In this process, an emphasis on economic security gradually fades, and universal but often latent needs for belonging, esteem, and the realization of individual intellectual potential become increasingly prominent. Although individuals still value economic and physical security, they increasingly emphasize the need for freedom, self-expression, and improving the quality of their lives. Economic and security needs, which we term "Materialist" goals, are still valued, but they are no longer the top priority, for a growing segment of the public gives even higher priority to "Postmaterialist" goals.

Value change is gradual, however, for people who grew up during periods of scarcity tend to retain Materialist values. Those who grew up during the era of postwar prosperity gradually replace older groups who experienced substantial deprivation during their formative years. To test a theory of value change, therefore, one must have data over several decades.

To study change over time one must have *comparable* data over time. In fact, there are relatively few public-opinion variables that can be studied systematically across time. In the United States, for example, we can study presidential approval since the Eisenhower presidency and can study the party identifications of the electorate from 1952 through the present. The first systematic studies to measure Materialist/Postmaterialist values were conducted only in 1970.

Obviously, the concept of Materialism/Postmaterialism is complex and cannot be fully captured with a few questions. The most frequently used measure of this concept is based upon a choice among four goals. Respondents are asked to select what they believe their country's two top goals should be among the following four alternatives:

1. maintaining order in the nation;
2. giving the people more say in important government decisions;
3. fighting rising prices;
4. protecting freedom of speech.

Given two choices among four goals, six combinations are possible. Respondents who select “maintaining order” and “fighting rising prices” are classified as Materialists, while those who choose “giving the people more say” and “freedom of speech” are classified as Postmaterialists. The remaining four combinations—all of which are made up of one Materialist and one Postmaterialist response—are classified as “mixed.”

Since Inglehart’s value-change thesis was published in 1971, this basic values battery has been used in over 40 countries, and more than two decades of time-series evidence are now available to test his theory that there will be a gradual shift toward Postmaterialism. The surveys sponsored by the Commission of the European Communities provide the most extensive time-series data, for since 1976 all but two of the semiannual EuroBarometer surveys have included Inglehart’s basic four-item measure.

We would be in a better position to study value change if a more broadly based measure of Materialism/Postmaterialism were available in a large number of surveys. However, there is considerable evidence that the four-item battery is a valid measure. In face content, two of these items (“maintaining order” and “fighting rising prices”) appear to reflect security needs, whereas the two remaining items (“giving people more say” and “protecting freedom of speech”) seem to reflect higher-order values that go beyond concerns for security. However, tests of face validity are inherently limited. Fortunately, numerous tests of construct validity demonstrate that this measure, though simple, is valid. In the first place, the measure based on this four-item battery is strongly related to a more extensive measure based upon a choice among twelve national goals, and later in this chapter we will use this twelve-item measure. Secondly, scores on the four-choice measure strongly correlate in the hypothesized way with other political attitudes and behaviors. For example, Europeans who choose Postmaterialist values are more likely to be politically active in conventional politics as well as to approve of and engage in unconventional political protest. Postmaterialists are more likely to be concerned about the environment, to deemphasize economic growth, and to support the women’s movement and the peace movement. In addition, even though Postmaterialists are likely to have higher socioeconomic status than Materialists, they are disproportionately likely to support left-wing parties. Indeed, in all eight of the West European countries we study in this chapter, middle-class Postmaterialists are more likely to support left parties than are working-class Materialists. Moreover, panel analyses indicate that this basic measure is reliable (see Inglehart 1990; De Graaff 1988; van Deth 1989). Therefore, although we will supplement the basic values measure with the twelve-item measure, we are confident that the trends we observe with the four-item measure do reflect a basic change in values among the European public.

Materialist/Postmaterialist values have now been measured in over 40 societies. As we shall see, even though this concept was originally developed to study advanced industrial societies, there is evidence that Postmaterialist values are developing among young adults in the former state-socialist countries as well as in the Third World. Nonetheless, value change over time can be studied in systematic detail only in eight Western European societies.<sup>1</sup> Our basic data source in this chapter is a series of 36 national surveys sponsored by the Commission of the European Communities in West Germany,<sup>2</sup> Britain, The Netherlands, France, Belgium, and Italy between 1970–71 and 1993 and a series of 34 surveys sponsored by the Commission in Denmark and Ireland between 1973 and 1993.<sup>3</sup> We will also use the National Election Studies (NES) surveys conducted during U.S. presidential election years. The NES provide surveys covering two decades, but they include only six surveys.

These surveys provide clear evidence that there has been a trend toward Postmaterialism. Nonetheless, Inglehart's most basic prediction—that there is a trend toward Postmaterialist values—has remained controversial. Earlier critics (Böltken and Jagodzinski 1985; van Deth 1983a) argued that differences between the values of younger and older cohorts were simply due to life-cycle effects, rather than intergenerational change. Empirical support for this position has eroded in recent years, as it became evident that birth cohorts did *not* become more Materialist as they aged.

However, more recent critics have argued that there is no clear trend toward Postmaterialism. For example, Jacques A. Thomassen and Jan W. van Deth examine value trends in The Netherlands between 1970 and 1986, and argue that the data demonstrate “fluctuations” in values, but maintain that “no dramatic *shift* of political values has occurred” (1989, 64). “There does seem to be a decline of materialism and an increase in post-materialism since 1982,” they argue, “but it is unclear at present whether this is the dawn of the expected revolution or just a temporary fluctuation” (1989, 64). W. Phillips Shively acknowledges that there has been value change among the Western European public, but argues that Inglehart's claim that this change is generationally driven is “fundamentally flawed” (1991, 237). Harold D. Clarke and Nitish Dutt (1991) argue that there has been no significant trend toward Postmaterialism in half of the countries studied by Inglehart, and that even where there is such a trend, this movement is driven by rising levels of unemployment. If high levels of unemployment contribute to Postmaterialism, they argue, Inglehart's measure and/or theory is flawed, since he claims that security is conducive to Postmaterialism, whereas they find that economic *adversity* promotes Postmaterialist values. More recently, Raymond M. Duch and Michael A. Taylor (1993) have advanced a different critique. They acknowledge that there has been a trend toward Postmaterialism in Western Europe, but maintain that it results from current economic conditions and

from the direct effect of rising educational levels in promoting democratic values.

This chapter will examine the full distribution of values in the eight European societies that can be studied for two decades, and will show that in seven of them there has been a clear trend toward Postmaterialism. We also demonstrate that there has been a trend toward Postmaterialism in the United States.

### Value Change in Eight Western European Societies

Table 2-1 presents the distribution of value types for each of the eight European countries we study.<sup>4</sup> The table also presents a percentage difference index (PDI) computed by subtracting the percentage of Materialists from the

**TABLE 2-1. Distribution of Materialist/Postmaterialist Values in Eight Western European Societies, 1970–71 to 1993**

	Year of Survey								
	1970–71	1973	1976	1977	1978	1979	1980	1981	1982
<b>Germany</b>									
Postmaterialist	10%	8%	11%	8%	11%	11%	10%	8%	16%
Mixed	45	49	47	49	51	52	47	49	52
Materialist	45	42	41	43	38	37	43	43	31
Total percentage	100%	99%	99%	100%	100%	100%	100%	100%	99%
(N)	(3,937)	(1,953)	(891)	(1,783)	(1,841)	(948)	(1,868)	(1,753)	(2,108)
Score on index	-35	-34	-30	-35	-27	-25	-34	-35	-15
<b>Britain</b>									
Postmaterialist	7%	8%	8%	5%	8%	11%	9%	8%	14%
Mixed	57	61	55	51	58	62	55	60	64
Materialist	36	32	37	44	33	26	36	32	23
Total percentage	100%	101%	100%	100%	99%	99%	100%	100%	101%
(N)	(3,950)	(1,917)	(1,017)	(2,092)	(2,094)	(1,079)	(2,226)	(2,078)	(2,094)
Score on index	-28	-24	-29	-39	-25	-15	-26	-24	-9
<b>Netherlands</b>									
Postmaterialist	15%	13%	14%	15%	23%	19%	14%	15%	19%
Mixed	54	56	54	51	50	53	49	52	53
Materialist	31	31	32	34	27	28	37	34	29
Total percentage	100%	100%	100%	100%	100%	100%	100%	101%	101%
(N)	(3,509)	(1,406)	(1,058)	(1,891)	(1,997)	(1,047)	(2,019)	(1,918)	(2,162)
Score on index	-16	-19	-18	-19	-4	-10	-23	-19	-10
<b>France</b>									
Postmaterialist	11%	12%	12%	11%	16%	15%	11%	10%	14%
Mixed	49	53	47	48	52	49	46	47	50
Materialist	41	35	41	41	32	36	43	43	37
Total percentage	101%	100%	100%	100%	100%	100%	100%	100%	101%
(N)	(4,059)	(2,144)	(1,302)	(2,173)	(2,057)	(937)	(1,878)	(1,909)	(2,075)
Score on index	-30	-22	-28	-30	-16	-21	-33	-33	-22

percentage of Postmaterialists, yielding a measure that is equivalent to a mean score.<sup>5</sup> This measure ranges from a low of -100 to a high of 100, with a score of 0 indicating an equal number of Materialists and Postmaterialists. Given the gradual impact of generational replacement, replacement alone should contribute to about a one point gain per year on our values index.

The pattern of change over the past two decades results from a variety of factors, although, as we shall see, the main long-term factor pushing Postmaterialism upward is generational replacement. However, replacement is not the only force driving value change. Some of the year-to-year fluctuations in table 2-1 result from sampling error. Even for probability samples of this size, a four percentage point difference between two samples would be necessary to be reasonably confident (at the .95 level) that the difference did not result from sampling error, and given that most of these samples employ quota

Year of Survey

1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
19%	19%	21%	21%	25%	25%	22%	20%	17%	14%	12%
54	58	55	62	57	57	62	59	59	57	59
27	22	24	17	18	18	16	20	24	29	28
100%	99%	100%	100%	100%	100%	100%	99%	100%	100%	99%
(1,875)	(1,782)	(1,853)	(1,896)	(1,844)	(1,919)	(2,119)	(2,014)	(2,030)	(2,010)	(1,000)
-8	-3	-3	4	7	7	5	0	-7	-15	-16
12%	17%	14%	14%	17%	20%	21%	15%	17%	17%	15%
61	59	59	63	63	60	61	56	61	60	64
26	24	26	23	20	21	19	30	22	23	21
99%	100%	99%	100%	100%	101%	101%	101%	100%	100%	100%
(1,931)	(2,057)	(2,079)	(1,991)	(1,908)	(1,954)	(1,885)	(1,955)	(2,096)	(2,022)	(1,000)
-14	-7	-12	-9	-3	-1	2	-15	-6	-6	-6
21%	19%	24%	23%	24%	25%	29%	23%	27%	25%	22%
57	56	58	60	58	59	57	60	58	60	64
22	25	18	18	18	16	14	17	15	15	14
100%	100%	100%	101%	100%	100%	100%	100%	100%	100%	100%
(1,994)	(1,969)	(1,970)	(1,945)	(1,909)	(1,874)	(1,930)	(1,283)	(2,030)	(1,948)	(1,000)
-2	-6	6	5	6	10	15	6	12	10	7
12%	12%	12%	11%	15%	17%	19%	16%	18%	19%	20%
50	51	53	53	53	54	55	54	53	54	53
37	37	35	36	32	29	25	30	29	27	27
99%	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%
(1,943)	(1,936)	(1,953)	(1,923)	(1,898)	(1,956)	(1,986)	(1,934)	(1,918)	(1,940)	(1,000)
-25	-26	-23	-25	-17	-12	-6	-14	-10	-8	-8

(continued)

**TABLE 2-1—Continued**

	Year of Survey								
	1970-71	1973	1976	1977	1978	1979	1980	1981	1982
<b>Belgium</b>									
Postmaterialist	14%	14%	14%	10%	12%	14%	10%	9%	11%
Mixed	54	61	56	57	57	52	53	53	50
Materialist	32	25	30	33	31	33	36	38	39
Total percentage	100%	100%	100%	100%	100%	99%	99%	100%	100%
(N)	(2,650)	(1,245)	(1,012)	(1,783)	(1,835)	(869)	(1,791)	(1,713)	(2,048)
Score on index	-18	-11	-16	-22	-19	-19	-26	-28	-29
<b>Italy</b>									
Postmaterialist	11%	9%	11%	9%	10%	10%	5%	6%	8%
Mixed	49	52	48	44	46	43	40	41	48
Materialist	40	40	41	47	43	47	55	54	44
Total percentage	100%	101%	100%	100%	99%	100	100%	101%	100%
(N)	(3,823)	(1,899)	(1,024)	(2,101)	(2,123)	(1,130)	(2,157)	(2,193)	(2,240)
Score on index	-29	-31	-30	-38	-33	-37	-50	-48	-36
<b>Denmark</b>									
Postmaterialist		7%	10%	10%	12%	10%	9%	11%	14%
Mixed		52	53	49	54	52	51	56	60
Materialist		41	37	41	34	39	40	33	26
Total percentage		100%	100%	100%	100%	101%	100%	100%	100%
(N)		(1,189)	(907)	(1,893)	(1,863)	(943)	(1,900)	(1,868)	(2,071)
Score on index		-35	-28	-31	-22	-29	-31	-21	-12
<b>Ireland</b>									
Postmaterialist		8%	6%	6%	6%	6%	5%	4%	8%
Mixed		57	47	49	52	58	53	51	52
Materialist		35	47	46	42	37	42	44	40
Total percentage		100%	100%	101%	100%	101%	100%	99%	100%
(N)		(1,198)	(963)	(1,952)	(1,954)	(990)	(1,977)	(1,934)	(2,148)
Score on index		-28	-41	-40	-35	-31	-38	-40	-31

Source: European Community Surveys.

Note: Based on the four-item values index. A weighting factor is used in the analysis. However, the number of cases in parentheses is the actual number of respondents who received a score on the values index. The values score is the percentage of Postmaterialists minus the percentage of Materialists.

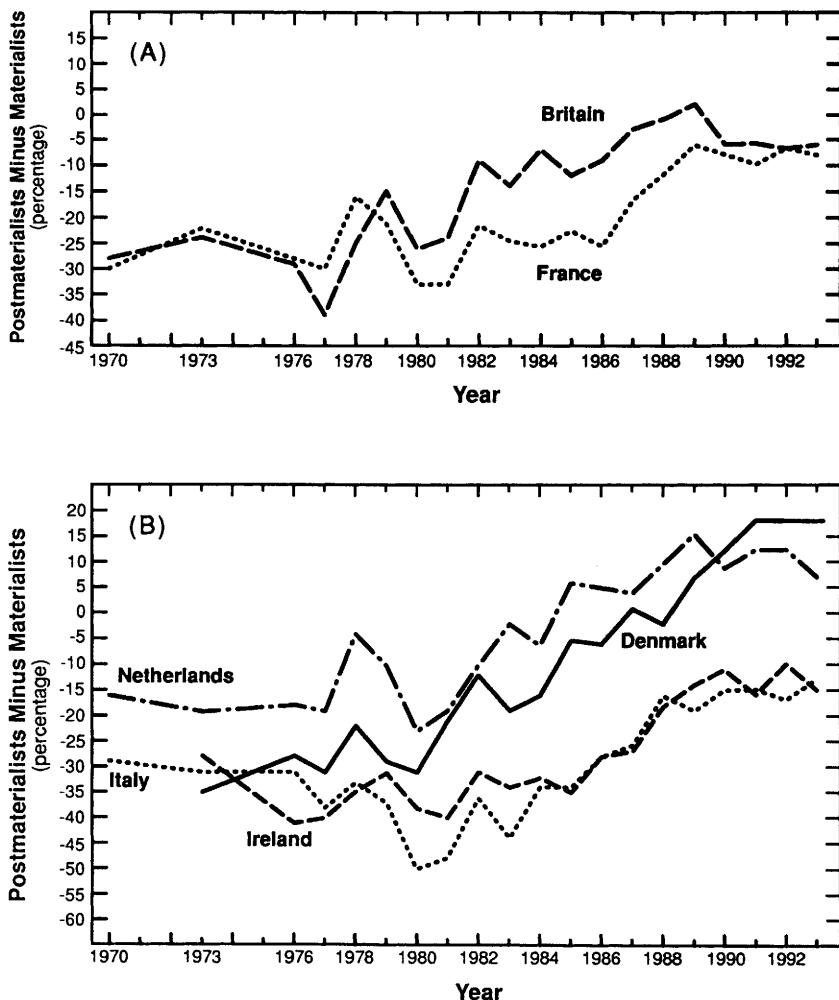
procedures, an even larger difference would be necessary. It is highly unlikely that these year-to-year changes result only from sampling error, since, as we shall see in chapter 3, changes in responses to these items are strongly related to changes in the consumer price index. Even though respondents are asked to choose long-term national goals, they are more likely to select “fighting rising prices” when inflation rates are high.

Despite short-term fluctuations, table 2-1 reveals a clear trend toward Postmaterialism in seven of these eight Western European societies. Between the early 1970s and 1993, the percentage of Postmaterialists tripled in Denmark, doubled in Britain and France, and had increased by 50 percent in The Netherlands and Ireland. In Germany, the percentage of Postmaterial-

Year of Survey										
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
8%	10%	10%	12%	15%	14%	17%	17%	18%	16%	14%
47	52	48	47	50	55	55	54	54	53	58
45	38	42	41	35	31	28	29	29	31	27
100%	100%	100%	100%	100%	100%	100%	100%	101%	100%	99%
(1,925)	(1,960)	(1,914)	(1,902)	(1,865)	(1,866)	(1,827)	(1,843)	(1,935)	(1,924)	(1,000)
-36	-28	-33	-28	-19	-16	-12	-12	-11	-15	-13
6%	9%	8%	10%	10%	14%	13%	11%	12%	11%	10%
45	49	49	53	56	57	56	61	60	62	66
50	43	43	37	34	29	31	28	28	28	23
101%	101%	100%	100%	100%	100%	100%	100%	100%	100%	99%
(2,013)	(2,098)	(2,102)	(2,133)	(1,982)	(2,024)	(1,979)	(2,015)	(2,009)	(2,025)	(1,000)
-44	-34	-34	-28	-24	-16	-19	-18	-17	-17	-13
11%	14%	18%	16%	20%	17%	23%	26%	28%	28%	25%
59	56	59	62	61	63	61	61	63	65	67
30	30	23	22	19	20	16	13	9	8	7
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%
(1,922)	(1,873)	(1,898)	(1,929)	(1,868)	(1,934)	(1,934)	(1,917)	(1,219)	(1,934)	(1,000)
-19	-16	-5	-6	1	-2	7	12	18	20	18
7%	7%	6%	8%	8%	9%	13%	18%	12%	14%	12%
52	54	53	55	57	63	61	56	59	60	60
41	39	41	37	35	27	26	26	29	25	28
100%	100%	100%	100%	100%	99%	100%	100%	100%	99%	100%
(1,952)	(1,978)	(1,970)	(1,962)	(1,941)	(1,966)	(1,961)	(1,944)	(1,959)	(2,009)	(1,000)
-34	-32	-35	-28	-27	-18	-14	-8	-16	-11	-15

ists doubled between 1970–71 and 1990, but declined during the next three years. Even with the recent decline, there has been an increase in the proportion of Postmaterialists. Only Belgium and Italy fail to show a clear increase in the percentage of Postmaterialists between 1970–71 and the early 1990s. In every country except Belgium there has been a substantial decline in the percentage of Materialists. The decline is greatest in Denmark, where there were only one-sixth as many Materialists in 1993 as there were in 1973, but the decline is also substantial in The Netherlands, where there were only half as many Materialists in 1993 as in 1970–71. In every country except Belgium, there has been a substantial shift in the ratio of Materialists to Postmaterialists. The shift is greatest in The Netherlands and Denmark. In both countries, Material-

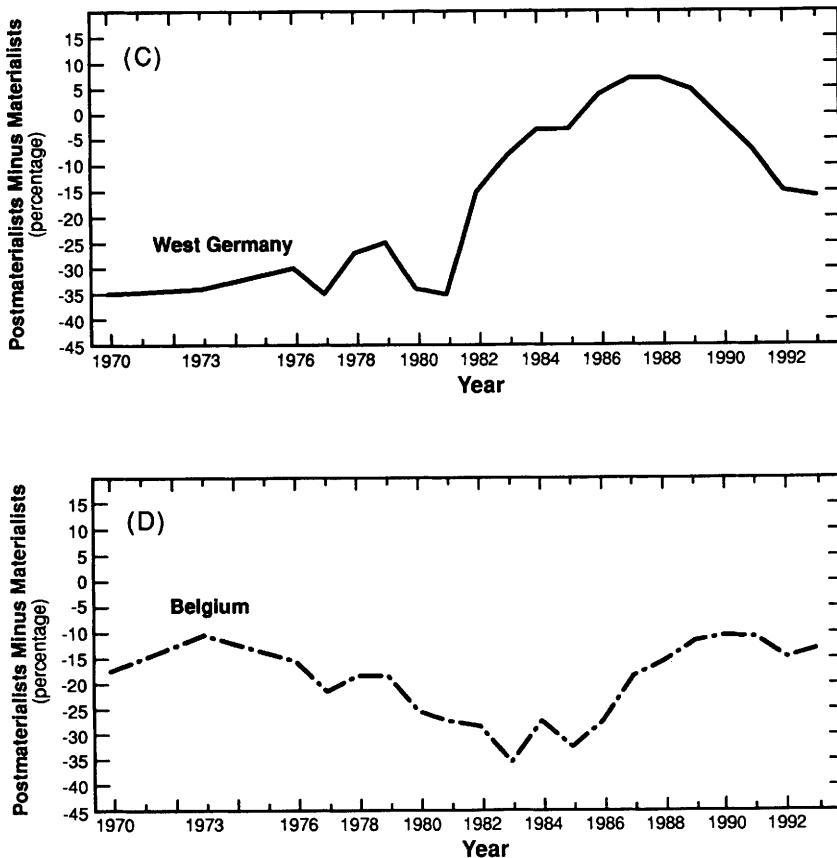
ists clearly outnumbered Postmaterialists in the early 1970s; by the early 1990s there were more Postmaterialists than Materialists in both countries. In Britain there were five Materialists for every Postmaterialist in 1970–71 and in France Materialists outnumbered Postmaterialists by a margin of four to one. In 1993, Materialists still outnumbered Postmaterialists in both countries, but by a margin of only about three to two. In Ireland, there were over



**Fig. 2-1. Percentage of Postmaterialists minus percentage of Materialists in eight Western European societies. Based upon the four-item values index. For the numbers upon which these results are based, see table 2-1. (Data from European Community Surveys.)**

four Materialists for every Postmaterialist in 1973, but the margin was only about two to one in 1993. In Italy, Materialists outnumbered Postmaterialists by four to one in 1970, but by only about two to one in 1993. In Germany, there were over four Materialists for every Postmaterialist in 1970, and by 1990 there were an equal number of Materialists and Postmaterialists; even with the shift toward Materialism in the early 1990s, the ratio of Materialists to Postmaterialists was about two to one, less than half as great as it was 23 years earlier. Even in Belgium, the ratio of Materialists to Postmaterialists was somewhat smaller in 1993 than in 1970.

These changes are reflected in our summary measure of values, the percentage difference index (PDI). The results are presented in table 2-1, and they are presented graphically in figure 2-1. There has been a clear trend toward Postmaterialism in seven of these eight European societies. However,



these figures also demonstrate that there have been short-term fluctuations in values, and these fluctuations result mainly from short-term changes in economic conditions.

Figure 2-1a presents the results for Britain and France. Both countries show an overall trend toward a rising proportion of Postmaterialists, but here (as elsewhere), this trend is punctuated by dips toward Materialism that reflect the recessions of the mid-1970s and early 1980s. There is also a downward fluctuation at the end of the series, reflecting the current global recession. This effect is noticeably more pronounced in Britain, where the latest recession has been more severe than in France. For Britain, the shift toward Postmaterialism reached its peak in 1989, when the inflation rate was 7.8 percent annually and unemployment was 7.0 percent. By 1992, these figures had risen to 10.4 percent and 10.3 percent, respectively. In France, Postmaterialism also peaked in 1989, but the decline since then has been less pronounced. In France, unemployment rose only slightly (from 9.4 percent in 1989 to 9.9 percent in 1992), while inflation was at 3.7 percent in both years. Even though both inflation and unemployment were higher at the end of the series than at the beginning, there was a substantial overall trend toward Postmaterialist values.

Figure 2-1b presents the results for four more countries, two of which had even stronger shifts from Materialist to Postmaterialist values than we found in Britain or France. The Netherlands, Denmark, Ireland, and Italy all show downward fluctuations linked with the global recessions of the mid-1970s and early 1980s, plus a leveling off or downward movement linked with the latest recession at the end of the time series, but all four show a clear trend from Materialist to Postmaterialist values.

Although the West German data (see figure 2-1c) show the same overall trend toward Postmaterialism as the first six countries, they manifest a much larger downward shift between 1988 and 1993. After the Wall came down in 1989, and after unification in 1990, West Germany absorbed East Germany, a society with a political system that had collapsed and an economy in free-fall. East Germany's problems became West Germany's problems, with huge sums being transferred from the West to help reconstruct Eastern Germany. Inflation rose from 1.3 percent in 1988 to 4.0 percent in 1992 and though unemployment remains fairly low in the West, it has risen to appalling levels in the East (with some estimates placing it at 30 percent). In addition, following the collapse of the socialist regimes in Eastern Europe, hundreds of thousands of political and economic refugees fled to Germany, leading to a pervasive sense of insecurity and severe xenophobia, linked with attacks on foreigners. Despite the severity of recent conditions, West Germany nevertheless shows a long-term shift from Materialist to Postmaterialist values over the past two decades.

Belgium is the only remaining country for which we have detailed survey data with numerous measures over a long span of years. As figure 2-1d reveals, the Belgian data reveal no clear trend toward Postmaterialist values. At the end of the time series in 1993, Postmaterialism among the Belgian public was only five points higher than it was in our 1970–71 baseline surveys.

### Value Change in the United States

Values can be studied for a full two decades in the United States, because NES surveys have consistently included the four-item values battery in the post-election interview administered after each presidential election from 1972 through 1992. Unfortunately, there are only six such surveys, precluding the detailed analyses that are possible with the eight Western European societies. In table 2-2 we present the distribution of values over this 20-year period, as well as the PDI scores for each survey.

As table 2-2 reveals, there has been a gradual increase in the percentage of Postmaterialists, so that the percentage doubled over the course of these two decades. During these years the percentage of Materialists was reduced by over one half. As a result of this value shift, there was a dramatic shift in the proportion of Materialists to Postmaterialists. In 1972, Materialists outnumbered Postmaterialists by a ratio of four to one. By 1992, there were slightly more Postmaterialists than Materialists.

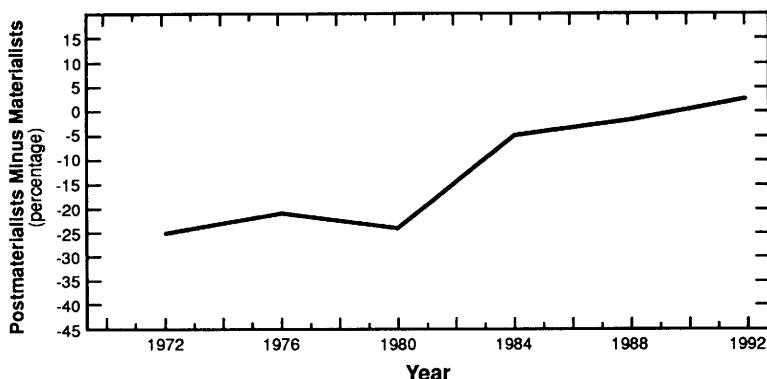
These changes are clearly reflected in the PDI, which we have also presented in figure 2-2. The figure shows a nearly continuous increase in Postmaterialist values, with one exception. In 1980, with the annual inflation

**TABLE 2-2. Distribution of Materialist/Postmaterialist Values in the United States, 1972 through 1992**

	Year of Survey					
	1972	1976	1980	1984	1988	1992
Postmaterialist	9%	10%	10%	16%	17%	18%
Mixed	55	59	56	63	64	65
Materialist	35	31	34	21	19	16
Total percentage	99%	100%	100%	100%	100%	99%
(N)	(1,039)	(1,822)	(1,364)	(930)	(1,717)	(2,187)
Score on index	-26	-21	-25	-5	-1	2

*Source:* National Election Studies.

*Note:* Based on the four-item values index. Weighted Ns are used for 1976 and 1992. However, the number of cases in parentheses is the actual number of respondents who received a score on the values index. The values score is the percentage of Postmaterialists minus the percentage of Materialists.



**Fig. 2-2. Percentage of Postmaterialists minus percentage of Materialists in the United States. Based upon the four-item values index. For the numbers upon which these results are based, see table 2-2. (Data from U.S. National Election Studies.)**

rate at 12.4 percent, there was a slight dip in the PDI score. The figure illustrates the clear preponderance of Materialists to Postmaterialists in 1972, and the positive PDI score in 1992 illustrates that there were more Postmaterialists than Materialists. Like Western Europe, the United States also suffered from the worldwide recession of the early 1990s, but in the United States inflation remained low. In 1992, 23 percent of the American electorate viewed unemployment or recession as the most important national problem, the highest proportion since 1976; less than one percent viewed inflation as the major problem facing the country. (See Abramson, Aldrich, and Rohde 1994).

**TABLE 2-3. Distribution of Materialist/Postmaterialist Values in Six Western European Publics, 1970-71 to 1993**

	Year of Survey								
	1970-71	1973	1976	1977	1978	1979	1980	1981	1982
Postmaterialist	11%	10%	11%	9%	12%	12%	9%	8%	13%
Mixed	50	54	50	49	52	52	47	50	53
Materialist	40	36	39	43	36	36	44	42	33
Total percentage (N)	101% (21,928)	100% (10,564)	100% (6,304)	101% (11,823)	100% (11,947)	100% (6,010)	100% (11,939)	100% (11,564)	99% (12,727)
Socre on index	-29	-27	-28	-34	-24	-24	-35	-34	-20

*Source:* European Community Surveys. We used combined national samples of Germany, Britain, The Netherlands, France, Belgium, and Italy.

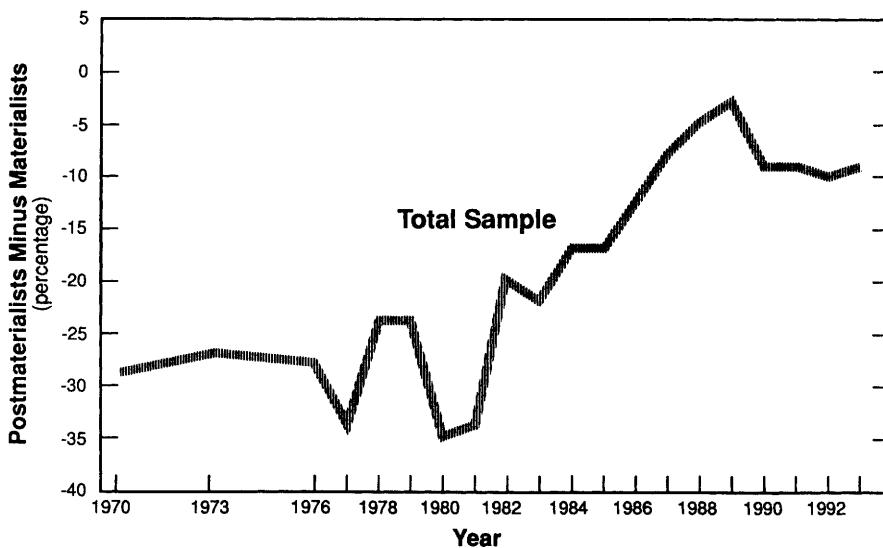
### Value Change for a Combined Sample of Six Western European Publics

The results for Germany, Britain, The Netherlands, France, Belgium, and Italy can be combined into a single sample by weighting the national samples according to their population. This combined sample yields a massive  $N$  and therefore produces large subsamples for each birth cohort that can be tracked over the course of the 22 years from 1970–71 through 1992.<sup>6</sup> For most years we have over 10,000 cases. With this massive  $N$ , sampling error is greatly reduced, and differences of even three percentage points are generally reliable. Most of our estimates for birth cohorts are based upon over 1,000 cases, and even the smallest cohorts contain over 600 cases. We have employed this weighted sampling technique in several previous analyses (Abramson and Inglehart 1987, 1992; Inglehart 1985, 1990), and will use it in this book.

Table 2-3 presents the distribution of values using this combined sample, as well as our summary measure. As the table shows, the percentage of Postmaterialists doubled between the early 1970s and the late 1980s; the percentage of Postmaterialists fell during the recession of the early 1990s, but there is still a four point gain in the percentage of Postmaterialists between 1970–71 and 1993. The percentage of Materialists was cut almost in half between 1970–71 and 1989, although it has risen somewhat in the early 1990s. Still, there was a fifteen-point decline in the percentage of Materialists between 1970–71 and 1993. As a result of these changes, the ratio of Materialists to Postmaterialists has shifted dramatically, despite the recent movement toward Materialism. In 1970–71 Materialists outnumbered Postmaterialists by a margin of four to one; in 1993, Materialists still outnumbered Postmaterialists, but the margin had fallen to less than two to one.

Year of Survey										
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
13%	14%	14%	14%	17%	19%	19%	17%	17%	16%	15%
53	54	54	58	57	57	58	57	58	58	61
35	31	32	28	26	24	22	26	25	26	25
101%	99%	100%	100%	100%	100%	99%	100%	100%	100%	101%
(11,681)	(11,802)	(11,871)	(11,790)	(11,406)	(11,593)	(11,726)	(11,044)	(11,979)	(11,869)	(6,000)
-22	-17	-17	-13	-8	-5	-3	-9	-9	-10	-10

*Note:* Based on the four-item values index. A weighting factor is used in the analysis. However, the number of cases in parentheses is the actual number of respondents who received a score on the values index. The values score is the percentage of Postmaterialists minus the percentage of Materialists.



**Fig. 2-3. Percentage of Postmaterialists minus percentage of Materialists in combined sample of six Western European societies. Based upon the four-item values index. For the numbers upon which these results are based, see table 2-3. (Data from European Community Surveys.)**

The PDI scores are reported in table 2-3, and they are graphically presented in figure 2-3. These results show sizable short-term fluctuations, and as we will demonstrate in chapter 3, these fluctuations are very largely due to changes in the rate of inflation. Despite these short-term changes, there is a clear shift toward Postmaterialism. Moreover, this shift is on the order of magnitude predicted by Inglehart's thesis. As noted above, Inglehart's thesis predicts that generational replacement will cause an annual rise of about one point in the Percentage Difference Index. During the 23 years between 1970 and 1993, the overall values index increased nineteen points.

#### **Value Change on the Twelve-Item Index**

In addition to the widely used four-item values index, Inglehart has also developed a twelve-item index that provides a more reliable and valid indicator of values. Unfortunately, this twelve-item measure is several times as expensive to administer as the four-item index, and, consequently, has seldom been used in the EuroBarometer surveys. The twelve-item index includes the four-item battery reported earlier in this chapter, along with the following two sets of choices:

In the first set, respondents are asked to choose their top two goals among:

1. maintaining a high rate of economic growth;
2. making sure that this country has strong defense forces;
3. seeing that people have more say in how things are decided at work and in their communities;
4. trying to make our cities and countryside more beautiful.

In this first set, maintaining economic growth and providing strong defense forces were designed to tap Materialist values; giving the people more say and making cities beautiful were designed to tap Postmaterialist values.<sup>7</sup>

In the second set, they are asked to choose their top two goals among:

1. maintain a stable economy;
2. progress toward a less impersonal society, more humane society;
3. the fight against crime;
4. progress toward a society where ideas are more important than money.

In this second set, maintaining a stable economy and fighting crime were designed to measure Materialist values; a more humane society and having ideas count more than money were designed to measure Postmaterialist values.

As Inglehart (1977, 1990) has demonstrated, this twelve-choice measure is more reliable and valid than the more widely used measure based upon a choice of four goals, and it is less sensitive to the short-term impact of changing inflation rates. This twelve-choice measure was used in all eight Western European societies in a 1973 European Community Survey, and all of these societies were included in the 1990–91 World Values Survey in which this twelve-choice measure was used.

We can observe the shift in values using the twelve-item measure in table 2-4, which presents the percentage scoring high on the measure.<sup>8</sup> The data reveal a shift toward Postmaterialism in all eight countries, although the shift in Belgium is relatively modest. Across the eight countries for which we have data covering this 17-year period, the percentage scoring high on the Materialist/Postmaterialist value index rose from 41 percent in 1973 to 54 percent in 1990. As Inglehart (1990) has shown, in the 1973 European Community Survey, younger Europeans were more likely to score as Postmaterialists on this measure than older Europeans were. As we will see in chapter 8, younger Europeans were more likely to score as Postmaterialists than their elders in 1990. Although we do not have observations at enough points in time for a

**TABLE 2-4. The Shift toward Postmaterialist Values: Results from the 12-Item Values Index in 1973 and 1990 (percentage scoring high)**

	Year of Survey		
	1973	1990	Shift
Germany	25	53	+28
Britain	38	50	+12
The Netherlands	53	69	+16
France	50	58	+8
Belgium	51	55	+4
Italy	34	52	+18
Denmark	35	51	+16
Ireland	38	46	+8

*Source:* 1973 European Community Survey and the 1990–91 World Values Survey.

*Note:* This index is constructed by summing the scores from choosing the five Postmaterialist goals, when a score of +2 is assigned if the given item is ranked highest in its group of four items, and a score of +1 is assigned if it is ranked second highest in its group. For the two groups of options with two Postmaterialist goals, respondents can score between 0 and +3. For the remaining group, they can score between 0 and +2. Scores on the index range from 0 to +8. Scores of +4 or more are classified as high.

detailed analysis of the dynamics of value change, the trend toward Postmaterialism also emerges when the more reliable twelve-item measure is used.

### Conclusions

If generational replacement were the only factor driving value change, there would be a gradual progression toward Postmaterialist values that would vary only as a function of changing birth rates and death rates, with short-term declines resulting solely from sampling error. However, for all eight Western European societies short-term fluctuations are clearly greater than those that would be produced by sampling error. Moreover, as our discussion indicates, these fluctuations are not random, but result from changing economic conditions.

In the following chapter we will more closely examine the dynamics of short-term value change. As we shall see, the major factor driving short-term change is changing rates of inflation. In addition, as we shall also see, the claim that high levels of unemployment contribute to *Postmaterialist* values cannot be supported by a careful time-series analysis.

## CHAPTER 3

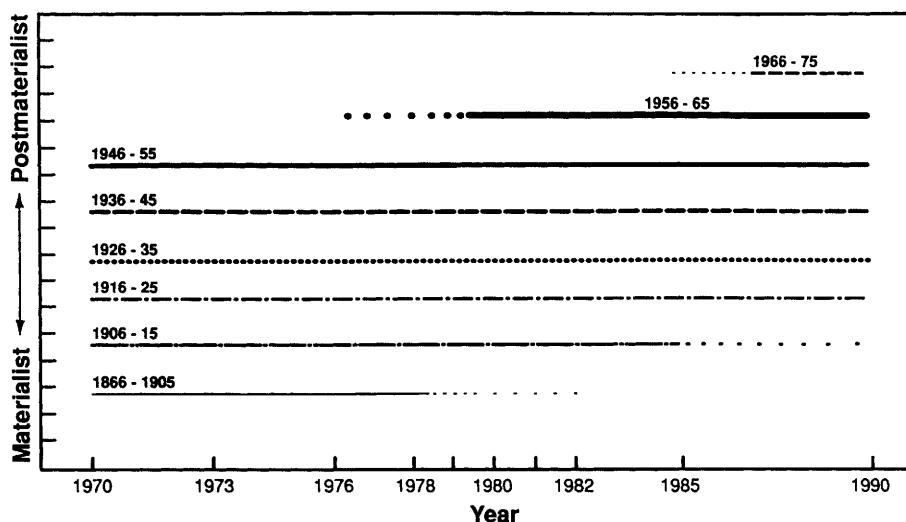
### **Short-Term Value Change in Western Europe**

Inglehart's theory predicts both short- and long-term changes in values. He advances two hypotheses that account for variation in Materialist/Postmaterialist values: (1) a scarcity hypothesis stating that "an individual's priorities reflect one's socioeconomic environment" and (2) a "socialization" hypothesis that postulates "to a large extent, one's basic values reflect the conditions that prevailed during one's preadult years" (Inglehart 1985, 103). As Inglehart (1985, 103) writes, "The scarcity hypothesis implies short-term changes, or period effects: periods of prosperity lead to increased postmaterialism, and periods of scarcity lead to materialism. The socialization hypothesis implies that long-term cohort effects *also* exist." As we saw in chapter 2, short-term changes in value priorities clearly do occur.

In their critique of Inglehart's thesis, Harold D. Clarke and Nitish Dutt argue that although "Inglehart advances a *scarcity hypothesis*, which acknowledges the presence of period effects, he argues that these effects are minor" (1991, 905). In fact, Inglehart never argues that short-term period effects are minor. He argues that they can be either large or small, depending upon social, economic, and political conditions. During the traumatic recessions of the mid-1970s and early 1980s, these effects were substantial. Inglehart (1985) concludes that between 1970 and 1982 period effects and cohort effects were of roughly the same magnitude, with period effects actually outweighing cohort effects.

#### **Short-Term and Long-Term Value Change**

On the surface, it may seem plausible to argue that stable cohort differences cannot be present if responses fluctuate with current economic circumstances. However, a closer examination reveals that robust and enduring cohort differences can be accompanied by substantial short-term period effects. To illustrate this point, let us compare figure 3-1 and 3-2. Figure 3-1 depicts a hypothetical cohort analysis conducted between 1970 and 1990 in which cohort effects *alone* are present: the younger birth cohorts are less Materialist than older ones, and all cohorts maintain their values with no short-term fluctuations. By 1990, the two oldest cohorts have largely disappeared, and



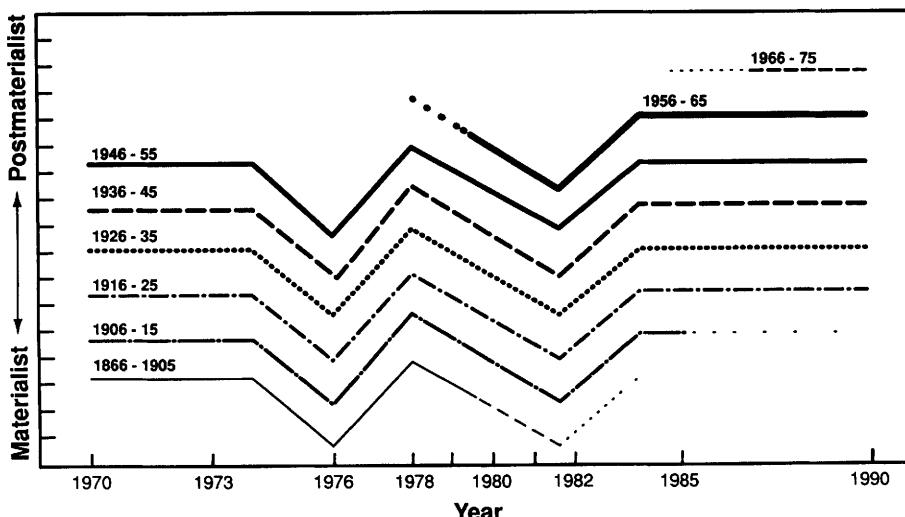
**Fig. 3-1. Hypothetical cohort analysis with cohort effects only. (Based on Inglehart 1990, fig. 2-2, 80.)**

they have been replaced by two younger cohorts. There is a net shift from Materialist to Postmaterialist values, and this shift results solely from intergenerational population replacement.

Although this model is simple and parsimonious, it is highly implausible. It assumes that by the time individuals reach adulthood, they attain a robotlike rigidity and no longer respond to current economic and social conditions. Not surprisingly, although many analysts have tracked birth cohorts across time, we know of no empirical example concerning any attitudinal variable that fits this simple model.

Figure 3-2 depicts another hypothetical cohort analysis. In this case, period effects are superimposed on stable birth cohort differences. Although there are substantial fluctuations in response to short-term forces, the cohort differences are exactly as large and enduring as those found in figure 3-1. Consequently, population replacement produces exactly the same amount of long-term value change as we find with figure 3-1.

That long-term change can occur despite short-term variation has been demonstrated repeatedly in the literature on cohort analysis, but this point is still often misunderstood. Such a misunderstanding leads Clarke and Dutt to claim to have refuted Inglehart's theory by demonstrating that the empirical data do not fit the model presented in figure 3-1. In fact, stable cohort differences, producing long-term intergenerational changes, are perfectly compatible with substantial short-term variation.



**Fig. 3-2. Hypothetical cohort analysis with period effects superimposed on cohort effects. (Based on Inglehart 1990, fig. 2-3, 81.)**

Inglehart's theory of Materialist/Postmaterialist value change generates several predictions. It predicts that population replacement will gradually lead to a long-term shift from Materialist to Postmaterialist values. It can not only be used to predict the direction of future change, but also to predict the magnitude of the change that one would expect if generational replacement were the only factor contributing to value change (see Abramson and Inglehart 1987, 1992; Inglehart 1990).

Although its cumulative effect can be substantial, population replacement produces only small changes in values from one year to the next. If one uses Inglehart's summary measure of values (an index based on subtracting the percentage of Materialists from the percentage of Postmaterialists), replacement should produce an average annual increase of only about one point on the four-item PDI. Given the small size of these predicted effects, short-term forces (or sampling error) can easily swamp the effects of population turnover.

For this reason it is important to analyze as long a time series as possible. Jacques A. Thomassen and Jan W. van Deth (1989) analyze Dutch data only from 1970 to 1986, while Clarke and Dutt (1991) analyze only the years from 1976 to 1986. Thomassen and van Deth argue that there was no clear trend toward Postmaterialism in The Netherlands. Clarke and Dutt argue that there was no trend toward Postmaterialism in Belgium, France, and Italy, and that the trend toward Postmaterialism was not statistically significant in Ireland. In

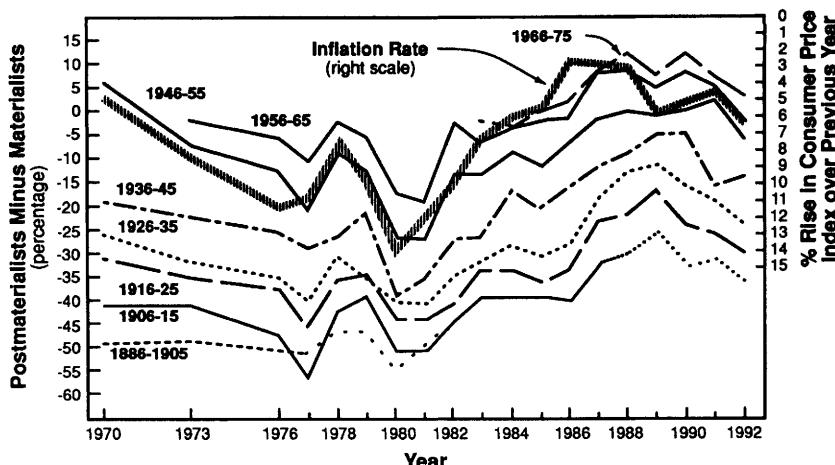
chapter 2, we analyzed all of the surveys conducted between 1970–71 and the spring of 1993, the full period for which data are available. Analysis of the full time series reveals a clear trend toward Postmaterialism in seven of the eight European societies we studied, and also in the United States. In addition, as we will show in this chapter, when we control for the effects of inflation and unemployment there is a statistically significant trend toward Postmaterialism in all eight Western European societies.<sup>1</sup>

### The Short-Term Effects of Inflation

Although there is a clear trend toward Postmaterialism in Germany, Britain, The Netherlands, France, Italy, Denmark, and Ireland, in none of them was there a simple linear progression toward higher levels of Postmaterialism. Short-term period effects are present. Inglehart's theory predicts that economic and physical insecurity will tend to depress the proportion of Postmaterialists and that relatively secure conditions will be conducive to increases in Postmaterialism. The four-choice value battery includes one choice that makes the measure sensitive to changing rates of inflation, since one of the four proposed national goals is "fighting rising prices" (see chapter 2). Indeed, Inglehart demonstrates that much of the short-term variation in values results from changing levels of inflation. Using just two variables: (1) cohort effects and (2) period effects (as measured by change in the Consumer Price Index), he explained 87 percent of the cohort-level variation in value priorities between 1970–71 and 1982 in a combined sample of six Western European publics (Inglehart 1985). We can now examine cohort change over a much longer period.

Figure 3-3 presents the results of a cohort analysis of the pooled results from Germany, Britain, The Netherlands, France, Belgium, and Italy, with the current rate of inflation superimposed.<sup>2</sup> We show the results for the eight birth cohorts that can be tracked over this period. Since Inglehart's theory predicts that Postmaterialist values will rise when inflation falls, the inflation index runs from low rates at the top of the graph to high rates at the bottom. This makes it easy to see that (as predicted) inflation and Postmaterialist values move up and down together, bearing in mind that a *downward* movement of the inflation line indicates *rising* levels of inflation.

Substantial period effects occur during these years, as even a cursory glance at figure 3-3 suggests. Although the long-term tendency is for each cohort to remain about as Materialist or Postmaterialist as it was when it was first sampled, we find three pronounced dips in the proportion of Postmaterialists; they correspond to the recessions of the mid-1970s, the early 1980s, and the early 1990s. As predicted, period effects are closely linked with the



**Fig. 3-3. Cohort analysis of value change with inflation rates superimposed, 1970–71 through 1992 (percentage of Postmaterialists minus percentage of Materialists in combined sample of six Western European societies). Based on the four-item values index. Inflation rates are displayed on an inverted scale. (Data about values are based upon a combined weighted sample of European Community surveys in West Germany, Britain, The Netherlands, France, Belgium, and Italy. Data about inflation are from the Statistical Office of the European Communities.)**

inflation level at a given time. At most time points, the PDI for each cohort moves up or down with the current rate of inflation. When we control for the effects of inflation, the period effects largely disappear. But statistical controls are not needed in the present example. As it happens, by 1990 the weighted mean inflation rate for these six countries had returned to almost exactly the same level that it had been in 1970. Thus, when we compare the 1970–71 results with the 1990 results, the main source of short-term period effects, inflation, has been controlled for by nature. With inflation rates controlled, note that the PDI for these six countries rose from –29 in 1970–71 to –9 in 1990, a net gain of 20 points. In other words, over this 20-year period the balance between Materialists and Postmaterialists shifted by one point per year, which is extremely close to the gain that would take place from the intergenerational replacement process alone. In any given year, current period effects will add to or subtract from this amount, but this is the long-term trend. Short-term changes also exist, and they result largely from changes in inflation, in keeping with Inglehart's scarcity thesis. Moreover, as we will see later in this chapter, in seven of these eight countries, short-term change results mainly from changing inflation rates.

### The Short-Term Effects of Unemployment

Clarke and Dutt (1991) propose an alternative source of short-term variation that is not consistent with the scarcity thesis. They argue that, contrary to what one might expect, rising levels of unemployment are conducive to Postmaterialist values. They argue that this happens because respondents cannot choose fighting unemployment as a goal, so when unemployment rises they tend to choose the option of “Giving the people more say in important government decisions,” to express their concern about unemployment.

Such a relationship, if it exists at all, is far less straightforward than the linkage between high levels of inflation and emphasizing the goal of fighting rising prices. If high levels of unemployment *do* in fact contribute to Postmaterialism, this relationship should be found at the individual level. Clarke and Dutt present some evidence from the 1980–81 wave of a panel conducted in West Germany, The Netherlands, and the United States that, they claim, demonstrates this linkage. This survey includes a question about jobs, but it is ambiguous. Respondents are asked, “Which of the following problems do you consider most important?” Immediately after the item, “Guaranteeing equal rights for men and women,” the next choice is “Seeing to it that everyone who wants a job can have one.” This item could tap the respondent’s *own* anxiety about becoming unemployed, or it could tap concern for fair employment practices for *everyone*, since it explicitly refers to jobs for “everyone who wants one” and appears immediately after an item about “equal rights for men and women.” This ambiguous item proves to be weakly related to Postmaterialist values. Among those who make it their main concern, 15 percent are Postmaterialists on the twelve-choice value index; among the entire 1980–81 cross-sectional sample as a whole, 12 percent are Postmaterialists.

Although this item yields weak and ambiguous results, there is considerable evidence demonstrating the opposite relationship—that at the individual level, concern about unemployment is conducive to *Materialist* values, rather than to Postmaterialist values. Let us briefly review the evidence.

In developing the original measure of Materialist/Postmaterialist values in 1970, Inglehart actually *did* experiment with an item that taps concerns about unemployment. He employed a four-choice battery that included the following choices:

“I will now propose a number of concrete objectives. Among the following things, which are the two that seem most desirable to you?

1. Guarantee greater job security.
2. Make our society more humane.
3. Raise salaries.

4. Guarantee the participation of workers in the management of enterprises."

This measure was employed in five countries, in addition to the now standard four-item values battery. Table 3-1 shows the percentage of Postmaterialists among respondents according to their choice among these four objectives. As the table demonstrates, respondents who emphasized job security are consistently *less* likely than the overall public to be Postmaterialists, which is what Inglehart's theory implies.

The 1973 European Community survey provides further individual-level evidence that contradicts the claim that concern for unemployment contributes to Postmaterialism. Respondents in eight countries were asked the following question:

"Here are some things that people usually take into account in relation to their work. Which one would you personally place first? . . . and which next?"

1. A good salary so that you do not have any worries about money.
2. A safe job with no risk of closing down or unemployment.
3. Working with people you like.
4. Doing an important job which gives you a feeling of accomplishment."

Unlike both the 1970 question and the 1980-81 question, which could be read as tapping a sociotropic concern to provide greater job security or fair

**TABLE 3-1. Percentage of Postmaterialists, by Choice among Four Concrete Objectives in Five Western European Societies, 1970 (percentage classified as Postmaterialists)**

Goal Chosen as Most Important	West Germany	The Netherlands	France	Belgium	Italy	Weighted Mean
Raise salaries	5	3	2	8	4	4
Guarantee greater job security	6	15	7	12	10	8
Overall sample	11	19	11	14	13	12
More participation by workers	12	22	12	10	26	16
Make our society more humane	26	30	22	21	22	24

*Source:* 1970 European Community Survey.

*Note:* Based on the four-item values index.

employment practices for everyone, this 1973 item explicitly refers to concerns that “you personally” would take into account. Here, the relationship between job goals and Materialist/Postmaterialist values is unambiguous. Table 3-2 shows the percentage of Postmaterialists according to responses to this question, again using our four-choice values index. The pattern is striking. Respondents who emphasize “a safe job with no risk of unemployment” are only *half* as likely to have Postmaterialist values as those who choose “working with people you like” or “a job that gives you a sense of accomplishment.” In all eight countries, those who choose “a safe job” are *less* likely to score as Postmaterialists than the overall sample. Moreover, we find similar results when we examine the relationship between employment goals and our twelve-item measure of Materialist/Postmaterialist values. Far from being conducive to Postmaterialist responses, a concern with unemployment is linked with *Materialist* values (as the scarcity hypothesis implies).

In addition to this European evidence, we also examined the U.S. National Election Studies surveys conducted between 1972 and 1992. In every presidential election survey respondents were asked open-ended questions about what they thought was the most important problem facing the country. As we saw in chapter 2, all six of these surveys include the basic four-item battery to measure Materialist/Postmaterialist values.

The percentage choosing unemployment or recession as the most important problem facing the country ranged from a low of 5 percent in 1988 to a high of 33 percent in 1976 (see Abramson, Aldrich, and Rohde 1994). Respondents who thought that unemployment or recession was the most important problem differed very little in their values from the public as a whole. The U.S. data provide no evidence that concern about unemployment is related to Postmaterialist values. The percentage choosing inflation or high prices as the most important national problem ranged from less than 1 percent in 1992 to 33 percent in 1980. Except for 1980 and 1992 (when only six respondents named inflation as the most important national problem), respondents who thought that inflation was the main problem facing the country were *less* likely to score as Postmaterialists than the public as a whole, a result that is clearly consistent with the scarcity thesis.

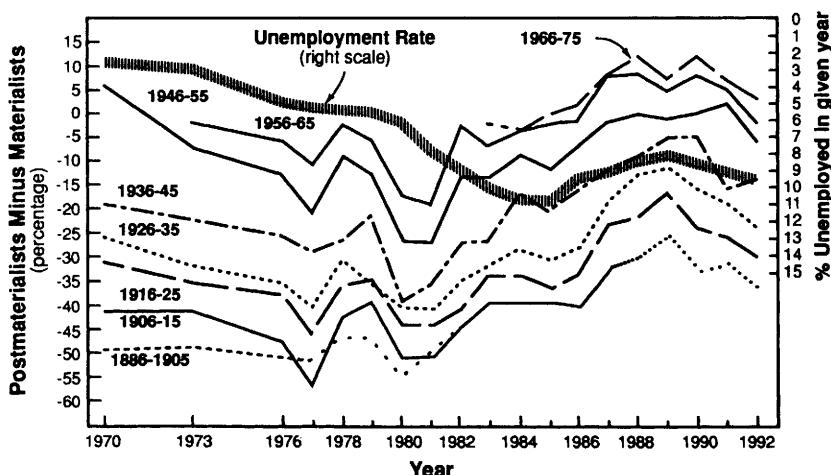
The absence of an individual-level relationship between concern about unemployment and Postmaterialist values calls into question Clarke and Dutt’s argument about reasons to expect a relationship between high levels of unemployment and Postmaterialism. Nonetheless, during certain periods, rising levels of unemployment actually *did* coincide with aggregate-level increases in Postmaterialism. This can be seen in figure 3-4, which (like fig. 3-3) shows PDI levels among the eight birth cohorts tracked between 1970–71 and 1992. For this figure, however, we superimpose unemployment rates. Unemployment is indexed so that a downward movement in the graph indi-

**TABLE 3-2. Percentage of Postmaterialists, by Occupational Goals,  
in Eight Western European Societies, 1973 (percentage classified as Postmaterialists)**

Goal Chosen as Most Important	West Germany	Great Britain	The Netherlands	France	Belgium	Italy	Denmark	Ireland	Mean
A good salary	3	4	4	6	8	6	4	6	5
A safe job	4	6	8	9	10	4	8	7	7
Overall sample	9	8	12	13	14	9	12	8	11
Working with people you like	13	9	17	19	21	13	17	8	15
A feeling of accomplishment	21	14	18	20	21	16	18	14	18

Source: 1973 European Community Survey.

Note: Based on the four-item values index.



**Fig. 3-4. Cohort analysis of value change with unemployment rates superimposed, 1970-71 through 1992 (percentage of Postmaterialists minus percentage of Materialists in combined sample of six Western European societies). Based on the four-item values index. Unemployment rates are displayed on an inverted scale. (Data about values are based upon a combined weighted sample of European Community surveys in West Germany, Britain, The Netherlands, France, Belgium, and Italy. Data about unemployment are from the Statistical Office of the European Communities.)**

cates higher levels of unemployment. Bear in mind that Clarke and Dutt's analysis is limited to the period between 1976 and 1986.

The most striking feature of the relationship between unemployment and Materialist/Postmaterialist values is its *inconsistency* over time. The contrast with the consistent relationship between inflation and values is impressive. From 1970 to 1977 and from 1985 to 1992, the unemployment index moves in the *same* direction as the values index; that is, higher rates of unemployment are linked with movement toward Materialism, not Postmaterialism. However, the relationship reverses itself during most of the years studied by Clarke and Dutt. Here, rising rates of unemployment *were* accompanied by shifts toward Postmaterialism, as they claim. The pattern does not even hold up throughout the entire period from 1976 through 1986. During the first years of this period, unemployment is rising, accompanied by a shift toward Materialism, and during the last year of this period, unemployment is falling, accompanied by a shift toward Postmaterialist values. The relationship reported by Clarke and Dutt does prevail from 1981 to 1985, however. During these years—and only during these years—a resurgence of Postmaterialism was

accompanied by a steep rise in unemployment. A glance back at figure 3-3 reveals that this steep rise in unemployment went along with an even steeper drop in inflation, bringing about a short-term rise in Postmaterialism.

### The Short-Term Impact of Inflation and Unemployment

In principle, one could examine similar figures for each of the eight European societies that can be studied over time. Such figures would take up a great deal of space, and would not adequately explore the joint impact of inflation and unemployment upon values. However, a more rigorous test to evaluate the impact of inflation and unemployment, and to determine whether or not there is a statistically significant trend toward Postmaterialism, can be conducted using a time-series regression analysis. Moreover, because statistical analyses are parsimonious, we can examine change in all eight societies, as well as for our combined six-nation sample.

The results of our time-series analysis are presented in table 3-3. We present the results of a time-series regression analysis employing Ordinary Least-Squares (OLS) in which the Materialist/Postmaterialist values index (PDI) is the dependent variable, and in which the number of years since the baseline survey, the annual inflation rate, and the annual unemployment rate are the independent variables.

The last two columns of table 3-3 are diagnostic statistics (the Durbin-Watson test and a first-order autocorrelation coefficient) on the residuals that test for the presence of autocorrelation. If autocorrelation is a serious problem, OLS yields biased estimates. However, both statistics reveal that there is no problem with autocorrelation,<sup>3</sup> and we can therefore employ these OLS results.<sup>4</sup>

As table 3-3 shows, when we simultaneously control for the effects of inflation and unemployment, there is a significant trend toward Postmaterialism in all eight countries, *including* Belgium. As we know from figure 2-1d, actual levels of Postmaterialism increased only negligibly in Belgium. These analyses suggest that there would have been a substantial increase in Postmaterialism if unemployment had not contributed to *Materialism*. Table 3-3 also shows that inflation had a statistically significant effect on reducing Postmaterialism in every country except France, Belgium, and Denmark. Unemployment has a statistically significant impact on the PDI in Belgium, as well as in France, Italy, and Ireland, but in all four countries unemployment contributes to *Materialism*, not to Postmaterialism. The positive relationship between unemployment and Postmaterialism comes close to statistical significance in Germany, but falls far short of significance when the minimal effects of autocorrelation are removed (see Inglehart and Abramson 1993, table A1).

The crucial finding is that when we take the effects of inflation and

**TABLE 3-3. Effect of Number of Years Since Baseline Survey, Inflation, and Unemployment upon Materialist/Postmaterialist Values in Eight Western European Societies, 1970–71 through 1992 (OLS estimates)**

	B	SE B	Beta	T	(Sig. 2-tailed)	R <sup>2</sup>	DW	ACF (1)
<b>West Germany</b>								
Years since baseline	1.31	.28	.50	4.64	.0003	.89	1.36	.263
Inflation	−4.20	.91	−.45	−4.60	.0003			
Unemployment	1.60	.79	.22	2.02	.0616			
<b>Britain</b>								
Years since baseline	1.21	.31	.66	3.91	.0014	.78	2.01	−.047
Inflation	−.99	.36	−.40	−2.75	.0148			
Unemployment	−.20	.64	−.06	−.32	.7568			
<b>The Netherlands</b>								
Years since baseline	1.29	.25	.63	5.18	.0001	.88	2.02	−.012
Inflation	−2.39	.56	−.50	−4.24	.0007			
Unemployment	−.58	.36	−.17	−1.62	.1261			
<b>France</b>								
Years since baseline	1.82	.54	1.34	3.38	.0041	.73	2.19	−.113
Inflation	−.60	.39	−.27	−1.51	.1510			
Unemployment	−2.54	1.01	−.89	−2.52	.0235			
<b>Belgium</b>								
Years since baseline	.79	.20	.62	4.01	.0011	.85	2.11	−.136
Inflation	.09	.43	.03	.22	.8278			
Unemployment	−2.41	.29	−1.05	−8.29	.0000			
<b>Italy</b>								
Years since baseline	1.07	.32	.63	3.29	.0050	.85	1.84	.066
Inflation	−1.46	.23	−.76	−6.47	.0000			
Unemployment	−2.23	.74	−.54	−3.01	.0088			
<b>Denmark</b>								
Years since baseline	2.65	.59	.82	4.46	.0005	.94	1.63	.145
Inflation	−.96	.80	−.19	−1.20	.2491			
Unemployment	−.48	.75	−.06	−.64	.5301			
<b>Ireland</b>								
Years since baseline	2.07	.38	1.09	5.47	.0001	.87	1.47	.116
Inflation	−.96	.26	−.57	3.78	.0020			
Unemployment	−2.00	.47	−.84	−4.25	.0008			
<b>Six European Societies</b>								
Years since baseline	1.03	.25	.61	4.09	.0010	.89	1.84	.003
Inflation	−1.62	.32	−.53	−4.98	.0002			
Unemployment	−.40	.53	−.10	−.76	.4597			

*Source:* Data about values are based upon European Community Surveys. Data about inflation and unemployment are from the Statistical Office of the European Communities. For the results employing iterative Prais-Winsten estimators, see Inglehart and Abramson 1993, table A1.

*Note:* Values are PDI scores using the four-item measure. The baseline survey for Denmark and Ireland was conducted in 1973. The results for six Western European societies are based upon a combined weighted sample of West Germany, Britain, The Netherlands, France, Belgium, and Italy.

unemployment into account, there is a statistically significant trend toward Postmaterialism in all eight societies. Moreover, this change is very much on the order of magnitude predicted by Inglehart's thesis—about a one point gain per annum on the PDI. For the combined six-nation sample there is a 1.03-point annual increase in the PDI, a result statistically significant at the .001 level. Inflation also affects values, a result that is statistically significant at the .0002 level. Unemployment is negatively related to Postmaterialism, although the relationship is negligible (the significance level is .4597). The Clarke and Dutt argument that unemployment contributes to Postmaterialism does not hold up when subjected to a rigorous test employing the full range of available data.<sup>5</sup>

The argument that high rates of unemployment should be conducive to Postmaterialism seemed implausible from the start. Although at certain times high rates of unemployment happened to coincide with a rise in Postmaterialism, the apparent causal linkage is spurious.

### **Unemployment and Postmaterialism in Ex-Socialist Countries**

The evidence we have examined so far is based on only relatively modest changes in unemployment rates. Recent events in the ex-socialist world provide a stronger test of this argument.<sup>6</sup> Within the past few years, these societies have gone from socialist economies in which unemployment was quite low to an abrupt transition to market economies—and unemployment has soared. If unemployment is conducive to Postmaterialist values, we should observe a sharp rise in Postmaterialism since the collapse of socialism. On the other hand if, as we argue, insecurity is conducive to Materialist values, we should find a dramatic shift toward Materialism in recent years.

Among the ex-socialist societies, the former East Germany provides a particularly good site for testing these two competing explanations. For one thing, it has experienced a severe rise in unemployment. Since the collapse of the socialist regime in 1990, entire sectors of East German industry have proven to be noncompetitive by Western standards, and have closed down completely. Unemployment has risen from an official rate near zero in 1990 to traumatic levels, which are partly concealed by labeling unemployment payments as retraining salaries, but which some observers estimate to include as much as 30 percent of the work force. Moreover, we can readily test the proposition in this setting since regular surveys have been carried out in the former East Germany from the moment of reunification to the present. The Euro-Barometer surveys carry out separate samples in the two formerly separate regions of Germany each spring and fall.

Let us examine the results. Did the massive rise in unemployment bring a

surge in Postmaterialist values, as Clarke and Dutt's interpretation implies? Or did it bring a sharp decline in Postmaterialism, as the value-change thesis implies? The answer is clear and unequivocal. In the fall of 1990, when the German Democratic Republic was abolished, EuroBarometer #34 found that 21 percent of the East German public fell into the Materialist category, 65 percent were Mixed, and 14 percent were Postmaterialists, yielding a PDI of -7. While this was well below West German levels of Postmaterialism, East Germany was probably the most Postmaterialist society in the ex-socialist world.<sup>7</sup> With the subsequent dismantling of large parts of the East German economy, however, this index fell sharply, dropping to -9 by the spring of 1991; to -19 by the fall of 1991; to -26 by the spring of 1992; and to -24 by the fall of 1992. In the spring of 1993, 33 percent were Materialists, 60 percent had mixed values, and 7 percent were Postmaterialists, and the PDI was -26. Within two and a half years, the proportion of Postmaterialists had been cut in half. Here again, the notion that high levels of unemployment are conducive to Postmaterialism is contradicted by the empirical evidence.

## **Conclusions**

Values do respond to short-term change, as the scarcity thesis predicts. Changing rates of inflation appear to have the strongest impact on short-term variation. Changing levels of unemployment have relatively little effect on short-term value change. Doubtless other short-term factors can influence values. For example, the basic four-item measure includes one national goal—"maintaining order in the nation"—that is probably sensitive to changes in the crime rate or to outbreaks of civil unrest. Had we measured values in France during the "Events of May" in 1968, we might well have found a high concern for public order among the mass public, when even the Communists were claiming to be "the party of order." Periods of great disorder may preclude social scientists from conducting systematic public opinion surveys. Nevertheless, we were able to conduct surveys in South Africa and we suspect that the decline in Postmaterialist values in that country, which we will document in chapter 8, results partly from increased political violence during the 1980s.

Although short-term change occurs, there is a clear and underlying component of long-term change as well. Survey evidence covering more than twenty years shows a trend toward Postmaterialist values, as Inglehart predicted in 1971. This finding is all the more impressive when one recalls that Inglehart was making *ex ante* predictions, not *ex post* predictions in which a theory can be designed to fit the observed results. The theory predicting the shift to Postmaterialist values was published many years before most of the data used to test it had been collected.

As we have seen, the trend toward Postmaterialism even has the approximate magnitude that a generational replacement thesis would predict. This does not by itself prove that replacement causes the trend toward Postmaterialism, but in chapter 4 we will provide strong evidence that population replacement is the long-term force driving Postmaterialist values upward.



## CHAPTER 4

### Long-Term Value Change in Western Europe

The long-term trend toward Postmaterialist values results largely from the gradual process by which younger generations replace older generations. Generational replacement continuously transforms all societies. Replacement can play a major role in transforming the political attitudes and behaviors among mass publics. During the 1930s and 1940s, replacement helped make the Democrats the majority party in the United States (Andersen 1979; Beck 1974), and during the postwar years replacement was a major force eroding American party loyalties (Abramson 1983, 1989a; Beck 1984). Replacement benefited the British Labour party during the 1960s (Butler and Stokes 1974), but it contributed to the erosion of British partisan loyalties between 1964 and 1987 (Abramson 1992). Between 1969 and 1988, replacement contributed to the decline of the Alignment in Israel (Abramson 1989b, 1990). During the postwar years, replacement may have contributed to a more partisan electorate in West Germany (Baker, Dalton, and Hildebrandt 1981; Norpoth 1984). Moreover, replacement can also help to transform political values. For example, replacement helped to increase political tolerance in the United States between the mid-1950s and the mid-1970s (Abramson 1983; Davis 1975).

Generational replacement clearly has the potential for creating or contributing to a trend toward Postmaterialism. In every Western European country studied by the EuroBarometer surveys, young Europeans are more likely to have Postmaterialist values than their elders.<sup>1</sup> Indeed, in 39 of the 40 societies surveyed by the 1990–91 World Values Survey (all except India) young adults are more likely to have Postmaterialist values than their elders. As Herbert H. Hyman (1972, 243) observed, “It is the inevitable fact of life that the young will replace the old and will determine the future course of any trend. Thus if the young differ from the old, and were to continue to do so despite their own aging, some prediction can be ventured.”

Young Europeans have different values than their elders, a finding that we will document in this chapter. But do they continue to differ despite their own aging? If young adults tend to become more Materialistic as they age, the relative Postmaterialism of the young will not lead to rising levels of Postmaterialism among mass publics. As we shall see, however, in Germany, Britain, The Netherlands, France, Italy, Denmark, and Ireland, young adults

do not become more Materialistic as they age. Belgium is an exception, for reasons we will discuss.

The impact of generational replacement depends partly on the extent to which the young and old differ in their values. It also depends upon the speed by which the population itself is transformed. In advanced industrial societies, replacement is gradual.

### **Generational Replacement between 1970 and 1992**

To determine how much replacement took place during the past 22 years, we employed national census data reporting the population by single years of age. Using these census results, we computed the number of adults in each of the cohort categories that we used in our European Community surveys. In our appendix, we present the distribution of the adult population in Germany, Britain, The Netherlands, France, Belgium, and Italy at the end of 1970 and the end of 1992, and also the distribution of the adult population in Denmark and Ireland at the end of 1973 and 1992 (see table A1).

The overall pattern of change is similar in all eight countries, although there are some cross-national differences. In all eight countries, the absolute number of adults born before 1916 diminished through death, and their relative size diminished further as a result of new cohorts coming of age. In Germany, Britain, France, and Belgium, these older cohorts made up a third of the adult population in 1970, but only 7 percent by the end of 1992. In Italy, cohorts born before 1916 made up 29 percent of the adult population in 1970, but only 6 percent in 1992, while in The Netherlands these cohorts fell from 27 percent to 5 percent. In Denmark and Ireland, where we examine change over 19 years, the cohorts born before 1916 made up just over a fourth of the adult population at the end of 1973; by the end of 1992 these cohorts made up only 7 percent of it in Denmark and only 5 percent of it in Ireland.

In the first six countries, persons born after 1955 were too young to be included in our 1970 sample. By 1986, the European Community surveys were sampling youths who had not yet been born when these surveys began. By the end of 1992, there were over 20 million West German adults born after 1955, and, as table A1 shows, they made up 38 percent of the adult population. In other words, nearly two-fifths of the adult population had been replaced during these 22 years. Moreover, replacement was greater in the five other countries. In Belgium, 39 percent of the adult population had been replaced, 40 percent in Britain and Italy, 41 percent in France, and 42 percent in The Netherlands. In Denmark and Ireland, persons born after 1958 were too young to be sampled in our first surveys (which were conducted in 1973). By the end of 1992, 33 percent of the Danish adults had been born after 1958,

while in Ireland 41 percent of the adult population was born after 1958. Thus in every country except Denmark, about two-fifths of the adult population had been replaced during the course of the European Community surveys, and even in Denmark a third of the adult population had been replaced.

For our survey data to aid us in estimating the impact of generational replacement, they must mirror these demographic changes, and, in fact, they do. In our appendix, we present the overall distribution of the adult population in each of the European Community surveys for each of the eight countries (see tables A2 through A9).<sup>2</sup> For all eight, there is a close fit between the age distribution in the samples and the distribution revealed in the census results. If generational replacement has contributed to the rise of Postmaterialism, these surveys should show it.

### **Value Change through the Life Cycle**

We began our analysis of the impact of generational replacement by calculating scores on our values index for each cohort for each year from 1970–71 (or 1973 for Denmark and Ireland) through 1992. For each country, we present a cohort matrix that shows values among cohorts as they move through the life cycle. Table 4-1 illustrates the logic of these tables. Let us take the first column in table 4-1 as an example. As we read down the column for 1970–71, we begin with 15- to 24-year olds, and the age groups increase by ten year increments until we reach the cohort above the age of 64. As we read across the rows, the cohorts continuously age. In 1970, the cohort born between 1946–55 was between the ages of 15 and 24; by 1973 this birth cohort was between the ages of 18 and 27, and in 1976 it was between the ages of 21 and 30. From 1976 onward, we have annual data, and the birth cohort continuously ages by one-year increments as we follow it from left to right across the row. By the end of 1992, the cohort born between 1946 and 1955 was between the ages of 37 and 46.

Tables 4-2 through 4-9 present the value scores for each cohort in each survey year for each of the eight countries. Reading down these columns, we observe the relationship between age and value preferences for any given year for each country. Reading across each row, we observe the way values change for each birth cohort in each country as cohorts age. The bottom row presents the overall value score for the entire adult population in each survey year.

Despite the large number of cases for each country, the number of cases per cohort is sometimes small once we divide our samples into 19 survey years and eight cohorts. For most of these estimates there are between 200 and 300 respondents for each cohort for each year, but for 1976 and 1979 the number of the cases for the oldest cohort sometimes falls to just over 100. Even probability sample subsets with an  $N$  of 300 have a confidence interval

**TABLE 4-1. Age by Years of Birth, 1970–92**

Years of Birth	Year of Survey								
	1970	1973	1976	1977	1978	1979	1980	1981	1982
1976–77									
1966–75								15	15–16
1956–65	15–17	15–20	15–21	15–22	15–23	15–24	16–25	17–26	
1946–55	15–24	18–27	21–30	22–31	23–32	24–33	25–34	26–35	27–36
1936–45	25–34	28–37	31–40	32–41	33–42	34–43	35–44	36–45	37–46
1926–35	35–44	38–47	41–50	42–51	43–52	44–53	45–54	46–55	47–56
1916–25	45–54	48–57	51–60	52–61	53–62	54–63	55–64	56–65	57–66
1906–15	55–64	58–67	61–70	62–71	63–72	64–73	65–74	66–75	67–76
Before 1906	65+	68+	71+	72+	73+	74+	75+	76+	77+

*Note:* As we sample respondents aged 15 years old and above, we do not show the age for persons below the age of 15. There will be a perfect correspondence between age and year of birth only on December 31 of each year.

(at the .95 level) of plus or minus eight percentage points, while for an *N* of 100 the confidence interval rises to fourteen points. The confidence interval in these surveys is probably somewhat larger. It is therefore important to avoid focusing on the result for any single cohort. Throughout our analysis we focus on the overall pattern of results.

Reading down these columns, we see a clear pattern. In all survey years, and for all eight countries, Materialism increases with age. As Inglehart (1971, 1977) has demonstrated, during the early 1970s the relationship between age and Materialism was relatively weak in Britain compared with the countries of Continental Europe. These differences persisted in subsequent surveys, with Britain manifesting the weakest relationship between age and Materialism. That Britain differs from Continental Europe supports a generational interpretation for age-group differences, because Britain escaped invasion and occupation during World War II, and thus older Britons did not suffer the intense deprivations inflicted upon these Continental European countries. Moreover, compared with these Continental countries, Britain had relatively low rates of economic growth after World War II. Compared with Britons who grew up before or during World War II, young Britons grew up in affluent times. However, the differences between pre- and postwar economic conditions were greater in all six of the Continental European countries. As a result, differences between the formative socialization of younger and older Britons were less pronounced than those between younger and older Continental Europeans. The relatively weak relationship between age and Materialist/Postmaterialist values in the United States (Inglehart 1990) also supports a generational interpretation. However, the cross-national results present an anomaly, for age-group differences are clearly higher in Ireland, a country that

Year of Survey									
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
15–17	15–18	15–19	15–20	15–21	15–22	15–23	15–24	16–25	15–16 17–26
18–27	19–28	20–29	21–30	22–31	23–32	24–33	25–34	26–35	27–36
28–37	29–38	30–39	31–40	32–41	33–42	34–43	35–44	36–45	37–46
38–47	39–48	40–49	41–50	42–51	43–52	44–53	45–54	46–55	47–56
48–57	49–58	50–59	51–60	52–61	53–62	54–63	55–64	56–65	57–66
58–67	59–68	60–69	61–70	62–71	63–72	64–73	65–74	66–75	67–76
68–77	69–78	70–79	71–80	72–81	72–82	74–83	75–84	76–85	77–86
78+	79+	80+	81+	82+	83+	84+	85+	86+	87+

remained neutral during World War II. Ireland, however, had relatively high rates of economic growth until the 1980s.

To measure the relationship between age and Materialist/Postmaterialist values we computed a least-squares regression estimate down each row for each country. As noted above, values are relatively weakly related to age in Britain, but even in Britain scores on the PDI decline an average of .51 points per year of age.<sup>3</sup> In Germany, the per annum decline is .80 points, in The Netherlands .75, in France .79, in Belgium .70, and in Italy .82. For the 18 survey years for which we study Denmark, the average per annum decline was .60 points, and in Ireland the decline was .66. These results clearly demonstrate that older Europeans are more likely to have Materialist values than younger Europeans. They do not show that Europeans become more Materialist as they age. Put differently, reading down these columns reveals that Materialism declines with *age*, but it does not indicate a relationship between Materialism and *aging*.

These age-group differences could conceivably result from differences between the position of younger and older adults in the life cycle. However, they could also result from differences between the formative socialization of young adults and their elders—or from some combination of the two. One can readily imagine a life-cycle explanation for the relatively high levels of Postmaterialism of young adults. One might argue that young adults have fewer family responsibilities and, as a consequence, less concern with economic problems. As they age, they are likely to marry, have children, and face economic difficulties. Older adults, who often live on fixed incomes and who are also likely to depend upon government transfer payments, may be particularly sensitive to economic problems. The Postmaterialism of the young

**TABLE 4-2. Percentage of Postmaterialists Minus Percentage of Materialists in Germany,  
by Years of Birth, 1970-71 through 1992**

Years of Birth	Year of Survey										
	1970-71	1973	1976	1977	1978	1979	1980	1981	1982	1983	1984
1966-75	*	-2	-12	-14	-22	-25	-13	17	20	14	*
1956-65	0	-2	-14	-24	-13	-25	-28	-14	-17	4	*
1946-55	-23	-29	-27	-32	-26	-38	-37	-23	-17	-7	-6
1936-45	-40	-42	-38	-41	-31	-27	-38	-43	-31	-22	-10
1926-35	-41	-42	-43	-42	-32	-22	-38	-40	-43	-31	-19
1916-25	-55	-54	-43	-50	-36	-31	-35	-46	-48	*	*
1906-15	-55	-62	**	**	**	**	**	**	**	**	**
Before 1906	-35	-30	-35	-27	-25	-34	-35	-15	-8	-3	-3
Total Adult Population	-34	-30	-35	-27	-25	-34	-35	-15	-8	-3	-3

Source: European Community Surveys.

Note: Based on the four-item values index. For the total number of cases for each year, see table 2-1. For the distribution of respondents by years of birth, see table A2. Asterisk (\*) indicates score not presented because of the small number of cases. Double asterisk (\*\*) indicates score not presented because the advanced age of the cohort makes it nonrepresentative for comparisons across time or because there are too few cases remaining.

**TABLE 4-3.** Percentage of Postmaterialists Minus Percentage of Materialists in Britain, by Years of Birth, 1970-71 through 1992

Source: European Community Surveys

*Note:* Based on the four-item values index. For the total number of cases for each year, see table 2-1. For the distribution of respondents by years of birth, see table A3. Asterisk (\*) indicates score not presented because of the small number of cases. Double asterisk (\*\*) indicates score not presented because the advanced age of the cohort makes it nonrepresentative for comparisons across time or because there are too few cases remaining.

**TABLE 4-4. Percentage of Postmaterialists Minus Percentage of Materialists in The Netherlands, by Years of Birth, 1970–71 through 1992**

Years of Birth	Year of Survey										
	1970–71	1973	1976	1977	1978	1979	1980	1981	1982	1983	1984
1966–75	*	*	*	-2	16	2	-3	-10	1	20	6
1956–65	2	-15	-10	-10	5	1	-12	-7	5	2	5
1946–55	-8	-1	-9	-14	1	0	-20	-10	-5	-3	-5
1936–45	-22	-18	-16	-22	-10	-17	-36	-25	-25	-13	-21
1926–35	-18	-26	-31	-17	-17	-25	-35	-31	-31	-16	-15
1916–25	-31	-33	-41	-35	-23	-31	-49	-38	-39	-39	-39
1906–15	-40	-44	**	**	**	**	**	**	**	**	**
Before 1906	-16	-19	-18	-19	-4	-10	-23	-19	-10	-2	-6
Total Adult Population											

Source: European Community Surveys.

Note: Based on the four-item values index. For the total number of cases for each year, see table 2-1. For the distribution of respondents by years of birth, see table A4. Asterisk (\*) indicates score not presented because of the small number of cases. Double asterisk (\*\*) indicates score not presented because the advanced age of the cohort makes it nonrepresentative for comparisons across time or because there are too few cases remaining.

**TABLE 4-5** Percentage of Postmaterialists Minus Percentage of Materialists in France, by Years of Birth, 1970-71 through 1992

Source: European Community Surveys

*Source:* European Community Surveys.  
*Note:* Based on the four-item values index. For the total number of cases for each year, see table 2-1. For the distribution of respondents by years of birth, see table A5. Asterisk (\*) indicates score not presented because of the small number of cases. Double asterisk (\*\*) indicates score not presented because the advanced age of the cohort makes it nonrepresentative for comparisons across time or because there are too few cases remaining.

**TABLE 4-6. Percentage of Postmaterialists Minus Percentage of Materialists in Belgium,  
by Years of Birth, 1970-71 through 1992**

Years of Birth	Year of Survey										
	1970-71	1973	1976	1977	1978	1979	1980	1981	1982	1983	1984
1966-75	*	*	10	-1	1	4	-16	-15	-29	-13	-5
1956-65	7	8	4	-10	-7	-7	-18	-24	-14	-25	-18
1946-55	-15	-15	-15	-23	-21	-24	-19	-31	-19	-28	-19
1936-45	-12	-6	-22	-28	-22	-17	-22	-30	-39	-42	-37
1926-35	-18	-18	-29	-32	-20	-24	-36	-40	-43	-45	-47
1916-25	-28	-31	-39	-41	-34	-47	-43	-48	-47	-47	-47
1906-15	-42	-35	**	**	**	**	**	**	**	**	**
Before 1906	-18	-11	-16	-22	-19	-19	-26	-28	-36	-28	-19
Total Adult Population											

Source: European Community Surveys.

Note: Based on the four-item values index. For the total number of cases for each year, see table 2-1. For the distribution of respondents by years of birth, see table A6. Asterisk (\*) indicates score not presented because of the small number of cases. Double asterisk (\*\*) indicates score not presented because the advanced age of the cohort makes it nonrepresentative for comparisons across time or because there are too few cases remaining.

**TABLE 4-7. Percentage of Postmaterialists Minus Percentage of Materialists in Italy by Years of Birth, 1970-71 through 1992**

Years of Birth	Year of Survey										
	1970-71	1973	1976	1977	1978	1979	1980	1981	1982	1983	1984
1966-75	*	*	-2	-6	-2	-9	-23	-32	-15	-30	-14
1956-65	-4	-10	-17	-20	-15	-16	-37	-32	-28	-32	-15
1946-55	-24	-32	-28	-43	-39	-37	-59	-51	-41	-46	-41
1936-45	-29	-34	-48	-44	-49	-62	-56	-50	-59	-45	-48
1926-35	-37	-44	-36	-54	-49	-56	-61	-64	-55	-56	-43
1916-25	-40	-45	-51	-61	-57	-61	-72	-68	-52	**	**
1906-15	-52	-50	**	**	**	**	**	**	**	**	**
Before 1906	-29	-31	-30	-38	-33	-37	-50	-48	-36	-44	-34
Total Adult Population	-18	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17

Source: European Community Surveys.

Note: Based on the four-item values index. For the total number of cases for each year, see table 2-1. For the distribution of respondents by years of birth, see table A7. Asterisk (\*) indicates score not presented because of the small number of cases. Double asterisk (\*\*) indicates score not presented because the advanced age of the cohort makes it nonrepresentative for comparisons across time or because there are too few cases remaining.

**TABLE 4-8.** Percentage of Postmaterialists Minus Percentage of Materialists in Denmark, by Years of Birth, 1973 through 1992

#### Sources: European Community Survey

*Source:* European Community surveys.  
*Note:* Based on the four-item values index. For the total number of cases for each year, see table 2-1. For the distribution of respondents by years of birth, see table A8. Asterisk (\*) indicates score not presented because of the small number of cases. Double asterisk (\*\*) indicates score not presented because the advanced age of the cohort makes it nonrepresentative for comparisons across time or because there are too few cases remaining.

**TABLE 4-9. Percentage of Postmaterialists Minus Percentage of Materialists in Ireland, by Years of Birth, 1973 through 1992**

Source: European Community Surveys

Note: Based on the four-item values index. For the total number of cases for each year, see table 2-1. For the distribution of respondents by years of birth, see table A9. Asterisk (\*) indicates score not presented because of the small number of cases. Double asterisk (\*\*) indicates score not presented because the advanced age of the cohort makes it nonrepresentative for comparisons across time or because there are too few cases remaining.

could therefore reflect youthful idealism among persons who have not yet faced economic realities.

It is also possible, however, that the relatively high levels of Postmaterialism among young Europeans result from differences between their formative socialization and that of their elders. This would be a generational explanation, since a generation is “a group of human beings who have undergone the same basic historical experiences during their formative years” (Rintala 1979, 8). This explanation would be consistent with Inglehart’s socialization hypothesis. Children and adolescents who grow up during periods of economic prosperity may place stronger emphasis on noneconomic values. Since they expect their basic economic needs to be fulfilled, they are more likely to value self-actualization, opportunities to participate in decisions, and other noneconomic values. Severe and protracted economic adversity would tend to change these values but, in its absence, young Postmaterialists are likely to retain their values even as they age and move through the life cycle.

These explanations for age-group differences lead to different expectations about the way birth cohorts should change with age. If the life-cycle explanation is correct, birth cohorts should become more Materialist as they age. A generational explanation, on the contrary, predicts that, in the absence of other forces, the value scores for cohorts should remain constant as they move through the life cycle.

We now have data covering more than two decades, so we can track birth cohorts sampled in 1970 over a good part of their subsequent life cycle. The oldest cohorts cannot be tracked for the full 22 years, since their numbers are dwindling away, and since differential death rates among these cohorts might lead to misleading conclusions.<sup>4</sup> The oldest cohort that can be tracked for the full period was born between 1916 and 1925. For the six original countries in our surveys, members of this cohort were between the ages of 45 and 54 when they were first sampled; in Denmark and Ireland they were aged between 48 and 57. By 1992, members of this cohort were between the ages of 67 and 76. We can track the 1956–65 cohort between 1977 and 1992<sup>5</sup> and can track the 1906–15 cohort between 1970–71 and 1982 (or between 1973 and 1982 among the Danes and the Irish).

Although life-cycle and generational explanations for age-group differences lead to clearly different expectations, there is no definitive way of rejecting either explanation. As cohorts age, they are subject not only to the effects of aging, but to the social, economic, and political conditions of the times. As Norval D. Glenn (1977) has pointed out, one can never distinguish among generational effects, period effects, and aging effects on statistical grounds alone, since any one of them is a perfect linear function of the other two. As we will soon see, in seven of the eight European countries we analyze, the birth cohorts did not become more Materialist as they aged. One

could still argue that there is a natural tendency for cohorts to become Materialist as they age. W. Phillips Shively (1991) is perfectly correct when he argues that the failure of cohorts to become more Materialist as they age could result from short-term forces that prevented Materialism from emerging.

Although the life-cycle interpretation cannot be rejected definitively, the life-cycle and generational explanations for age-group differences are not equally plausible. In order to sustain a life-cycle explanation, one would need to specify exactly *what* short-term forces prevented Materialism from emerging. As we saw in chapter 3, short-term forces did affect values during the past two decades—and these forces seem to reflect the impact of major recessions. As Inglehart (1990) has shown, when we control for the massive inflation rates of the mid-1970s and early 1980s, these short-term fluctuations largely disappear, leaving behind a pattern of stable intergenerational differences. Moreover, the weak relationship between age and Materialist/Postmaterialist values in Britain (and the United States) provides cross-national evidence supporting a generational explanation. Proponents of a life-cycle explanation have thus far been unable to provide a comparable explanation for the presumed period effects that, in principle, could have prevented cohorts from becoming more Materialist during the 22 years between 1970 and 1992.<sup>6</sup>

For our purposes, however, testing between alternative explanations is unnecessary. The way values change among birth cohorts as they move through the life cycle will directly determine the effects of replacement upon the overall distribution of values—regardless of the reason for these changes. If cohorts do become more Materialist with age, this change—regardless of whether it results from life-cycle forces or from period effects—will tend to offset the effects of replacement. Despite replacement, the population may fail to become more Postmaterialist over time, and may even move toward Materialism. If cohorts do not become more Materialist as they age—regardless of the reason—replacement will lead to rising levels of Postmaterialism.

To determine how cohorts did in fact change as they moved through the life cycle, we computed a least-squares regression analysis across each row for each of the six cohorts that can be tracked for ten years or more.<sup>7</sup> Because the values for each cohort may fluctuate due to sampling error, we focus on a bottom-line estimate based upon the mean per annum change for all six cohorts.<sup>8</sup>

Our results contradict the expectations of a life-cycle interpretation. Only in Belgium did Materialism increase with aging, with the PDI score declining at an annual rate of .50 points per year. This decline is fairly close to what one would expect from a life-cycle interpretation of the cross-sectional relationship between age and Materialism. But in Germany, PDI scores *rose* with aging, increasing at a per annum rate of 1.33 points, and they also increased

in Britain (.76 points), The Netherlands (.98 points), and Ireland (.76 points). The increase was even greater in Denmark, and the PDI score increased an average of 2.19 points per year of aging. In France and Italy there was little change in values as cohorts moved through the life cycle, although for both countries there was a small average *increase* in the PDI scores (.21 points per annum in France and .14 points in Italy).

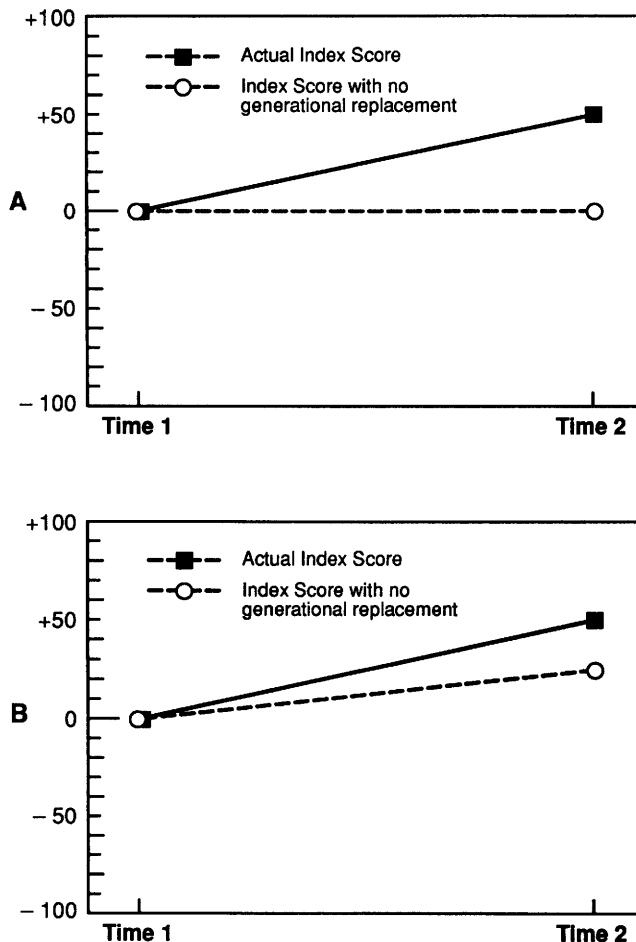
Regardless of whether one accepts a life-cycle or a generational explanation for age-group differences, examining these relationships provides a strong clue about the likely effects of generational replacement upon the aggregate distribution of values. As Materialism did increase with age in Belgium, we would not expect replacement to lead to increases in Postmaterialism, but even in Belgium replacement might prevent a movement toward Materialism. In Denmark, where there was a sharp increase in Postmaterialism among cohorts as they aged, it seems likely that the overall increase in Postmaterialism among the Danish public did not result mainly from replacement. However, in countries where there was relatively little increase in Postmaterialism among cohorts as they aged, it seems likely that generational replacement was the major force moving these countries toward Postmaterialist values. Before we examine the evidence further, we will systematically analyze the possible effects of generational replacement.

### The Possible Impact of Generational Replacement

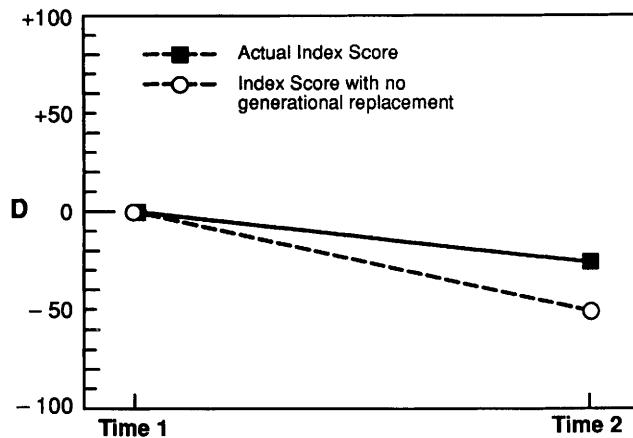
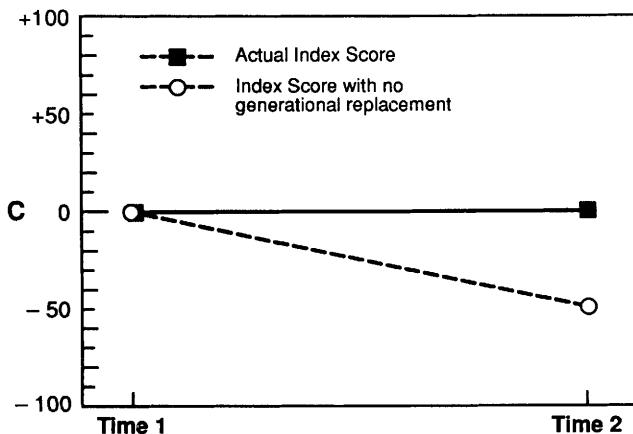
To estimate the impact of generational replacement, we can algebraically create a population in which no replacement occurs (see Abramson 1983). Eliminating the young cohorts that reached adulthood after 1970–71 (or after 1973 in the case of Denmark and Ireland) from the sample is the first step, but we must also take into account the differential death rates among the older cohorts. To estimate the impact of death rates, we algebraically immortalize the older cohorts. To do this, we use the proportion of respondents in each cohort in the 1970–71 survey as our base,<sup>9</sup> multiply value scores for each cohort in subsequent surveys by these proportions, and sum these products. This estimate with the effects of replacement removed can then be compared with the actual result. Differences between the actual result and the estimated results can be attributed to replacement.<sup>10</sup>

As Abramson (1983) has shown, generational replacement can lead to six different outcomes. One outcome is for replacement to have no effect. Given the observed relationships in tables 4-2 through 4-9, however, replacement must have an effect, since our procedures remove the youngest cohorts, which always have relatively high scores on our index, and increase the size of the older cohorts with relatively low scores. Given the observed results, there are thus really only five possible outcomes. These hypothetical possibilities are displayed in figure 4-1.

Case A depicts a situation in which Postmaterialism rises among the public (the solid line). In this case, when the effects of replacement are removed (the broken line), no change occurs. We conclude that the rise in Postmaterialism results from generational replacement, since once these effects are removed the index score is unchanged. Replacement thus *creates* the trend.

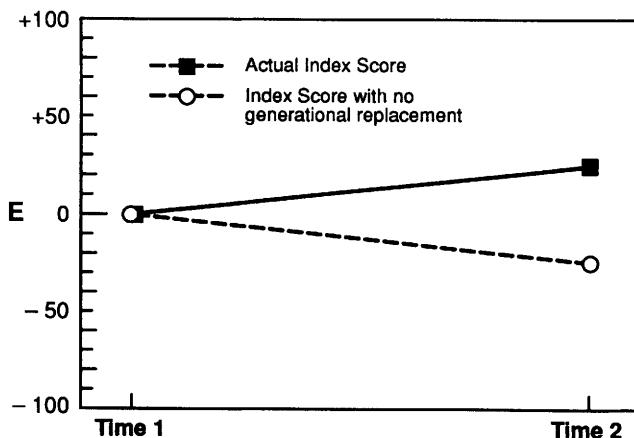


**Fig. 4-1. Possible effects of generational replacement on the distribution of Materialist/Postmaterialist Values.** A, Generational replacement creates a trend. B, Generational replacement contributes to a trend. C, Generational replacement prevents a trend. D, Generational replacement impedes a trend. E, Generational replacement reverses a trend. (Adapted from Abramson 1983, fig. 4.2, 62–63.)



In Case B Postmaterialism also rises. However, Postmaterialism now rises when the effects of replacement are removed (in this example, it is cut in half). While there would have been an increase in Postmaterialism even if no replacement had occurred, the increase would have been smaller. We conclude that replacement *contributes* to rising Postmaterialism.

In Case C there is no change in our values index. After the effects of replacement are removed, however, Postmaterialism decreases. Some sort of equilibrium has been achieved so that the changing composition of the popu-



lation has been counterbalanced by increased Materialism among cohorts as they aged. The net result is overall stability in levels of Postmaterialism. We conclude that replacement *prevents* a trend toward Materialism.

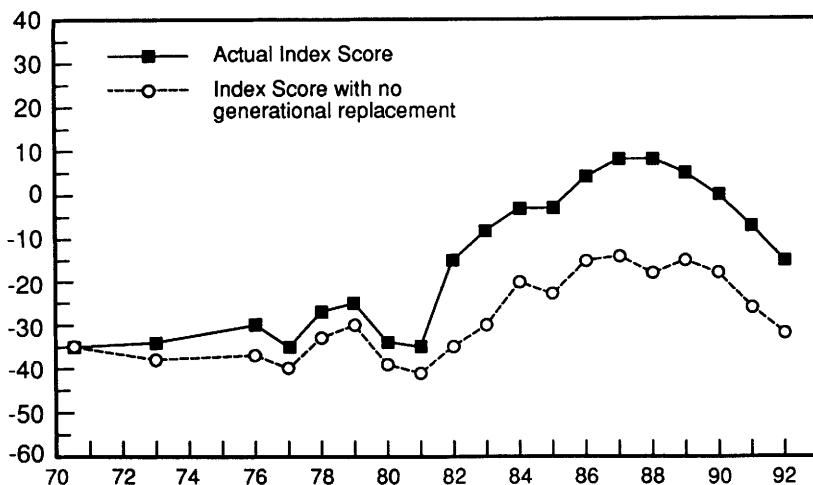
In Case D Materialism rises, contributing to a decline in our values index. After the effects of replacement are removed, Materialism increases even more (doubling in our example). We conclude that replacement *impedes* a trend toward Materialism.

In Case E Postmaterialism rises. Once the effects of replacement are removed, Materialism increases. In this case, replacement *reverses* the direction of the trend.

### **The Impact of Generational Replacement**

Our estimates of the effects of replacement for each of the eight countries are presented in figures 4-2 through 4-9. In each figure, the solid line shows the actual value score for the country, while the broken line presents our estimate of what the scores would have been if there had been no replacement.<sup>11</sup> Before reaching any conclusions, we will examine the pattern for each country.

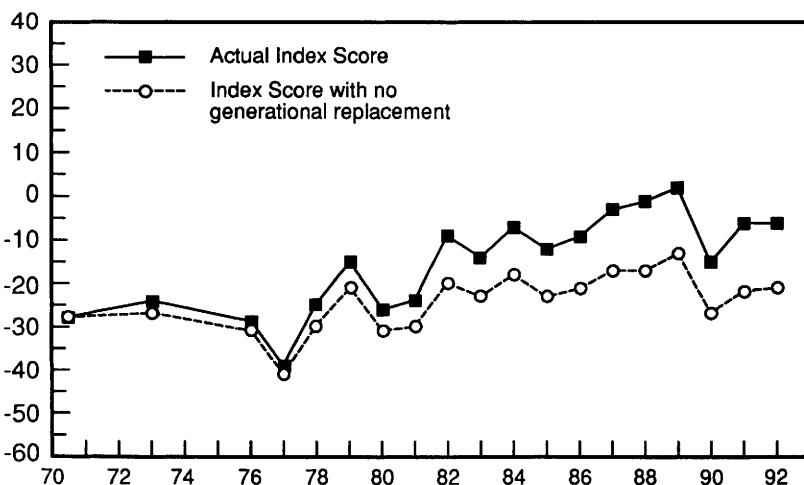
As figure 4-2 shows, PDI scores in Germany remained relatively stable through 1981; if there had been no generational replacement, however, there would have been a small increase in Materialism (and hence a decline in the PDI). During this decade, replacement prevented a trend toward Materialism. Postmaterialism continued to rise after 1982, however, and at a faster rate



**Fig. 4-2. Percentage of Postmaterialists minus percentage of Materialists in Germany, 1970–71 through 1992.** The estimate with no generational replacement assumes that no cohorts born after 1955 entered the adult population and that older cohorts did not diminish through death. For the index scores for each cohort, see table 4-2. To approximate the distribution of respondents by years of birth, see table A2. (Data from European Community Surveys.)

than replacement alone could create. Between 1986 and 1989, there were more Postmaterialists than Materialists, and in 1990 these two groups were the same size. When the effects of replacement are removed, we find that Postmaterialism still rises, but the PDI remains negative in all five of these years. The results for this five year period are similar, and 1989 provides a clear example. Between 1970–71 and 1989 the PDI score rose 40 points; if there had been no replacement, the increase would have been only 20 points. About half the movement toward Postmaterialism would have occurred even if there had been no replacement; about half the trend resulted from replacement.

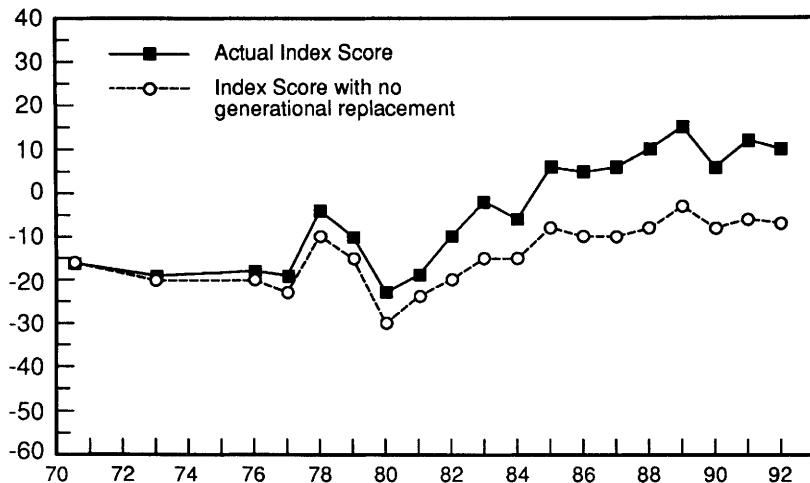
As we saw in chapter 2, the economic burden of German unification created severe economic difficulties, and there was a shift toward Materialism after 1989. Even so, overall levels of Postmaterialism were substantially higher in 1992 than they were in our baseline surveys in 1970–71. In fact, as of 1992, the overall increase in Postmaterialism over the full 22-year period was very close to the increase that would result from replacement effects alone. According to our estimates, if no new Germans had entered the adult population after 1970–71, and if older cohorts had not diminished through death, the overall PDI score in 1992 would have been –32, only slightly



**Fig. 4-3. Percentage of Postmaterialists minus percentage of Materialists in Britain, 1970-71 through 1992.** The estimate with no generational replacement assumes that no cohorts born after 1955 entered the adult population and that older cohorts did not diminish through death. For the index scores for each cohort, see table 4-3. To approximate the distribution of respondents by years of birth, see table A3. (Data from European Community Surveys.)

higher than the level when our surveys began. Despite recent short-term forces moving Germany toward Materialism, the overall value index was 20 points higher than when our time series began. If there had been no replacement, the PDI would have gained only three points. Only 15 percent of the increase in the values index would have occurred if there had been no generational replacement. Eight-five percent of the increase resulted from replacement.

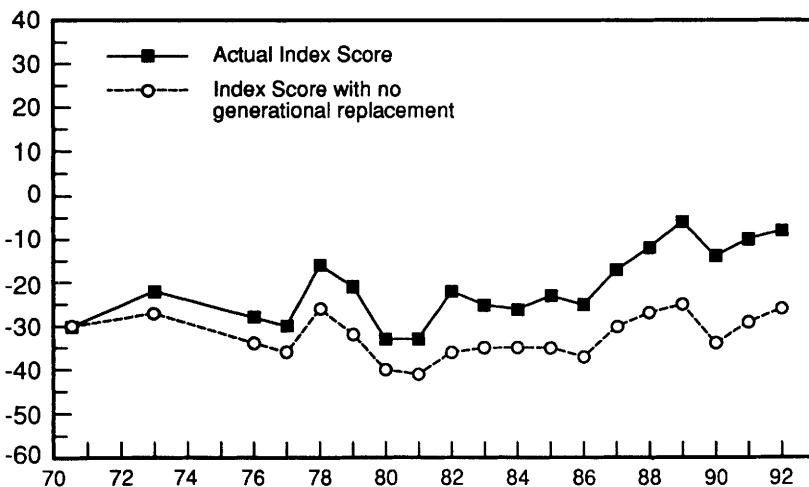
In Britain (see fig. 4-3), PDI scores during the first decade of our surveys are somewhat more erratic, but we detect a small increase in Postmaterialism between 1970-71 and the early 1980s. If there had been no replacement, there would have been a small decline in the PDI. Postmaterialism rises fairly consistently between 1981 and 1989, although it dropped somewhat in the 1990s. The highest level recorded was in 1989, when there were marginally more Postmaterialists than Materialists. Between 1970-71 and 1989 there was a 30-point increase in the PDI; if there had been no replacement, the increase would have been 15 points. Half of the increase in Postmaterialism would have occurred even if there had been no generational replacement; the remaining half resulted from replacement. If we examine the two most recent years, however, the impact of replacement is greater. As figure 4-3



**Fig. 4-4. Percentage of Postmaterialists minus percentage of Materialists in The Netherlands, 1970–71 through 1992.** The estimate with no generational replacement assumes that no cohorts born after 1955 entered the adult population and that older cohorts did not diminish through death. For the index scores for each cohort, see table 4-4. To approximate the distribution of respondents by years of birth, see table A4. (Data from European Community Surveys.)

reveals, the results for 1991 and 1992 are similar. Between 1970–71 and 1992, there was a 22-point gain in the PDI; if there had been no replacement, there would have been only a seven-point gain. About a third of the overall increase in Postmaterialism would have occurred even if there had been no replacement; two-thirds of the increase resulted from generational replacement.

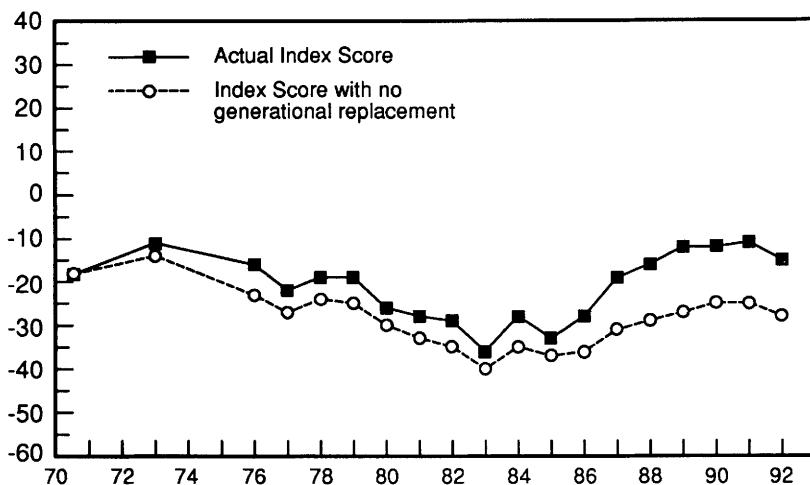
In The Netherlands (see fig. 4-4), there is very little value change through 1977, a sharp increase in the PDI in 1978, followed by a decline through 1980. Between 1970–71 and 1980 and 1981 there was a small increase in Materialism; if there had been no replacement, there would have been a more substantial increase. Postmaterialism rises fairly continuously throughout the 1980s, however, becoming positive from 1985 onward, and peaking in 1989. Postmaterialism would have risen even if there had been no generational replacement, but Materialists would have continued to outnumber Postmaterialists. On balance, replacement made a major contribution to the rise of Postmaterialism. Between 1970–71 and 1989 there was a 31-point increase in our values index; if there had been no replacement, the increase would have been only 13 points. Just over two-fifths of the rise in Postmaterialism would have occurred even if there had been no genera-



**Fig. 4-5. Percentage of Postmaterialists minus percentage of Materialists in France, 1970–71 through 1992.** The estimate with no generational replacement assumes that no cohorts born after 1955 entered the adult population and that older cohorts did not diminish through death. For the index scores for each cohort, see table 4-5. To approximate the distribution of respondents by years of birth, see table A5. (Data from European Community Surveys.)

tional replacement. Nearly three-fifths of the increase in Postmaterialist values results from replacement. Postmaterialism dropped in 1990, although the PDI score still remained positive, and has rebounded since then. As figure 4-4 reveals, the results for the two most recent years are similar. Between 1970–71 and 1992 there was a 26-point increase in the PDI; if there had been no replacement the increase would have been nine points. Just over a third of the increase in Postmaterialism would have occurred even if there had been no generational replacement. Nearly two-thirds of the increase results from generational replacement.

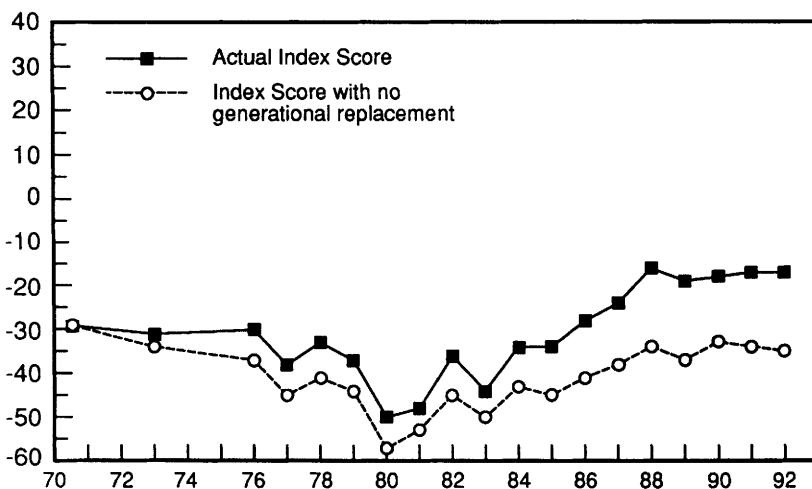
In France (see fig. 4-5), there is also some erratic movement in the PDI during the 1970s, but, as in The Netherlands, there was a small increase in Materialism between 1970–71 and 1980 and 1981. If there had been no replacement, however, there would have been a clear rise in Materialism. During this decade, replacement prevented a movement toward Materialist values. After 1981, there was a gradual increase in Postmaterialism, with the PDI score peaking in 1989. Although Materialists still continue to outnumber Postmaterialists, by the end of the 1980s the PDI score was clearly higher than it was in our first surveys. Yet, if there had been no replacement, the PDI score would have risen very little. Between 1970–71 and 1989, for example,



**Fig. 4-6. Percentage of Postmaterialists minus percentage of Materialists in Belgium, 1970–71 through 1992.** The estimate with no generational replacement assumes that no cohorts born after 1955 entered the adult population and that older cohorts did not diminish through death. For the index scores for each cohort, see table 4-6. To approximate the distribution of respondents by years of birth, see table A6. (Data from European Community Surveys.)

there was a 24-point increase in our values index; if there had been no replacement the gain would have been only five points. Postmaterialism declined in 1990 and has increased somewhat since then. The results for 1992 are very similar to those for 1989. Between 1970–71 and 1992, there was a 22-point increase in the values index; if there had been no replacement, the gain would have been only four points. Just under a fifth of the overall increase in Postmaterialism would have occurred even if there had been no generational replacement. More than four-fifths of the increase in Postmaterialism results from generational replacement.

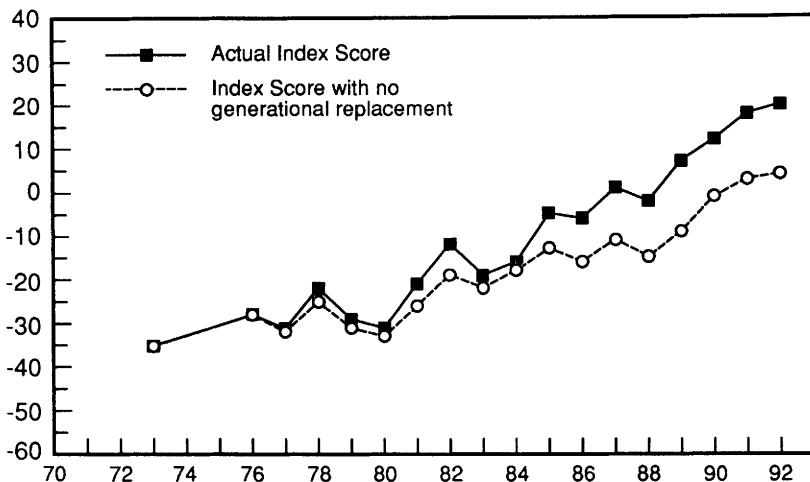
Belgium shows only a very faint pattern of rising Postmaterialism, although, as we saw in chapter 3, there would have been a clear increase in Postmaterialism were it not for the impact of unemployment contributing to Materialist values. Even though there was no absolute increase in Postmaterialism, as figure 4-6 reveals, replacement still affected the overall distribution of values. Although the PDI score rose somewhat between 1970–71 and 1973, there was a fairly continuous increase in Materialism between 1973 and 1983. If there had been no replacement, the increase in Materialism would have been greater. Replacement, therefore, appears to have impeded a trend toward Materialism. After 1983, Postmaterialism tended to rise, and it



**Fig. 4-7. Percentage of Postmaterialists minus percentage of Materialists in Italy, 1970–71 through 1992.** The estimate with no generational replacement assumes that no cohorts born after 1955 entered the adult population and that older cohorts did not diminish through death. For the index scores for each cohort, see table 4-7. To approximate the distribution of respondents by years of birth, see table A7. (Data from European Community Surveys.)

reached its highest level in 1989, 1990, and 1991. Even during these years, however, the PDI score was only somewhat higher than it was when our time series began. Between 1970–71 and 1989, for example, our values index rose only six points; if there had been no replacement, the PDI would have declined nine points. It would seem reasonable to argue that replacement actually reversed a trend toward Materialism. Postmaterialism dropped somewhat in 1992. Between 1970–71 and 1992, the values index increased only three points; if there had been no replacement, it would have declined ten points. It seems reasonable to conclude that replacement prevented a movement toward Materialist values.

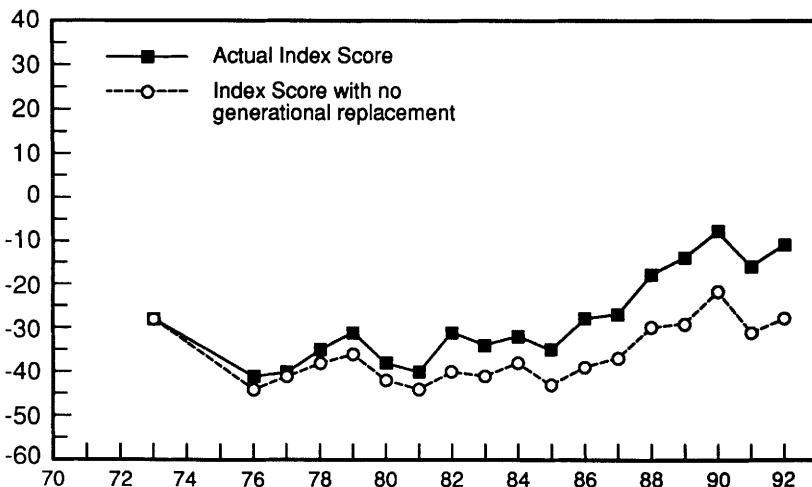
In Italy (see fig. 4-7), Materialism rose fairly sharply between 1970–71 and 1980 and 1981. If there had been no replacement, the fall on the PDI would have been sharper so, as with Belgium, replacement impeded the movement toward Materialism. However, Postmaterialism rose throughout the 1980s, peaking in 1988. Between 1970–71 and 1988, the PDI rose 13 points; if there had been no replacement the PDI would have been five points lower in 1988 than it was in our baselines surveys. The overall PDI dropped slightly in 1989, and the results for the last four years are similar. Between 1970–71 and 1992, the PDI rose 12 points; if there had been no replacement, the PDI



**Fig. 4-8. Percentage of Postmaterialists minus percentage of Materialists in Denmark, 1973 through 1992.** The estimate with no generational replacement assumes that no cohorts born after 1958 entered the adult population and that older cohorts did not diminish through death. For the index scores for each cohort, see table 4-8. To approximate the distribution of respondents by years of birth, see table A8. (Data from European Community Surveys.)

score would have been six points lower in 1992 than it was in our first surveys. On balance, intergenerational population replacement was a major force moving the Italian public toward Postmaterialism, for, in the absence of replacement, Materialism would have increased.

In Denmark (see fig. 4-8), unlike the seven other countries, there was actually a small increase in Postmaterialism during the 1970s; without replacement, there would have been very little change in PDI scores between 1973 and 1980. After 1980, there was a fairly continuous movement toward Postmaterialism, and in both 1987 and 1988, there were the same numbers of Postmaterialists and Materialists. Clearly, there would have been an increase in Postmaterialism even without replacement. Between 1973 and 1988, for example, the PDI rose 33 points; according to our estimates, if there had been no replacement, the PDI would have increased 20 points. In other words, three-fifths of the increase in Postmaterialism would have occurred even if there had been no replacement. Even so, two-fifths of the increase results from replacement. Between 1988 and 1992, there was another continuous movement toward Postmaterialism. In both 1991 and 1992, the PDI would have been positive even if there had been no replacement. Between 1973 and 1992, there was a 55-point gain on our values index. If



**Fig. 4-9. Percentage of Postmaterialists minus percentage of Materialists in Ireland, 1973 through 1992.** The estimate with no generational replacement assumes that no cohorts born after 1958 entered the adult population and that older cohorts did not diminish through death. For the index scores for each cohort, see table 4-9. To approximate the distribution of respondents by years of birth, see table A9. (Data from European Community Surveys.)

there had been no replacement, there would have been a 39-point gain. Seven-tenths of the increase in Postmaterialism would have occurred even if there had been no replacement. Still, about three-tenths of the increase resulted from generational replacement.

In Ireland (see fig. 4-9) Materialism rose between 1973 and 1976, and the PDI score remained low through 1981. If there had been no replacement, the decline in our values index would have been somewhat greater. After 1981, there was a gradual rise in the PDI, and during the last five years, the PDI score was clearly higher than it was in 1973. Postmaterialism peaked in 1990. Between 1973 and 1990, scores on the PDI rose twenty points; if there had been no replacement, the PDI would have increased only six points. Three-tenths of the increase in Postmaterialism would have occurred with no generational replacement. Seven-tenths of the increase resulted from replacement. Replacement is somewhat more important when we compare change between 1973 and 1992. During this 19-year period, the values index rose 17 points; if there had been no replacement, the overall level of Postmaterialism would have been the same in 1992 as it was 19 years earlier. Generational replacement had clearly created a trend, for without replacement there would have been no change in overall levels of Postmaterialism.

These data demonstrate that replacement usually contributes to or causes rising levels of Postmaterialism, but they also show that replacement does not always lead to the growth of Postmaterialist values. Belgium is an exception. It is the only one of these countries in which there was not a clear increase in Postmaterialism, and the only country in which cohorts became more Materialist as they moved through the life cycle. Although replacement affected the overall distribution of values, its basic effect was to impede a movement toward Materialism.

The pattern in Belgium appears to result from the impact of unemployment upon political values, for, as we saw in chapter 3, once we control for the short-term effects of unemployment, there is a trend toward Postmaterialism (see table 3-3). Although inflation rates were not especially high in Belgium, there were high levels of unemployment. Unemployment rates were 10 percent or higher between 1981 and 1988, the highest in any of these countries except Ireland. Government policies may have contributed to disaffection, for the Belgian government introduced austerity measures that cut unemployment and health benefits and froze pensions and wages. Official economic statistics suggest that in the early 1980s Belgians experienced a 30 percent decline in real income. Some economists argue that Belgium has a large underground economy, and these official statistics may overstate the actual decline in real income. Even so, Belgians faced substantial economic hardships, and these hardships appear to have contributed to a sharp decline in life satisfaction among the Belgian public, whereas in the other seven countries levels of life satisfaction remained relatively stable (Inglehart 1990). These difficulties also contributed to an increase in Materialism as Belgians aged, a decline registered among both the French- and Dutch-speaking populations. Were it not for the offsetting impact of replacement, overall levels of Materialism would have increased among the mass public. The Belgian case illustrates that the trend toward Postmaterialism is not inevitable, even though in most societies young adults are more likely to have Postmaterialist values than their elders.

Further insights about the impact of generational replacement can be gained by examining the combined six-nation sample of Germany, Britain, The Netherlands, France, Belgium, and Italy. The results for the eight European societies clearly demonstrate that replacement can have a variety of effects. Even though we have sizeable samples, however, the *Ns* become fairly small when we divide the samples into birth cohorts. As we saw in chapter 2, combining the samples from these six societies yields a massive sample size. With this massive *N*, sampling error is greatly reduced. Most of our cohort estimates can be based upon over 1,000 cases, and even the smallest cohorts contain over 600 cases.

As we saw in chapters 2 and 3, even with this massive sample there is

short-term change, and this change largely results from the short-term effects of inflation. However, these short-term changes should not obscure the impact of longer-term changes, and these changes are largely driven by generational replacement. In our appendix, we present the results of census data to show the combined adult population of these six countries at the end of 1970 and the end of 1992 (see table A10). As we show, there was a very substantial decline in the number of Europeans born before 1906, and even the number of Europeans born between 1906 and 1915 fell by more than half during these 22 years. During these decades, 86 million Europeans born after 1955 reached adulthood in these six societies, including 24 million who had not yet been born when our surveys began. In 1992, European adults born after 1955 made up 40 percent of the adult population. In other words, two-fifths of the adult population had been replaced. In our appendix, we also present the overall distribution of our combined sample by years of birth (see table A11), and as can be seen, the generational replacement in the actual population is closely matched by our surveys.<sup>12</sup>

To measure the impact of replacement upon value change, we once again begin by dividing our sample into our birth cohorts, measuring values among each cohort. Table 4-10 presents the PDI scores for each cohort for each survey year. As with our earlier tables, we can examine the relationship between age and Materialist/Postmaterialist values by reading down each column and can determine how cohorts change with aging by reading from left to right across each row.

Reading down the columns of table 4-10 reveals a clear pattern. There is a consistent tendency for older cohorts to be more Materialistic than younger cohorts. In 15 of the 19 survey years, there is a monotonic relationship as one reads down the columns. Breaks in monotonicity, where they occur, could easily result from sampling error. Computing a least-squares regression estimate down each column demonstrates that scores on our values index decline at an average rate (the mean for all 19 survey years) of .71 points per year of age.

As with our individual countries, we are able to track six cohorts for at least one decade as they move through the life cycle. The 1946–55 cohort is somewhat more Materialistic in 1992 than it was when it was first sampled, but the remaining cohorts have shifted somewhat toward Postmaterialism. On balance, cohorts have about the same value scores in 1992 as they did when they were first sampled. Computing a least-squares regression estimate across each row, we find only the 1906–15 cohort (which we track through 1982) becomes more Materialistic with age, while the five cohorts born between 1916 and 1965 become more *Postmaterialistic* as they move through the life cycle. The mean change per annum for all six cohorts reveals that the values index *increases* .70 points per year of aging.

**TABLE 4-10.** Percentage of Postmaterialists Minus Percentage of Materialists among Six West European Publics, by Years of Birth, 1970-71 through 1992

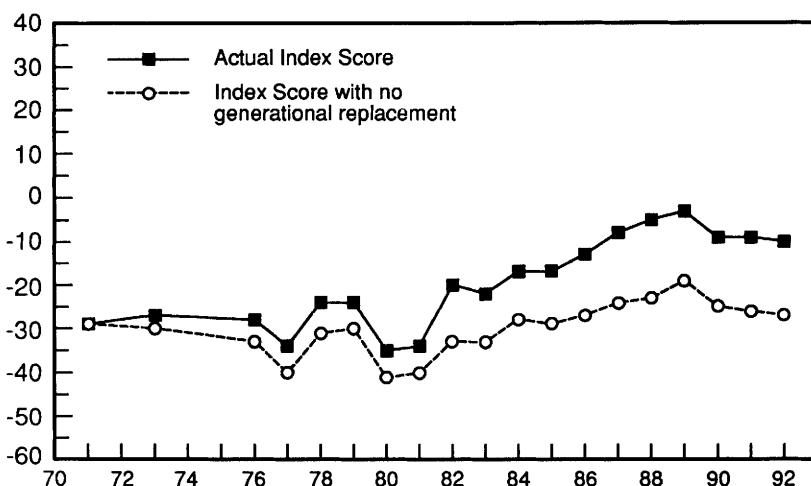
**Source:** European Community Surveys. We used combined national samples of Germany, Britain, The Netherlands, France, Belgium, and Italy.

*Note:* Based on the four-item values index. For the total number of cases for each year, see table 2-3. For the distribution of respondents by years of birth, see table A11. Asterisk (\*) indicates score not presented because of the small number of cases. Double asterisk (\*\*) indicates score not presented because the advanced age of the cohort makes it nonrepresentative for comparisons across time or because there are too few cases remaining.

Although these results do not allow us to definitively reject a life-cycle interpretation for age-group differences, they provide a strong clue about the impact of generational replacement. We know that Postmaterialism increased over time, but since cohorts became more Postmaterialist with age, replacement cannot account for all of the shift toward Postmaterialism. As younger, more Postmaterialist cohorts entered the adult population, however, replacement must have contributed to the rise of Postmaterialism.

Figure 4-10 allows us to estimate the impact of generational replacement. As with our earlier figures, the solid line shows the actual scores on our values index; the broken line presents our estimate of what the PDI score would be if there had been no generational replacement.<sup>13</sup>

As figure 4-10 reveals, there was a rise in Materialism between 1970–71 and the early 1980s. If there had been no replacement during this decade, the rise in Materialism would have been somewhat greater. After 1981, there was a gradual increase in Postmaterialism. By 1984 and 1985, the PDI was 12 points higher than it was in our baseline surveys. If there had been no replacement, the PDI would have been the same in 1984 and 1985 as it was in 1970–71.



**Fig. 4-10. Percentage of Postmaterialists minus percentage of Materialists among six Western European publics, 1970–71 through 1992.** The estimate with no generational replacement assumes that no cohorts born after 1955 entered the adult population and that older cohorts did not diminish through death. For the index scores for each cohort, see table 4-10. To approximate the distribution of respondents by years of birth, see table A11. (Data from European Community Surveys.)

The combined European sample, therefore, provided a classic example of replacement creating a trend.

In an earlier study (Abramson and Inglehart 1987), we predicted that generational replacement would contribute to increased Postmaterialism after 1985, but for the remainder of the 1980s Postmaterialism actually increased faster than we predicted. The PDI score peaked in 1989. Between 1970–71 and 1989 the PDI rose 26 points. If there had been no replacement the PDI would have increased ten points between 1970–72 and 1989. Just under two-fifths of the rise in Postmaterialism would have occurred even if there had been no generational replacement. On the other hand, three-fifths of the rise resulted from replacement.

We have seen that in the early 1990s Postmaterialism declined somewhat. In fact, over the full 22-year period we study, Postmaterialism increased at a rate very close to the rate that replacement alone would predict. Between 1970–71 and 1992, the overall PDI score rose 19 points; if there had been no replacement, according to our estimates, the PDI score would have increased only two points. Only about one-tenth of the increase in Postmaterialism would have occurred if there had been no generational replacement. Nine-tenths resulted from replacement. Generational replacement was the major long-term force contributing to the rise of Postmaterialism. If new cohorts had not reached adulthood, and if older cohorts with heavily Materialist values had not diminished through death, overall levels of Postmaterialism in 1992 would be very close to the overall levels observed over two decades earlier. This result is consistent with our multivariate analysis (see table 3-3), which demonstrates that, once short-term forces are controlled, the overall trend toward Postmaterialism is very close to the magnitude that one would expect from the impact of generational replacement alone.

## **Conclusions**

These analyses provide compelling evidence that population replacement is the major long-term force pushing overall levels of Postmaterialism upward. Admittedly, it is impossible to definitively demonstrate that age differences are the result of different formative socialization experiences. Even though cohorts clearly have not become more Materialist with age in any society except Belgium, one could always argue that there is a natural tendency for persons to become more Materialist as they age, and that short-term forces conducive to Postmaterialism prevented a move toward Materialism. However, this scarcely means that the generational replacement thesis is “fundamentally flawed.” Rather, it seems incumbent upon critics of the thesis to advance a plausible alternative explanation for the failure of cohorts to become more Materialist as they age.

Although the long-term impact of replacement is to push Postmaterialism upward, replacement can have a wide variety of effects. As we have argued, replacement can lead to six possible outcomes, one of which is to have no effect on the overall distribution of values. There are clearly many instances in which replacement does not affect the distribution of values (see Mayer 1992), but given the tendency of older cohorts to be more Materialistic than younger cohorts, replacement must affect the overall distribution of values. The analyses in this chapter demonstrate that all five possible outcomes have occurred. In six of the eight countries we studied, the overall impact of replacement was either to create or to be the main force contributing to the shift toward Postmaterialism. In Denmark, where cohorts themselves have become markedly more Postmaterialist as they moved through the life cycle, replacement contributed to the trend toward Postmaterialism, although most of the shift would have occurred even if there had been no replacement. In Belgium, where cohorts became more Materialistic with age, replacement prevented a trend toward Materialism. There are subperiods, however, in which replacement had other effects. In most societies during the 1970s, replacement tended to prevent a short-term trend toward Materialism. In addition, if one examines the change in Belgium between 1970–71 and 1989, one might very well conclude that replacement had reversed a trend toward Materialism.

Just as replacement contributed to the rise of Postmaterialism in the past, it is likely to contribute to the rise of Postmaterialism in the future. Before turning to projections, however, we will examine an alternative explanation for the relationship between age and values. We have shown the young to be more Postmaterialistic than their elders, and have demonstrated that in most societies the young did not become more Materialistic as they aged. One could still argue that cohort differences do not result from differences in the formative socialization of younger and older cohorts, however. In chapter 5 we will examine an important and superficially plausible alternative explanation.



## CHAPTER 5

### **Education, Security, and Postmaterialism in Western Europe**

Generational replacement contributes to the trend toward Postmaterialism. Moreover, in most societies Europeans do not become more Materialist as they age. Clearly, there are persistent cohort differences. However, there are conflicting explanations for the intergenerational shift toward Postmaterialist values. Inglehart has argued that young cohorts differ from their elders because they experienced greater security during their formative years.

Raymond M. Duch and Michael A. Taylor (1993) advance an alternative explanation for the tendency of younger cohorts to be more Postmaterialistic than their elders. They analyzed EuroBarometer surveys from Germany, Britain, The Netherlands, France, Belgium, Italy, Denmark, and Ireland conducted between 1973 and 1984, and concluded that formal education and current economic conditions are the main factors shaping individual values. They maintain that early socialization experiences have little impact on values.

Even if Duch and Taylor were correct, generational replacement would continue to contribute to higher levels of Postmaterialism for decades to come. Young Europeans are much more likely to have higher levels of formal education than their elders, and the overall increase in educational levels among the European public results mainly from generational replacement.<sup>1</sup> Even if the percentage of European youths who attain secondary and postsecondary levels of education does not grow in the future, older cohorts with relatively low levels of formal education will be leaving these societies through death.

There are serious flaws with Duch and Taylor's analysis, demonstrated in more detail elsewhere (Abramson and Inglehart 1994).<sup>2</sup> Most importantly, Duch and Taylor fail to distinguish between the effects of *levels* of economic development and the effects of economic *growth rates*.<sup>3</sup> Nonetheless, Duch and Taylor provide a valuable service by focusing on the role of education in value formation. Unfortunately, their analysis overlooks the multifaceted nature of education in Western societies.

### **Education: Indoctrinator or an Indicator of Early Security?**

Duch and Taylor find a strong correlation between Postmaterialist values and educational levels, and they argue that this could result from either of two causes: (1) education has an inherent tendency to instill liberal values; or (2) higher education exposes students to official norms favoring democratic values. They note that Inglehart (1971, 1977, 1990) also found a strong relationship between education and Postmaterialism, and that he attributes this relationship to the tendency for more educated Europeans to come from more affluent families. Education, Inglehart argues, is a strong indicator of how secure respondents were during their formative years, since education is completed mostly during the preadult years, and since education is strongly related to parental socioeconomic status. Duch and Taylor dismiss this interpretation, but they present no evidence on this crucial point. Instead, they simply assume that education is only weakly related to the prosperity of the respondent's family of origin. They are mistaken, as we will demonstrate, but for the moment we will pursue their reasoning.

Duch and Taylor conduct a regression analysis to explain variation in values, employing the basic four-item values index. They include per capita GNP during the formative years of each specified birth cohort in their analysis. They claim that this controls for any tendency education might have to reflect family prosperity. They find that education "is an overwhelmingly important factor in the explanation for how respondents rank these four items" (1993, 764), and interpret this relationship as demonstrating the power of educational institutions to teach democratic values. In fact, this finding tends to confirm the importance of economic security during formative socialization.

The assertion that education has some inherent tendency to instill democratic values may seem plausible, but it does not stand up in historical perspective. In Germany during the Weimar era, for example, the National Socialists won student elections in eight universities in 1929 and 1930, at a time when the Nazis won only 18 percent of the vote in national elections (Kolb 1988). Among Soviet émigrés in the 1950s, the more educated were the most supportive of the Stalinist system (see Inkeles and Bauer 1959). Today, higher education does tend to support democratic values, but this relationship reflects specific historical conditions and is not an automatic consequence of education.

Although education per se does not contribute to democratic political values, there is a positive relationship between education and Postmaterialism, and this relationship persists even when we take into account that better-educated Europeans were more likely to have come of age during periods of relative prosperity. Let us examine the relationship between education and

values in detail. Table 5-1 shows the distribution of Materialist and Postmaterialist value priorities across the various birth cohorts and educational strata for each of the eight countries examined by Duch and Taylor. The table presents the pooled results of the EuroBarometer surveys conducted from 1980 through 1989, showing the distribution of values controlling for level of education and years of birth. Like Duch and Taylor, we employ the basic four-item measure, the only measure available for this large number of surveys.

Reading across these rows, we see a consistent tendency for Europeans with higher levels of education to be less likely to be Materialists and more likely to be Postmaterialists than those with lower educational levels. Indeed, these relationships are found even among the cohorts that were educated in Germany during the Third Reich (the 1916–25 cohort) and in Italy under fascism (the 1906–15 and the 1916–25 cohorts). By computing the Percentage Difference Index (PDI), we find that among all three of these cohorts respondents with higher levels of education have higher levels of Postmaterialism than those with lower levels of education. Obviously, these relationships do not occur because the German educational system under Hitler or the Italian educational system under Mussolini promoted democratic values. It seems far more likely that these relationships are found at least partly because Germans and Italians who attained higher educational levels came from more secure social backgrounds.

Because of historical changes, younger cohorts generally have considerably higher educational levels than their elders. Consequently, when one “controls” for level of education the cohort differences are reduced. Reading down these columns, however, demonstrates that the tendency of younger Europeans to have higher levels of Postmaterialism than their elders is *not* simply a result of their higher educational levels. Within each of the three educational levels in all eight countries, there is a clear tendency for the percentage of Materialists to increase with age and for the percentage of Postmaterialists to decrease.

In figure 5-1 we present the pooled results for all eight countries, weighting each country according to its population. We present the PDI score for the three educational categories among all eight cohorts.

Within all eight cohorts Postmaterialism increases as educational levels rise. Figure 5-1 also allows us to compare Europeans born during different periods, controlling for level of education. Among Europeans with a primary education, there is a consistent relationship between youth and Postmaterialism. The oldest cohort of Europeans with a secondary-level education has a marginally higher PDI score than the second oldest cohort. However, among all of the cohorts born after 1905 there is a consistent tendency for Postmaterialism to rise as we move to younger cohorts. Among those with higher education, Postmaterialism rises as one progresses from the oldest

**TABLE 5-1. Distribution of Materialist/Postmaterialist Values, by Years of Birth and Level of Education in Eight Western European Societies, 1980–89**

Years of Birth by Country	Level of Education (age left school)					
	Primary (through age 14)			Secondary (ages 15-18)		
	Materialist	Postmaterialist	(N)	Materialist	Postmaterialist	(N)
Germany						
After 1965	10%	40%	(30)	12%	23%	(462)
1956-65	32%	16%	(284)	20%	21%	(2,169)
1946-55	26%	13%	(504)	24%	17%	(1,996)
1936-45	31%	11%	(723)	29%	14%	(1,999)
1926-35	35%	10%	(857)	34%	13%	(1,389)
<b>1916-25</b>	<b>41%</b>	<b>7%</b>	<b>(882)</b>	<b>34%</b>	<b>11%</b>	<b>(1,266)</b>
1906-15	45%	5%	(569)	38%	9%	(639)
1896-1905	52%	6%	(112)	43%	9%	(117)
Britain						
After 1965	*		(11)	14%	19%	(873)
1956-65	21%	28%	(29)	21%	15%	(3,023)
1946-55	24%	12%	(75)	27%	13%	(3,258)
1936-45	26%	16%	(133)	25%	12%	(2,409)
1926-35	25%	10%	(1,166)	25%	13%	(1,213)
1916-25	31%	9%	(1,636)	33%	11%	(899)
1906-15	36%	7%	(1,313)	39%	8%	(456)
1896-1905	34%	6%	(345)	34%	8%	(107)
The Netherlands						
After 1965	*		(9)	14%	26%	(263)
1956-65	30%	15%	(110)	23%	19%	(1,553)
1946-55	30%	14%	(520)	24%	18%	(2,309)

1936-45	33%	10%	(560)	27%	17%	(1,409)	15%	29%	(980)
1926-35	35%	8%	(717)	32%	11%	(933)	23%	21%	(694)
1916-25	38%	8%	(888)	28%	12%	(739)	23%	16%	(574)
1906-15	45%	6%	(732)	32%	10%	(363)	28%	9%	(243)
1896-1905	46%	6%	(217)	26%	10%	(69)	37%	3%	(60)
France		*							
After 1965			(19)	32%	12%	(441)	15%	26%	(120)
1956-65	36%	14%	(154)	34%	14%	(2,247)	18%	27%	(1,267)
1946-55	42%	7%	(770)	36%	12%	(1,956)	18%	27%	(1,524)
1936-45	45%	6%	(859)	36%	12%	(954)	16%	26%	(645)
1926-35	49%	5%	(1,314)	36%	10%	(858)	27%	21%	(369)
1916-25	50%	5%	(1,241)	41%	12%	(640)	29%	19%	(345)
1906-15	55%	3%	(1,014)	49%	4%	(343)	34%	7%	(149)
1896-1905	55%	3%	(302)	43%	4%	(94)	44%	7%	(43)
Belgium									
After 1965			(80)	29%	15%	(269)	32%	15%	(101)
1956-65	36%	11%	(307)	37%	9%	(1,897)	24%	22%	(1,392)
1946-55	45%	6%	(393)	38%	9%	(1,782)	25%	23%	(1,273)
1936-45	43%	6%	(620)	38%	10%	(1,576)	29%	18%	(853)
1926-35	47%	6%	(914)	39%	9%	(1,243)	34%	16%	(544)
1916-25	54%	5%	(1,064)	45%	6%	(917)	34%	14%	(288)
1906-15	58%	3%	(878)	45%	7%	(388)	32%	8%	(126)
1896-1905	66%	3%	(293)	46%	6%	(94)	33%	10%	(30)
Italy									
After 1965			(265)	29%	11%	(284)	19%	12%	(108)
1956-65	34%	6%	(863)	32%	12%	(1,80)	24%	17%	(1,107)
1946-55	46%	6%	(1,570)	33%	11%	(841)	24%	17%	(1,122)
1936-45	52%	5%	(2,306)	39%	10%	(618)	34%	13%	(616)
1926-35	54%	4%	(2,712)	40%	8%	(391)	41%	8%	(374)
<b>1916-25</b>	<b>57%</b>	<b>3%</b>	<b>(2,062)</b>	<b>50%</b>	<b>4%</b>	<b>(275)</b>	<b>46%</b>	<b>8%</b>	<b>(213)</b>
<b>1906-15</b>	<b>59%</b>	<b>3%</b>	<b>(1,191)</b>	<b>55%</b>	<b>3%</b>	<b>(114)</b>	<b>49%</b>	<b>4%</b>	<b>(57)</b>
1896-1905	62%	2%	(208)	*	*	(15)	*	*	(8)

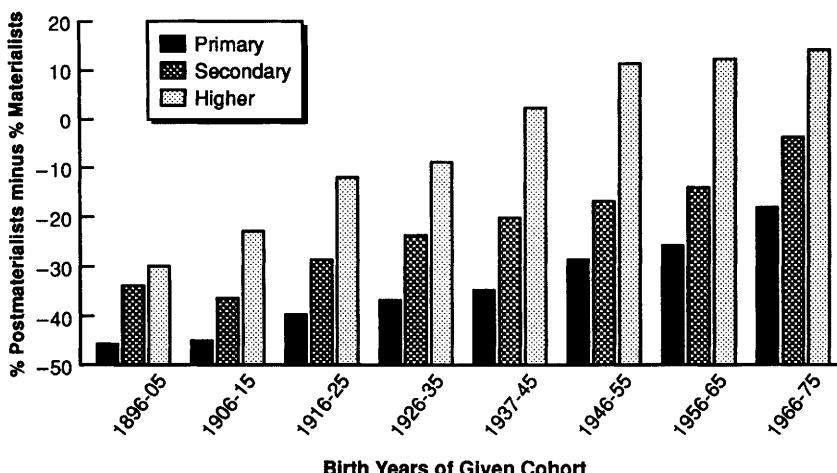
(continued)

TABLE 5-1—Continued

Years of Birth by Country	Level of Education (age left school)					
	Primary (through age 14)			Secondary (ages 15–18)		
	Materialist	Postmaterialist	(N)	Materialist	Postmaterialist	(N)
<b>Denmark</b>						
After 1965	*					
1956–65	37%	11%	(23)	20%	18%	(418)
1946–55	33%	10%	(118)	25%	14%	(1,640)
1936–45	34%	8%	(558)	24%	14%	(1,861)
1926–35	34%	7%	(1,179)	26%	12%	(1,006)
1916–25	36%	5%	(1,288)	27%	11%	(623)
1906–15	44%	4%	(1,547)	31%	9%	(545)
1896–1905	45%	2%	(1,194)	38%	8%	(338)
Ireland						
After 1965	20%	18%	(80)	19%	15%	(776)
1956–65	33%	6%	(348)	30%	10%	(3,106)
1946–55	34%	7%	(619)	37%	7%	(2,503)
1936–45	42%	4%	(633)	43%	5%	(1,828)
1926–35	40%	5%	(886)	42%	4%	(1,660)
1916–25	53%	2%	(898)	50%	3%	(1,310)
1906–15	53%	3%	(580)	52%	3%	(585)
1896–1905	52%	3%	(143)	50%	6%	(95)

Source: Euro-Barometer Surveys. Based upon the pooled results of surveys conducted from 1980 through 1989.

Note: Based upon the four-choice Materialist/Postmaterialist value battery. The percentage scored as having "mixed" values is not included, but is always the total percentage of Materialists and Postmaterialists subtracted from 100 percent. The number in parentheses is the actual number of respondents who received a score on the values index. Asterisk (\*) indicates fewer than 25 cases. The cohorts that were educated in Germany during the Third Reich and in Fascist Italy are indicated in bold type.



**Fig. 5-1. Values by birth cohort and educational level in eight Western European societies, 1980–89.** Based on the four-item values index. Each column shows the percentage of Postmaterialists minus the percentage of Materialists for the given educational level within each cohort. (Merged results of European Community Surveys conducted between 1980 and 1989.)

cohort to the youngest cohort. Figure 5-1 also reveals that cohort differences are greater among Europeans born from 1896 through 1945 than they are among those born from 1946 through 1975.

Table 5-1 and figure 5-1 also show that there are massive intergenerational differences *within* each educational stratum. For example, among younger cohorts of university-educated Europeans there are substantially more Postmaterialists, while among older Europeans with a university education there are far more Materialists than Postmaterialists. Getting a university education in the 1920s or 1930s had quite a different impact on values than getting a university education in the 1960s and 1970s. There is nothing inherent in education that automatically produces Postmaterialist values. Today higher education may be conducive to Postmaterialism because it exposes students to a largely Postmaterialistic milieu; but a generation or two ago this simply was not the case. Europeans who received a university education then were exposed to a milieu that was overwhelmingly conducive to Materialist values.

Why has the impact of education on values changed dramatically over the past few generations? As the value-change theory implies, we suggest that the process of intergenerational change, linked with the postwar economic

miracles and the emergence of social security systems, have gradually transformed the value systems prevailing at given educational levels.

As we have seen, there is a strong tendency for the older birth cohorts in each nation to have much larger numbers of Materialists than of Postmaterialists; conversely, the younger cohorts have relatively high proportions of Postmaterialists. This pattern is implicit in value-change theory because younger cohorts were raised under more secure conditions than older cohorts. To some extent, Duch and Taylor's measure of per capita GNP does capture *this* variation, though it does so imperfectly. Their measure taps only one source of security or insecurity—the overall level of economic prosperity at some time in the past. It does not tap other major factors shaping relative levels of security or insecurity, such as whether the country was at war or occupied by enemy forces or the degree to which the nation's social welfare system had developed. All of these factors have been emphasized by Inglehart as major contributors to feelings of security or insecurity, but they remained unmeasured by Duch and Taylor's indicators.

Moreover, Duch and Taylor are mistaken in claiming that by including GNP per capita at a given point in the past in their regression analysis they have controlled for the tendency for education to be linked with relative affluence. This would be true only if educational opportunities were distributed equally across each society. To illustrate this point, let us again examine the pattern in table 5-1. As already noted, when we move up and down the columns in table 5-1, we find large value differences *among* cohorts. Certain eras, such as the Great Depression or World War II, were characterized by relatively insecure conditions, while other eras were characterized by relative prosperity. Even the most privileged Europeans felt some insecurity during the Great Depression and World War II. However, these data also show large differences *within* each birth cohort. Moving across the rows, we find massive differences in the proportion of Materialists to Postmaterialists among the respective educational strata. The more educated strata of any cohort consistently show much higher proportions of Postmaterialists than the less educated strata because the more prosperous and the better-educated strata tend to be more secure than the less privileged, and this is true even during periods of deprivation. Duch and Taylor do not control for these differences with their indicator of mean GNP per capita at any given point in time. This measure may provide a rough indicator of *overall* economic conditions prevailing as the given cohort grew up, but it does not control for differences *between* the situation of the more educated and less educated strata within each cohort. As table 5-1 and figure 5-1 demonstrate, these differences are linked with massive differences in the distribution of Materialist/Postmaterialist values. Duch and Taylor have not controlled for these differences, and the impact of education in their regression model mainly reflects the differences in the economic security experienced during preadult years.

Duch and Taylor's individual-level analysis reveals that education is, overwhelmingly, the strongest predictor of values. They interpret this as demonstrating that educational institutions have astonishing powers of indoctrination, although in a subsequent revised analysis (1994, 819) they acknowledge that "education is correlated with a plethora of other factors that may or may not be relevant to the postmaterialist theory." In their original analysis, they clearly assumed that an individual's educational level is *not* linked with the economic status of his or her parents, and that they have controlled for any such tendency, even if it were. As we have just seen, this latter assumption is unfounded. Moreover, the assumption that educational level is only weakly related to parental background is inaccurate.

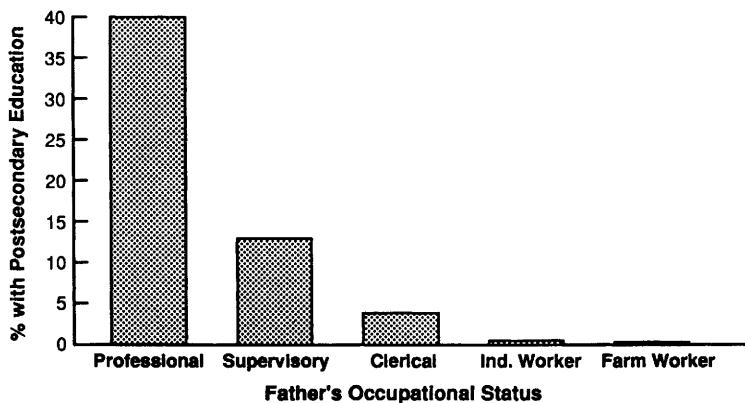
Duch and Taylor ignore substantial evidence that educational differences in Western Europe are strongly related to parental status.<sup>4</sup> This relationship is documented in Raymond Boudon's classic study of education and social mobility. Boudon (1973, 134–35) presents the results of a study of over 14,000 Frenchmen sampled in 1964. We have recalculated his results and presented them in table 5-2, which shows the family origins (defined by father's occupation) among Frenchmen with differing levels of educational attainment. There is a very strong relationship between social background and educational attainment. A majority of the Frenchmen with postsecondary education had fathers who were professionals, even though only 6 percent of all Frenchmen had fathers who were professionals. Indeed, 91 percent of Frenchmen with postsecondary education had fathers with middle-class occupations, even though only 25 percent of all Frenchmen had middle-class fathers.

The results are even more dramatic when we consider social-class differ-

**TABLE 5-2. Class Background of French Men, by Educational Attainment, 1964**

Father's Socio-occupational Status	Educational Attainment					All Men
	No Formal Training	Elementary	Secondary	Postsecondary		
Professional, mana- gerial	.0%	1.9%	13.1%	57.6%	6.1%	
Supervisory, middle level, or techni- cian	9.3	4.0	17.7	23.0	7.2	
Clerical or salaried nonsupervisory	8.8	10.9	16.5	10.9	11.8	
Industrial worker	37.7	71.6	50.6	8.2	64.8	
Farm worker (wage)	44.2	11.6	2.1	.3	10.0	
Total percentage	100.0%	100.0%	100.0%	100.0%	99.9%	
(N)	(215)	(11,038)	(2,432)	(599)	(14,284)	

*Source:* Recalculated by authors from Boudon 1973, table 7.7, 134–35.



**Fig. 5-2. Educational attainment by father's occupational status, 1964.**  
Each column shows the percentage of each category having higher education. (Calculated from data in Boudon 1973, 134–35.)

ences in the chances of attaining a postsecondary education. Figure 5-2 shows the percentage of Frenchmen who attained a postsecondary education, controlling for the fathers' occupational background. Frenchmen with professional fathers were 74 times as likely to receive a postsecondary education as those whose fathers were industrial workers, and 280 times as likely to receive a post-secondary education as those whose fathers were farm workers. These results reflect past inequalities in educational opportunities. Similar results are found for other European societies.

As Boudon points out, opportunities for higher education in Western Europe have been growing since World War II, and inequalities have declined. Even today, however, Western Europeans with upper-middle-class backgrounds are much more likely to acquire a university education than those with working-class backgrounds. For example, in the *Länder* of the former West Germany, the children of tenured civil servants are nearly 20 times as likely to attend a Gymnasium (the academic schools that provide access to university education) as are children of manual workers, and children of salaried employees are almost 7 times as likely to attend a Gymnasium as the children of manual workers (see Dalton 1993).

#### Predicting Values: Respondents' SES versus Parents' SES

We need to distinguish between two potential influences of education: (1) that education indoctrinates people to learn specific values; and (2) that education is a strong indicator of whether one was raised by a prosperous or an underprivileged family. Duch and Taylor's interpretation is based on the assumption

that the latter effect is weak or negligible. In light of the evidence we have reviewed, this assumption is untenable. So far, however, we have not examined more direct evidence of the impact of security during the early years. Relevant data are scarce, partly because formative security is difficult to measure.

In a cross-sectional survey, researchers can ask respondents about the conditions prevailing in their family when they were growing up, seeking information about conditions as they may have existed several decades earlier. Generally, it is not feasible to ask respondents about family income, which probably varied from year to year and which is probably not known to children. One *can* ask respondents about their parents' educational attainment, since in most cases this level is fixed before the respondents were born. One can also ask respondents about their parents' occupation. Adults are more likely to change their occupation than their level of education, but their occupation is more stable than income and respondents are at least likely to know their parents' occupation. Recall information about family education and income can provide a relatively reliable measure of parental socioeconomic status (SES), although such questions are seldom asked.

Nevertheless, some data are available that allow us to examine the impact of parental socioeconomic status on the subsequent values of their children. They come from two surveys: (1) a five-nation survey carried out by the European Community Information Service in 1971 and (2) the *Political Action* survey carried out by Samuel H. Barnes, Max Kaase, and their colleagues in 1974 (Barnes, Kaase, et al. 1979). In both studies, respondents were asked their father's occupation and educational level "when you were growing up." In addition, standard questions were used to measure the respondent's own occupation and income. With both studies we can compare the relation of parental SES (based on information provided by the respondent) to Materialist/Postmaterialist values with the relationship of the respondents' own SES to those values. In both surveys, father's SES was somewhat more correlated with values than was the respondent's own SES (see Inglehart 1977, 78–81; Inglehart 1979, 324–29).

These are remarkable findings, since one normally finds that an individual's *own* current characteristics provide a stronger explanation for his or her own current attitudes than the previous status of some *other* person. These findings strongly suggest that the conditions experienced during an individual's formative years affect his or her values at least as much as an individual's own recent experiences.

## Conclusions

Duch and Taylor perform a valuable service by examining the role of education. They are correct to focus on education as a key variable in understanding

value formation. Whether or not people have Materialist or Postmaterialist values is closely linked with their level of educational attainment (Inglehart 1977, 1979). However, education is a complex variable that taps a number of distinct factors. To control for education in the belief that one has thereby explained a phenomenon may conceal more than it reveals. Nevertheless, social scientists sometimes introduce controls for education and assume that what they are explaining is self-evident. Exactly what *has* been explained, however? If one presses this question, one is apt to get an answer that emphasizes some form of indoctrination. In the present case, the possibilities proposed by Duch and Taylor are: education is conducive to Postmaterialist values because (1) these values are deliberately indoctrinated by the educational institutions themselves; or (2) because exposure to higher education brings Europeans into a milieu dominated by democratic values.

Higher education does not automatically expose students to predominantly liberal values or to a milieu that promotes Postmaterialist values. In Nazi Germany, for example, neither the educational institutions nor student bodies propagated these values. Nevertheless, in Germany as elsewhere, the more educated—even those who were educated during the Nazi era—are substantially more likely to be Postmaterialists than the less educated. The effects of formal indoctrination received in that era seem to have faded away; the effects of being raised by relatively privileged and secure families seems to have persisted.

We suggest that “education” actually taps a number of distinct variables: (1) indoctrination, both formal and informal; (2) the respondent’s current socioeconomic status; (3) parental socioeconomic status during the respondent’s formative years; (4) the historical era when the respondent was born and educated; (5) the degree to which the respondent has acquired various skills; and 6) the respondent’s information level, since these skills make it easier to acquire information.

Moreover, the relative weight of these factors varies with the dependent variable under consideration. When learning basic values, which by definition are relatively deeply instilled and learned early, the role of early security may be relatively great. When learning peripheral opinions, the ability to process immediate media flows may be relatively great.

When controlling for education one is controlling not only for indoctrination, but also for the degree of prosperity experienced during the respondent’s formative years. This is true for two reasons. First, at any given time, more prosperous families provide their children with more education than less prosperous families. Second, the younger cohorts grew up during more prosperous times and prosperous societies tend to provide more education than less prosperous societies. As a result, when one controls for level of education one is partly controlling for year of birth itself. It is therefore misleading to

argue that controlling for education explains away a specific cohort effect. Given the relatively strong correlation between year of birth and level of education, controlling for education is, in part, controlling for cohort itself.

When one controls for education, one is also controlling for the individual's own socioeconomic status at the time of the survey. This variable is strongly correlated with parental socioeconomic status ( $r = .5$  to  $.6$  in the *Political Action surveys*), but when it comes to explaining basic values parental socioeconomic status has somewhat more explanatory power than the respondent's own socioeconomic status.

Finally, when one controls for education, one is also controlling for the respondent's information level and for the cognitive skills that are acquired in the process of formal education. As a result, formal education is strongly related to levels of cognitive mobilization (see Inglehart 1977). Cognitive mobilization has a major impact on whether or not one has opinions on many subjects and whether or not respondents are likely to become involved in unconventional political action.

Thus, to believe that by controlling for education one has explained away cohort differences in values reflects simplistic assumptions about what education actually taps. Inglehart has never argued that relative affluence during formative years is the *only* factor influencing whether or not respondents develop Materialist or Postmaterialist values. However, his thesis does postulate that formative security plays a key role in intergenerational value change. Since his thesis was proposed more than two decades ago, substantial intergenerational value differences have been observed throughout advanced industrial society. To a large extent these differences appear to reflect differences in the formative socialization of younger and older birth cohorts.



## CHAPTER 6

### The Future of Postmaterialism in Western Europe

Just as algebraic techniques can be used to estimate the past impact of replacement in Western Europe, so can they be employed to estimate its future impact (see Abramson and Inglehart 1987, 1992; Inglehart 1990). In fact, these projections can be made even if one does not accept Inglehart's explanation for age-group differences. As we saw in chapter 5, Raymond M. Duch and Michael A. Taylor accept Inglehart's thesis that there are substantial differences in the values of cohorts, but argue that they result from higher levels of formal education among the young. Even if one accepted their argument, one could still project the likely impact of future replacement on the distribution of Materialist/Postmaterialist values, since older cohorts with lower levels of formal education will be continuously leaving the population through death, and since the cohorts that come of age are likely to have relatively high levels of formal education.

We do not know what values birth cohorts will have in future years, but we do have census estimates of the future population distribution of the eight Western European countries that we study.<sup>1</sup> In all eight countries, the future impact of replacement is limited by the same demographic reality. Replacement is very likely to be slower during the coming three decades than during the last two decades.

#### **The Future of Generational Replacement in Eight Societies**

Population projections for the eight countries published by the Statistical Office of the European Communities fortuitously match the cohort categories we employ in our analyses.<sup>2</sup> They present estimates through the beginning of 2020, and we will rely mainly upon the projections for the years 2000, 2010, and 2020.<sup>3</sup> These projections require assumptions about future death rates, as well as future levels of immigration and emigration. As we are concerned only with the population 15 years old and above, we can avoid assumptions about future birthrates, until we take our projections 16 or more years into the future. All of the adults to be sampled in the year 2000 have already been born, as have most adults to be sampled in 2010. To estimate the adult

population in the year 2020 one must also make assumptions about future birthrates.

In every country except Ireland, the cohorts born between 1976 and 1985 and between 1986 and 1995 are smaller than the cohorts born between 1956 and 1965 and between 1966 and 1975, and in Ireland they are projected to be the same size as these two older cohorts. Projections for the size of the cohort to be born between 1996 and 2005, which will come of age in the year 2020, are necessarily speculative, although in the early 1990s we can be confident that the mothers of these Europeans have already been born.<sup>4</sup> This cohort is also projected to be small, especially in Germany, where it is likely to make up 12 percent of the adult population.

As a result of low birthrates, replacement is likely to be slow. In table 6-1 we show the percentage of the adult population in all eight societies that was replaced during the 22 years between the end of 1970 and the end of 1992,<sup>5</sup> as well as the percentage of the adult population likely to be replaced during the 22 years between the end of 1992 and the beginning of 2015. As the table reveals, in all eight societies a substantially larger percentage of the population was replaced between 1970 and 1992 than will be replaced during the next 22 years. We also present the combined result for the six countries we study for this full period. Forty percent of the adult population was replaced

**TABLE 6-1. Percentage of the Adult Population Replaced Between 1970 and 1992 and between 1992 and 2015 in Eight Western European Societies**

	Percentage of Adult Population Replaced between the End of 1970 and the End of 1992	Percentage of Adult Population That Will Be Replaced between the End of 1992 and the Beginning of 2015
Germany	38%	29%
Britain	40%	34%
The Netherlands	42%	33%
France	41%	33%
Belgium	39%	30%
Italy	40%	27%
Denmark	39%	32%
Ireland	46%	35%
Combined population of six Western Eu- ropean societies	40%	31%

*Source:* For the sources used for the estimates between 1970 and 1992, see table A1. The projections for the years between 1992 and 2015 are based on Statistical Office of the European Communities 1992, table I-11.

*Note:* The combined population based upon estimates from Germany, Britain, The Netherlands, France, Belgium, and Italy.

over the course of the European Community surveys. During the next 22 years, only 31 percent is likely to be replaced.

### **Projecting Future Value Change**

Although algebraic techniques could be used to predict future value change in each of the eight countries, we will restrict our attention to our combined sample of Germany, Britain, The Netherlands, France, Belgium, and Italy. Our first task is to estimate the future cohort distribution for the combined population of these societies. We use census projections for each of these countries, and the combined results are presented in table 6-2.<sup>6</sup>

During the coming decades, the older cohorts will diminish greatly in size. For example, at the end of 1992 the cohorts born before 1936 made up 29 percent of the adult population. As table 6-1 reveals, by the beginning of 2000 they will make up 20 percent, by 2010 they will make up 10 percent, and by 2020, they will make up only 3 percent of the adult population. According to our calculations, between the end of 1992 and the beginning of 2000, 25 million Western Europeans will reach adulthood,<sup>7</sup> and by 2010 there will be 56 million new adults. The number of new adults to reach adulthood in 2020 depends partly upon birthrates between 1996 and 2005, and, according to census projections, birthrates will be low. Based upon census projections, we estimate that in these six societies 85 million Western Europeans will reach adulthood.

All three of the ten-year cohorts to enter the adult population will be smaller than the cohorts that reached adulthood between 1970 and 1990. As a result, replacement will be relatively slow. As we saw, between the end of 1970 and the end of 1992, 40 percent of the population of these six societies was replaced. During the seven years between the end of 1992 and the beginning of 2000, only 11 percent of it will be replaced, during the 17 years between the end of 1992 and 2010, 25 percent will be replaced, and during the 27 years between the end of 1992 and 2020, 39 percent of the adult population will be replaced. Thus, if these projections are correct, about the same share of the adult population was replaced during the 22 years between the end of 1970 and the end of 1992 as will be replaced in the next 27 years.

In making our projections about the future impact of replacement upon European values, we must use information about the current values of the cohorts. We will use the results based on our four-item measure of Materialist/Postmaterialist values and we will employ our Percentage Difference Index, which subtracts the percentage of Materialists from the percentage of Postmaterialists. We base our projections upon PDI scores of these cohorts as of 1992.<sup>8</sup> The greatest uncertainty in making these projections is estimating

**TABLE 6-2. Projected Combined Adult Population of Six Western European Publics  
in 2000, 2010, and 2020, by Years of Birth**

Years of Birth	Year of Projection				
	2000		2010		2020
	Number (in thousands)	Percentage	Number (in thousands)	Percentage	
1996–2005	0.0%		0.0%		0.0%
1986–95	31,042	0.0	35,520	14.2	29,362
1976–85	38,616	14.2	31,116	14.0	31,445
1966–75	40,519	17.7	38,308	17.3	30,784
1956–65	35,572	18.6	39,619	17.9	37,350
1946–55	29,353	16.3	33,464	15.1	37,350
1936–45	24,271	13.4	25,346	11.4	29,071
1926–35	14,136	11.1	16,586	7.5	17,413
1916–25	4,872	6.5	5,557 <sup>a</sup>	2.5 <sup>c</sup>	6,287 <sup>b</sup>
Before 1916	218,381	100.0%	221,516	99.9%	219,135
Total					99.9%

Source: Recalculated from census projections in Statistical Office of the European Communities 1992, tables I-8, I-10, and I-12.

Note: The estimates are as of January 1, 2000, January 1, 2010, and January 1, 2020. The results combined population projections for West Germany, Britain, The Netherlands, France, Belgium, and Italy.

<sup>a</sup>before 1926

<sup>b</sup>before 1936

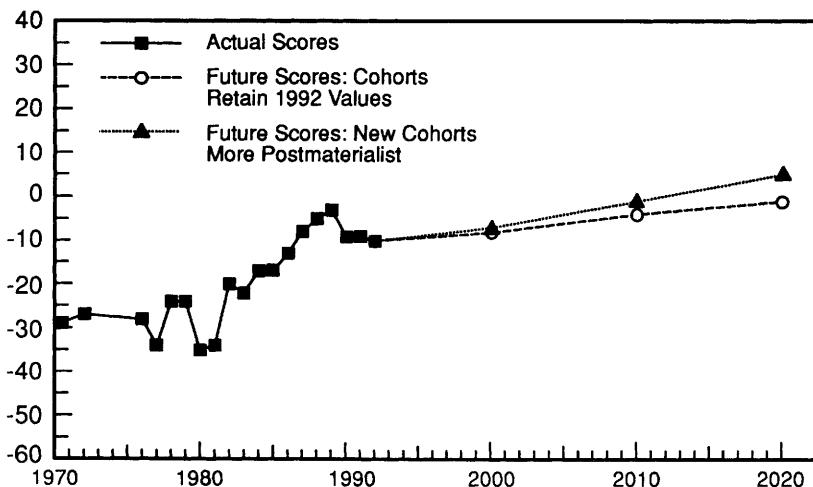
the values of cohorts that have yet to be sampled. We have no sample of Europeans born after 1977. We do have some information about Europeans born in 1976 and 1977, but scarcely enough to know the values of the full 1976–85 cohort.<sup>9</sup> We have no information at all about the values of the 1986–95 cohort, and obviously none about the cohort to be born between 1996 and 2005. However, we do know that in all 19 survey years between 1970–71 and 1992, the youngest full ten-year cohort in all of our surveys has had higher PDI scores than the second-youngest cohort.<sup>10</sup> Nonetheless, for our first projection we will assume that all cohorts born after 1975 will enter adulthood with a value score identical to that of the cohort born between 1966 and 1975. For our second projection, we will assume that, as in all previous surveys, the entering cohorts will be more Postmaterialist than the adjacent younger cohorts.

In view of past patterns, it seems conservative to assume that cohorts will tend to retain their present values, since we have ample evidence that cohorts do not become more Materialist as they grow older. However, we also know that short-term forces affect values, and these short-term forces are reflected in changes among the cohorts (see figs. 3-3 and 3-4), as well as for the entire population (see table 2-3). Since we cannot know what future short-term forces will be, we cannot predict the precise values for the population for a specific year. What we *can* do is estimate the change that would occur if generational replacement were the only force affecting future values. As we are assuming that cohorts retain their 1992 values, the only changes that will occur in our projections result from the changing cohort distribution of the European population.

The results of our estimates are presented in figure 6-1. The solid line shows the actual PDI scores among the European public between 1970 and 1992. The broken line shows our projections given these stable values. We make this projection by multiplying the observed PDI scores in 1992 (see table 4-10), by the projected cohort distribution in 2000, 2010, and 2020 (see table 6-1) and by summing these products.

As can be seen, the PDI score rises slightly (to a reading of –9) by 2000, rises somewhat more by 2010 (to –4), and rises still further by 2020, when it reaches –1, a gain of nine points over the 1992 value. Of course, the specific projected values are a function of the PDI score for 1992, as well as the distribution of values among the cohorts, but the finding that future replacement will exert long-term pressure toward Postmaterialism is robust, as long as young Europeans are more Postmaterialist than their elders—a finding observed for all 19 survey years.

Overall levels of Postmaterialism will be higher if the cohorts entering the adult population during the next two decades are more Postmaterialist than the cohort born between 1966 and 1977. As we have noted, during the past 22



**Fig. 6-1. Projected PDI Scores for six Western European publics in 2000, 2010, and 2020.** We use combined national samples of West Germany, Britain, The Netherlands, France, Belgium, and Italy. For 1970–71 through 1992 we present the actual survey results. Projections for 2000, 2010, and 2020 are based on 1992 cohort values and on assumptions about population replacement using national census projections. For the PDI scores among the cohorts in 1992, see table 4-10. For our estimates of the future cohort distribution of the societies, see table 6-2. (Values are based upon data from European Community Surveys. Projections of the future population distribution of these societies are based upon estimates provided by the Statistical Office of the European Communities.)

years, the youngest full ten-year cohort has always been more Postmaterialist than the second-youngest. The mean gap between the 1946–55 and the 1936–45 cohort is 10.6 points, the greatest gap between any adjacent cohorts. This sharp difference results, in our view, from the substantially different formative socialization experiences of the cohort born after World War II and the older cohort, which experienced the war and the postwar economic deprivation. However, there is also a substantial gap between the value scores of the two youngest ten-year cohorts. The 1956–65 cohort scored on average 7.5 points higher on the PDI than the 1946–55 cohort.<sup>11</sup>

There is also a clear gap in PDI scores among the older cohorts. The mean gap between the 1936–45 and the 1926–35 cohort is 8.1 points; the gap between the 1926–35 cohort and the 1916–25 cohort is only 3.7 points; and the gap between the 1916–25 and the 1906–15 cohort is 6.9 points. The mean gap for all five comparisons is 7.4 points. We will project this value forward and assume that the 1976–85 cohort will score 7.4 points higher on our values

index than the 1966–75 cohort, that the 1986–95 cohort will score 7.4 points higher than the 1976–85 cohort, and that the cohort born between 1996 and 2005 will score 7.4 points higher than the 1976–85 cohort.

For our second projection we assume that all of the cohorts actually sampled in 1992 will retain their 1992 values, but that the three entering cohorts will have these higher levels of Postmaterialism. The dotted line in figure 6-1 shows the results based upon these assumptions. Given that the cohorts born after 1975 were (or are projected to be) relatively small, the projected PDI is only somewhat higher than with our first assumption. By 2000, the PDI rises to  $-7$ , by 2010 the PDI rises to  $-1$ , and by 2020 it rises to  $+5$ , a gain of fifteen points over the observed value in our 1992 surveys.

### **Conclusions**

These projections suggest that slowing rates of generational replacement may lead to slower rates of value change. Between 1970–71 and 1992, there was a nineteen-point gain on our values index, and about 90 percent of this gain resulted from replacement. On the basis of our first set of assumptions about future PDI scores, replacement during the next 27 years will contribute to a nine-point gain in Postmaterialism and on the basis of our second set of assumptions it will contribute to a fifteen-point gain. If the PDI rises more, these gains are unlikely to result solely from generational replacement; they would likely be due, in part, to short-term forces conducive to Postmaterialism.

Even though replacement is slowing, it is likely to remain a long-term force pushing Postmaterialism upward. There are conditions under which replacement would not have this effect. If short-term forces lead to the erosion of Postmaterialist values, overall levels of Materialism might rise, but even under these conditions replacement is likely to impede the movement toward Materialism.

These projections, as well as our analyses in chapter 4, underscore the gradualness of replacement. Two basic factors account for this gradualness. Firstly, population replacement is slow in advanced industrial societies, since they have relatively low birthrates and death rates. The low birthrate during the mid-1970s, 1980s, and the early 1990s will lead to even lower rates of replacement in future decades, as will the birthrates between now and the early 2000s, if, as projected, European birthrates remain low. Of course, there will be substantial replacement. During the three decades between 1970 and 2000 about half (50.5 percent) of the adult population of these societies will be replaced. Even so, about half of the Europeans to be surveyed in 2000 will be old enough to have been sampled in our baseline surveys. During the four decades between 1970 and 2010, over three-fifths (63.4 percent) of the adult population will have been replaced. Even so, well over a third of all the

Europeans sampled in 2010 will be old enough to have been included in our first surveys. During the five decades between 2020 and our baseline surveys, about three-fourths (75.8 percent) of the adult population of these societies will have been replaced. Still, after half a century about a quarter of the population will be old enough to have been sampled in our baseline surveys.

There is a second reason that the effects of replacement are gradual. Even though there are strong and consistent age-group differences in political values, all Western Europeans to some extent share a common political culture. Older Europeans were socialized during periods of economic dislocation, yet they value Postmaterialist goals. In the 1992 EuroBarometer surveys, three out of five respondents born before 1926 chose at least one Postmaterialist goal. In addition, although younger cohorts are more Postmaterialist, they, too, have concerns about economic and physical security. Indeed, even among respondents born after 1965, three out of four chose at least one Materialist goal.

Postmaterialism will not rise indefinitely. Unless the values of newly entering cohorts are more Postmaterialistic than those of the second-youngest cohort, the trend toward Postmaterialism will slow down and eventually end. For example, if our first set of projections proves to be correct, the overall European population will eventually reach the level of Postmaterialism of the 1966–75 cohort, and, except for short-term forces, will remain at that level. Also, there may be conditions in which the youngest cohorts will move toward Materialism. We are hopeful that no future Western European cohort will ever face economic difficulties like those of the Great Depression or will ever live through deprivations caused by war. Even so, young Europeans will face problems of their own adjusting to the complex demands of a changing economy.

All the same, we expect a gradual movement toward Postmaterialism in Western Europe, if only because the heavily Materialistic cohorts will be leaving these societies through death. What about value change beyond Western societies? Inglehart's thesis predicts that the forces that contributed to Postmaterialism in Western Europe should contribute to a similar trend in any society in which younger cohorts grew up during periods of relative economic security. It is time to test that theory on a global scale.

## CHAPTER 7

### The Structure of Values on Five Continents

As we have seen, there is a trend toward Postmaterialism in Western Europe, and future generational replacement is likely to continue to push overall levels of Postmaterialism upward. There also appears to be a trend toward Postmaterialism in the United States. However, Inglehart's thesis suggests that the forces that contribute to Postmaterialist values should operate in all societies in which younger cohorts have experienced substantially more security during their formative years than older cohorts have. One would not expect Postmaterialist values to be a major force in preindustrial societies. However, we would expect that these values will be beginning to emerge among the younger birth cohorts in those societies that have rapidly growing economies. Until recently, however, data limitations made it difficult to test this thesis, since it was difficult to obtain relevant survey data from developing countries, and extremely difficult to obtain such data from Eastern Europe and the Soviet Union.

The World Values Surveys carried out in 1981–83 and in 1990–91 provide further evidence that economic security is conducive to a shift toward Postmaterialism. Although these surveys do not yield the detailed time series provided by the EuroBarometer surveys, they provide a far broader range of coverage. The 1981–83 survey employed the four-item measure of Materialist/Postmaterialist values in 19 societies. The 1990–91 surveys measured Materialist/Postmaterialist values in 40 societies containing over 70 percent of the world's population.

The 1990–91 World Values Survey covers an unprecedentedly broad range of the economic and political spectrum. It includes all eight members of the European Political Community we studied in detail, Portugal, Spain, and Northern Ireland, five European countries that did not belong to the Community, and the United States and Canada. Japan and South Korea were sampled, as well as such low-income countries as India and Nigeria. Twelve societies ruled (or recently ruled) by Communist parties were sampled, including the Russian Republic and the People's Republic of China. In addition, four Latin American countries were sampled: Argentina, Brazil, Chile, and Mexico. In table 7-1, we report the full list of societies studied in the 1981–83 and the 1990–91 World Values Surveys, along with the sample size for each society.<sup>1</sup>

**TABLE 7-1. Societies in the 1981–83 and the 1990–91  
World Values Survey**

Society	Sample Size in 1981–83	Sample Size in 1990–91
Wealthy Countries of the European Community		
West Germany	1,305	2,101
Britain	1,231	1,484
The Netherlands	1,221	1,017
France	1,200	1,002
Belgium	1,145	2,792
Italy	1,348	2,010
Denmark		1,030
Less Wealthy Societies of the European Community		
Ireland	1,217	1,000
Portugal		1,185
Spain	2,303	4,147
Northern Ireland	312	304
West European Countries Not in the Community		
Austria		1,460
Iceland	927	702
Finland	1,003	588
Norway	1,256	1,239
Sweden	954	1,047
North America		
Canada	1,254	1,730
U.S.A.		1,839
Latin America		
Argentina	1,005	1,002
Brazil		1,782
Chile		1,500
Mexico	1,837	1,531
Eastern Europe		
Bulgaria		1,034
Czechoslovakia		1,396
East Germany		1,336
Hungary	1,458	999
Poland		938
Societies of the Former Soviet Union		
Estonia		1,008
Latvia		903
Lithuania		1,000
Belarus		1,105
Moscow		1,102
Russia		1,961

**TABLE 7-1—Continued**

Society	Sample Size in 1981–83	Sample Size in 1990–91
Middle East		
Turkey		1,030
Asia		
China		1,000
India		2,500
East Asia		
Japan	1,204	1,011
South Korea		1,251
Africa		
Nigeria		929
South Africa	1,596	2,736

*Source:* The 1981–83 World Values Survey and the 1990–91 World Values Survey.

*Note:* We report the sample size for the 1981–83 World Values Survey only for those 19 societies that employed the four-item values measure.

We focus on the 1990–91 survey for two major reasons. First, it covers a much wider range of countries than the 1981–83 survey. Second, the 1990–91 World Values Survey includes the full twelve-item values battery, whereas the 1981–83 World Values Survey includes only the four-item battery. (As the reader will recall, all of these questions were reported in chapter 2.) This second advantage is crucial, for we must demonstrate that values can be measured across such a broad range of societies.

The value-change theory implies that Postmaterialist values emerge only when at least some members of the society have experienced relatively high levels of economic and physical security during their formative years. Skeptics may argue that the questions employed to measure Materialist/Postmaterialist values are meaningless in Third World countries. We are aware that compliant respondents will respond to almost any question, even a meaningless one. Responses to such questions will be more or less random. However, if most respondents are answering randomly, there will be no *pattern* to their responses. Instead, as we shall see, responses to the twelve-item values battery have a meaningful *structure* in all 40 societies. Moreover, the structure of responses is broadly similar across this wide range of societies: in country after country, people tend to respond to the “Postmaterialist” items in a similar fashion. Even in poor countries, the Materialist/Postmaterialist concept is meaningful. For example, in a poor society such as India public orientations polarize only weakly along a Materialist/Postmaterialist dimension, and there are very few Postmaterialists. Nonetheless, the basic concept is meaningful.

In most societies we find at least a modest number of Postmaterialists, and a value structure very similar to that found in Western Europe.

### Cross-National Survey Research

In the United States, Canada, and Western Europe, survey research is a well-established enterprise. Organizations such as the Survey Research Center of the University of Michigan or the National Opinion Research Center of the University of Chicago have been conducting high-quality surveys since the 1940s. The infrastructure for conducting multistage probability samples is in place, although, because of the expense of such surveys, many surveys employ some quota procedures. There are experienced field supervisors, well-trained interviewers, as well as personnel trained to code surveys. In addition, these societies have near-universal literacy and a public aware that public-opinion surveys are a legitimate enterprise. Most Americans and Western Europeans recognize that public-opinion interviewers are not government spies and feel free to state their opinions.<sup>2</sup>

Since the late 1980s, there has been an explosion of survey research in the Soviet Union and now in its successor states, as well as in Eastern Europe.<sup>3</sup> There have been surveys in China as well, although most are local samples. The survey research infrastructure is not well developed in these areas, however, and the quality of the surveys is not on a level with that of the best academic survey organizations in the United States and Western Europe. In Third World countries, one faces widespread illiteracy, further complicating survey efforts.<sup>4</sup> Moreover, in some poor societies accurate census data are not available, complicating efforts to develop a framework for conducting a sample. In this chapter, we analyze national surveys from China, India, and Nigeria, where for a variety of reasons it was not possible to attain a sampling precision equal to that of surveys in advanced industrial societies.

The second World Values Survey was carried out from March, 1990, to January, 1991. Representative national samples were conducted in all countries except East Germany, Northern Ireland, and the greater Moscow region (which was surveyed in addition to the entire Russian republic). The quality of these samples varies from country to country. Surveys in Western countries were carried out by professional survey organizations with a great deal of experience, most of them members of the Gallup chain. In Eastern Europe they were carried out by the respective national academies of sciences or university-based institutes, some of which had carried out few previous surveys. The surveys from India, Nigeria, and China deliberately undersampled illiterates, and are weighted accordingly. Even when they are weighted, however, these samples overrepresent the urban areas and the more educated strata. Since these groups tend to have orientations relatively similar to those

found in industrial societies, our data probably underestimate the size of cross-national differences in comparisons involving these countries. Nevertheless, our analyses reveal that these three countries frequently show very distinctive orientations.

The 1990–91 World Values Survey covered a wide range of domains, from politics to sexual and family norms, religious values, attitudes toward war, state-market relations, and the environment (see Inglehart 1994). As we have pointed out, it also includes the three sets of values used to develop the twelve-item measure of Materialism/Postmaterialism.

In order to receive a score on the twelve-item measure of Materialism/Postmaterialism respondents need to answer these questions. Even in advanced industrial societies, not all respondents answer enough questions to receive a value score. However, in every society we studied, a substantial majority of respondents were able to answer enough questions to be scored on our twelve-item measure. That most respondents answered these questions does not demonstrate that they answered them in a meaningful way.

### **The Materialist/Postmaterialist Value Dimension**

The classic question in cross-national survey research is, “Does a word or phrase have the same meaning in country A as in country B?” This problem is particularly acute in the present case, because we are not merely comparing responses from country A with those from country B, but are comparing 40 societies widely distributed around the globe and across an enormous spectrum of political and economic characteristics. Are the responses of people interviewed in these widely varying settings actually comparable?

One way to determine whether they are is to examine the context and correlates of the response to a given question. A given item may mean different things to different people. With a single item, it is difficult to determine whether this is the case. With a substantial battery of related questions, however, one can determine whether or not a given item has the same connotations in different societies. If it evokes similar responses to a series of related questions cross-culturally, the responses are probably comparable.

From the start, the Materialist/Postmaterialist values battery has been subjected to this type of test. In 1973, when the earliest surveys that employed the twelve-item values battery were conducted, the structure of responses was compared across ten different societies in Western Europe and North America. The results showed a cross-national consistency that was truly remarkable. Table 7-2 shows the overall pattern across these ten societies.<sup>5</sup> The detailed results from each of these ten societies appear in Inglehart 1977, 44–47.

In each nation, respondents were asked, “Which of the following goals do you consider the most important for your country, over the next ten years?”

**TABLE 7-2. The Materialist/Postmaterialist Dimension in Ten Western Nations, 1973  
(loadings on first principal component  
in factor analysis)**

<i>More say on job</i>	.58
<i>Less impersonal society</i>	.55
<i>Ideas count more than money</i>	.51
<i>More say in government</i>	.48
<i>Freedom of speech</i>	.43
More beautiful cities	.08
<b>Fight rising prices</b>	-.34
<b>Strong defense forces</b>	-.37
<b>Economic growth</b>	-.39
<b>Maintain stable economy</b>	-.41
<b>Fight against crime</b>	-.41
<b>Maintain order</b>	-.47

*Source:* 1973 European Community surveys carried out in the United States, France, Italy, Britain, West Germany, The Netherlands, Belgium, Ireland, Denmark, and Luxembourg. For separate analyses from each of the ten countries, see Inglehart 1977.

*Note:* Items with Materialist polarity are in bold face type; items with Postmaterialist polarity are in italic type.

Factor analysis of the rankings revealed that in every case, five items—the same five items in every country—clustered near one pole of the first principal component. These items appear in italic type in our table: they deal with such goals as freedom of expression and having more say on the job or in political life. All five of these items had been designed to tap Postmaterialist priorities. Six items—again the same six in every country—clustered near the opposite pole. Shown in bold face type, these items emphasize economic and physical security. All six were designed to tap Materialist priorities. The remaining item fell near the midpoint. This item, which refers to “more beautiful cities and countryside,” was designed to tap a Postmaterialist emphasis on aesthetics, but it did so with mixed success. For some respondents it evoked aesthetic values, but for others it evoked Materialist concerns about crime and physical security. As a result, it has a more or less neutral polarity.

On the whole, however, this battery functioned as intended. Treating the “more beautiful cities” item as neutral, one can use this battery to construct an index of Materialist/Postmaterialist values. Some individuals might give high priority to any one Postmaterialist goal for idiosyncratic reasons or even by random answering. However, those who consistently favor *all* of the Postmaterialist goals over *all* of the Materialist ones (or vice versa) are not likely

to be answering in an idiosyncratic way. They are probably responding to a meaningful Materialist/Postmaterialist dimension. Further indications that these are meaningful and comparable responses emerge from the demographic correlates of the measure built from this set of values. As Inglehart demonstrates (1977, 1990), there are cross-nationally consistent and theoretically predictable generational and socioeconomic differences between Postmaterialists and Materialists.

There is strong evidence that the Materialist/Postmaterialist battery taps a cross-nationally comparable phenomenon throughout the Western world. Is it *merely* a Western phenomenon, or does it, as the theory implies, emerge in any society that is undergoing an intergenerational shift toward higher levels of prosperity and security? Table 7-3 examines the evidence on this score, presenting the results from factor analyses of the 1990–91 World Values Survey in all 40 societies. Items that usually tap Postmaterialist values appear in *italics*; items that usually tap Materialist values appear in bold face type.

Let us first examine the question of stability over time. The value change theory implies that a Materialist/Postmaterialist dimension not only exists (at least in industrial societies), but that it persists over time with sufficient stability so that long-term change is driven by the gradual processes of generational replacement. The evidence indicates that this is the case. The 1990–91 results for Western democracies look remarkably similar to the 1973 pattern shown in table 7-2. When we compare the 1990–91 results for the nine countries sampled in both 1990–91 and 1973 we find an uncanny degree of similarity. The same basic description used to describe the first principal component in 1973 can be used to describe the 1990–91 results. In every case, the same five items—the same five items in every country—cluster near one pole of the first principal component. These are the items designed to tap Postmaterialist priorities. Six items—again the same six items in every country—clustered near the opposite pole. These are the six items designed to tap Materialist priorities.

This description holds true in 17 of the 18 Western European and North American societies—including several that had not previously been surveyed. People respond to the five Postmaterialist items (shown in *italics*) as if they tapped a similar underlying value, placing them in one cluster. People also respond to the six Materialist items (shown in bold face type) as if they tapped something very different. The one remaining item is ambivalent. There are only two exceptions to this pattern. In Northern Ireland “the fight against crime” loads weakly as a Postmaterialist item, and in Iceland “fighting rising prices” has a weak Postmaterialist polarity.

What about the other societies? Do their publics see things from a completely different perspective? Apparently not. Four Latin American societies

**TABLE 7-3. The Materialist/Postmaterialist Dimension by Country**

France		Italy	
<i>More say in government</i>	.63	<i>More say on job</i>	.66
<i>Less impersonal society</i>	.58	<i>More say in government</i>	.61
<i>Ideas count more than money</i>	.51	<i>Less impersonal society</i>	.57
<i>More say on job</i>	.44	<i>Ideas count more than money</i>	.46
<i>Freedom of speech</i>	.38	<i>Freedom of speech</i>	.43
More beautiful cities	.15	More beautiful cities	.01
<b>Fight rising prices</b>	-.32	<b>Strong defense forces</b>	-.28
<b>Economic growth</b>	-.33	<b>Fight against crime</b>	-.42
<b>Strong defense forces</b>	-.39	<b>Fight rising prices</b>	-.45
<b>Maintain stable economy</b>	-.50	<b>Economic growth</b>	-.49
<b>Fight against crime</b>	-.51	<b>Maintain stable economy</b>	-.57
<b>Maintain order</b>	-.64	<b>Maintain order</b>	-.59
Britain		The Netherlands	
<i>More say on job</i>	.69	<i>More say on job</i>	.61
<i>More say in government</i>	.61	<i>Less impersonal society</i>	.60
<i>Less impersonal society</i>	.56	<i>Ideas count more than money</i>	.54
<i>Ideas count more than money</i>	.53	<i>More say in government</i>	.48
<i>Freedom of speech</i>	.13	<i>Freedom of speech</i>	.34
More beautiful cities	.13	More beautiful cities	.23
<b>Fight rising prices</b>	-.21	<b>Fight rising prices</b>	-.13
<b>Strong defense forces</b>	-.30	<b>Strong defense forces</b>	-.19
<b>Fight against crime</b>	-.34	<b>Fight against crime</b>	-.52
<b>Maintain order</b>	-.54	<b>Maintain stable economy</b>	-.54
<b>Economic growth</b>	-.56	<b>Maintain order</b>	-.63
<b>Maintain stable economy</b>	-.62	<b>Economic growth</b>	-.64
West Germany		Denmark	
<i>Less impersonal society</i>	.67	<i>Less impersonal society</i>	.60
<i>More say on job</i>	.63	<i>More say on job</i>	.60
<i>Ideas count more than money</i>	.57	<i>Ideas count more than money</i>	.57
<i>More say in government</i>	.55	<i>More say in government</i>	.53
<i>Freedom of speech</i>	.29	<i>Freedom of speech</i>	.34
More beautiful cities	.23	More beautiful cities	.23
<b>Fight rising prices</b>	-.17	<b>Strong defense forces</b>	-.14
<b>Strong defense forces</b>	-.22	<b>Fight rising prices</b>	-.22
<b>Fight against crime</b>	-.43	<b>Fight against crime</b>	-.41
<b>Maintain order</b>	-.65	<b>Maintain order</b>	-.64
<b>Economic growth</b>	-.69	<b>Economic growth</b>	-.66
<b>Maintain stable economy</b>	-.69	<b>Maintain stable economy</b>	-.70

Source: 1990–91 World Values Survey data.

Note: Loadings on first principal component in factor analysis unless otherwise noted. Items that usually have a Materialist polarity are in bold face type; items that usually have a Postmaterialist polarity are in italics. Asterisk (\*) indicates that we present the loading on the second principal component in the factor analysis.

**Table 7-3—Continued**

Belgium		Northern Ireland	
<i>More say on job</i>	.57	<i>More say on job</i>	.68
<i>Less impersonal society</i>	.56	<i>More say in government</i>	.52
<i>Ideas count more than money</i>	.51	<i>Ideas count more than money</i>	.47
<i>More say in government</i>	.51	<i>Less impersonal society</i>	.36
<i>Freedom of speech</i>	.38	<i>More beautiful cities</i>	.29
<i>More beautiful cities</i>	.10	<i>Freedom of speech</i>	.14
<b>Strong defense forces</b>	-.06	<b>Fight against crime</b>	.10
<b>Fight rising prices</b>	-.39	<b>Fight rising prices</b>	-.01
<b>Fight against crime</b>	-.43	<b>Strong defense forces</b>	-.27
<b>Maintain order</b>	-.49	<b>Maintain order</b>	-.60
<b>Economic growth</b>	-.58	<b>Economic growth</b>	-.66
<b>Maintain stable economy</b>	-.59	<b>Maintain stable economy</b>	-.73
Spain		Portugal	
<i>Less impersonal society</i>	.60	<i>More say in government</i>	.64
<i>More say on job</i>	.57	<i>More say on job</i>	.57
<i>More say in government</i>	.56	<i>Less impersonal society</i>	.47
<i>Ideas count more than money</i>	.51	<i>Freedom of speech</i>	.39
<i>Freedom of speech</i>	.39	<i>Ideas count more than money</i>	.37
<i>More beautiful cities</i>	.21	<b>Economic growth</b>	-.01
<b>Strong defense forces</b>	-.17	<b>Maintain stable economy</b>	-.18
<b>Fight rising prices</b>	-.31	<b>Strong defense forces</b>	-.26
<b>Fight against crime</b>	-.38	<b>Fight rising prices</b>	-.36
<b>Economic growth</b>	-.58	<i>More beautiful cities</i>	-.40
<b>Maintain order</b>	-.60	<b>Maintain order</b>	-.56
<b>Maintain stable economy</b>	-.63	<b>Fight against crime</b>	-.62
Ireland		Austria	
<i>More say on job</i>	.66	<i>Less impersonal society</i>	.60
<i>More say in government</i>	.58	<i>Ideas count more than money</i>	.55
<i>Less impersonal society</i>	.52	<i>More say on job</i>	.52
<i>Ideas count more than money</i>	.47	<i>More say in government</i>	.47
<i>Freedom of speech</i>	.34	<i>Freedom of speech</i>	.40
<i>More beautiful cities</i>	-.10	<i>More beautiful cities</i>	.15
<b>Strong defense forces</b>	-.19	<b>Strong defense forces</b>	-.05
<b>Fight against crime</b>	-.33	<b>Fight rising prices</b>	-.23
<b>Fight rising prices</b>	-.42	<b>Fight against crime</b>	-.45
<b>Economic growth</b>	-.47	<b>Maintain stable economy</b>	-.59
<b>Maintain order</b>	-.49	<b>Economic growth</b>	-.60
<b>Maintain stable economy</b>	-.53	<b>Maintain order</b>	-.63

(continued)

**Table 7-3—Continued**

Norway		Finland	
<i>Less impersonal society</i>	.69	<i>Less impersonal society</i>	.69
<i>More say on job</i>	.51	<i>More say on job</i>	.56
<i>More say in government</i>	.51	<i>Ideas count more than money</i>	.51
<i>Ideas count more than money</i>	.45	<i>More say in government</i>	.47
<i>Freedom of speech</i>	.44	<i>More beautiful cities</i>	.27
<i>More beautiful cities</i>	.22	<i>Freedom of speech</i>	.12
<b>Strong defense forces</b>	-.20	<b>Strong defense forces</b>	-.23
<b>Fight rising prices</b>	-.32	<b>Fight rising prices</b>	-.28
<b>Fight against crime</b>	-.46	<b>Fight against crime</b>	-.39
<b>Economic growth</b>	-.51	<b>Maintain order</b>	-.41
<b>Maintain stable economy</b>	-.53	<b>Economic growth</b>	-.57
<b>Maintain order</b>	-.61	<b>Maintain stable economy</b>	-.68
Sweden		U.S.A.	
<i>More say on job</i>	.61	<i>More say on job</i>	.64
<i>Less impersonal society</i>	.59	<i>Less impersonal society</i>	.62
<i>Ideas count more than money</i>	.55	<i>Ideas count more than money</i>	.52
<i>More say in government</i>	.49	<i>More say in government</i>	.45
<i>Freedom of speech</i>	.31	<i>Freedom of speech</i>	.33
<i>More beautiful cities</i>	.30	<i>More beautiful cities</i>	.29
<b>Fight rising prices</b>	-.19	<b>Fight rising prices</b>	-.28
<b>Strong defense forces</b>	-.36	<b>Strong defense forces</b>	-.31
<b>Fight against crime</b>	-.45	<b>Fight against crime</b>	-.35
<b>Maintain stable economy</b>	-.59	<b>Maintain order</b>	-.49
<b>Maintain order</b>	-.60	<b>Economic growth</b>	-.54
<b>Economic growth</b>	-.61	<b>Maintain stable economy</b>	-.62
Iceland		Canada	
<i>More say on job</i>	.65	<i>More say on job</i>	.64
<i>Less impersonal society</i>	.60	<i>Less impersonal society</i>	.59
<i>More say in government</i>	.57	<i>More say in government</i>	.50
<i>Ideas count more than money</i>	.43	<i>Ideas count more than money</i>	.49
<i>More beautiful cities</i>	.17	<i>Freedom of speech</i>	.21
<i>Freedom of speech</i>	.07	<i>More beautiful cities</i>	.20
<b>Fight rising prices</b>	.03	<b>Fight against crime</b>	-.29
<b>Strong defense forces</b>	-.12	<b>Strong defense forces</b>	-.29
<b>Fight against crime</b>	-.20	<b>Fight rising prices</b>	-.31
<b>Maintain order</b>	-.61	<b>Maintain order</b>	-.44
<b>Economic growth</b>	-.63	<b>Economic growth</b>	-.61
<b>Maintain stable economy</b>	-.67	<b>Maintain stable economy</b>	-.69

**Table 7-3—Continued**

Japan		Argentina	
<i>Less impersonal society</i>	.60	<i>More say in government</i>	.64
<i>More say on job</i>	.57	<i>Less impersonal society</i>	.60
<i>More say in government</i>	.51	<i>More say on job</i>	.60
More beautiful cities	.32	<i>Ideas count more than money</i>	.52
<i>Ideas count more than money</i>	.29	<i>Freedom of speech</i>	.43
<i>Freedom of speech</i>	.20	More beautiful cities	-.07
<b>Fight against crime</b>	-.04	<b>Economic growth</b>	-.31
<b>Fight rising prices</b>	-.08	<b>Strong defense forces</b>	-.31
<b>Strong defense forces</b>	-.33	<b>Fight against crime</b>	-.44
<b>Maintain order</b>	-.57	<b>Maintain order</b>	-.50
<b>Economic growth</b>	-.65	<b>Fight rising prices</b>	-.51
<b>Maintain stable economy</b>	-.69	<b>Maintain stable economy</b>	-.58
South Korea		Chile	
<i>Less impersonal society</i>	.72	<i>More say in government</i>	.64
<i>More say on job</i>	.61	<i>Less impersonal society</i>	.63
<i>Freedom of speech</i>	.57	<i>More say on job</i>	.59
<i>More say in government</i>	.46	<i>Ideas count more than money</i>	.40
More beautiful cities	.40	<i>Freedom of speech</i>	.36
<i>Ideas count more than money</i>	.18	<b>Strong defense forces</b>	-.19
<b>Fight against crime</b>	-.38	More beautiful cities	-.24
<b>Fight rising prices</b>	-.41	<b>Economic growth</b>	-.25
<b>Strong defense forces</b>	-.45	<b>Fight rising prices</b>	-.32
<b>Maintain order</b>	-.47	<b>Fight against crime</b>	-.44
<b>Maintain stable economy</b>	-.59	<b>Maintain stable economy</b>	-.50
<b>Economic growth</b>	-.60	<b>Maintain order</b>	-.59
Mexico		Brazil	
<i>Less impersonal society</i>	.62	<i>More say in government</i>	.75
<i>More say on job</i>	.61	<i>More say on job</i>	.60
<i>More say in government</i>	.41	<i>Less impersonal society</i>	.35
<i>Ideas count more than money</i>	.32	<i>Freedom of speech</i>	.30
<i>Freedom of speech</i>	.26	<i>Ideas count more than money</i>	.26
More beautiful cities	-.02	<i>Economic growth</i>	.01
<b>Strong defense forces</b>	-.11	<b>Maintain stable economy</b>	.00
<b>Fight rising prices</b>	-.12	<b>Strong defense forces</b>	-.32
<b>Fight against crime</b>	-.19	More beautiful cities	-.38
<b>Economic growth</b>	-.48	<b>Fight rising prices</b>	-.39
<b>Maintain order</b>	-.48	<b>Maintain order</b>	-.56
<b>Maintain stable economy</b>	-.69	<b>Fight against crime</b>	-.59

(continued)

**Table 7-3—Continued**

Nigeria		India*	
<i>More say in government</i>	.66	<i>More say in government</i>	.61
<i>Ideas count more than money</i>	.62	<i>Less impersonal society</i>	.58
<i>More say on job</i>	.59	<i>More say on job</i>	.43
<i>Less impersonal society</i>	.43	<i>Ideas count more than money</i>	.38
<i>Freedom of speech</i>	.11	<i>Freedom of speech</i>	.06
More beautiful cities	-.03	<b>Strong defense forces</b>	-.01
<b>Strong defense forces</b>	-.14	<b>Economic growth</b>	-.08
<b>Fight rising prices</b>	-.24	<b>Maintain order</b>	-.19
<b>Maintain stable economy</b>	-.43	<b>Maintain stable economy</b>	-.34
<b>Economic growth</b>	-.44	More beautiful cities	-.35
<b>Maintain order</b>	-.48	<b>Fight rising prices</b>	-.46
<b>Fight against crime</b>	-.49	<b>Fight against crime</b>	-.49
South Africa		East Germany	
<i>More say on job</i>	.56	<i>More say on job</i>	.64
<i>More say in government</i>	.52	<i>Less impersonal society</i>	.60
<i>Ideas count more than money</i>	.50	<i>More say in government</i>	.54
<i>Less impersonal society</i>	.36	<i>Ideas count more than money</i>	.51
More beautiful cities	.24	<i>Freedom of speech</i>	.02
<i>Freedom of speech</i>	.23	<b>Strong defense forces</b>	-.00
<b>Fight against crime</b>	.01	<b>Fight rising prices</b>	-.02
<b>Strong defense forces</b>	-.08	More beautiful cities	-.14
<b>Fight rising prices</b>	-.11	<b>Fight against crime</b>	-.40
<b>Maintain order</b>	-.54	<b>Economic growth</b>	-.54
<b>Economic growth</b>	-.64	<b>Maintain order</b>	-.55
<b>Maintain stable economy</b>	-.72	<b>Maintain stable economy</b>	-.67
Turkey		Poland	
<i>Ideas count more than money</i>	.59	<i>More say in government</i>	.63
<i>More say in government</i>	.59	<i>More say on job</i>	.51
<i>Freedom of speech</i>	.58	<b>Maintain stable economy</b>	.40
<i>More say on job</i>	.58	<i>Ideas count more than money</i>	.34
<i>Less impersonal society</i>	.16	<b>Economic growth</b>	.26
<b>Economic growth</b>	-.17	<i>Freedom of speech</i>	-.03
More beautiful cities	-.20	<i>Less impersonal society</i>	-.08
<b>Strong defense forces</b>	-.21	<b>Fight rising prices</b>	-.19
<b>Maintain stable economy</b>	-.33	<b>Maintain order</b>	-.43
<b>Fight against crime</b>	-.42	<b>Strong defense forces</b>	-.45
<b>Fight rising prices</b>	-.56	More beautiful cities	-.54
<b>Maintain order</b>	-.59	<b>Fight against crime</b>	-.62

**Table 7-3—Continued**

Russia	Lithuania*
<i>More say in government</i>	.75
<i>More say on job</i>	.55
<i>Less impersonal society</i>	.54
<i>Freedom of speech</i>	.37
<i>Ideas count more than money</i>	.26
<b>Economic growth</b>	-.00
<b>Maintain stable economy</b>	-.08
More beautiful cities	-.27
<b>Strong defense forces</b>	-.41
<b>Fight rising prices</b>	-.48
<b>Maintain order</b>	-.57
<b>Fight against crime</b>	-.61
Moscow	
<i>More say in government</i>	.70
<i>Less impersonal society</i>	.57
<b>Economic growth</b>	.38
<i>More say on job</i>	.33
<i>Freedom of speech</i>	.33
<i>Ideas count more than money</i>	.02
<b>Maintain stable economy</b>	-.11
More beautiful cities	-.37
<b>Maintain order</b>	-.47
<b>Strong defense forces</b>	-.48
<b>Fight rising prices</b>	-.49
<b>Fight against crime</b>	-.69
Latvia	
<i>More say in government</i>	.72
<i>More say on job</i>	.54
<i>Less impersonal society</i>	.49
<i>Ideas count more than money</i>	.28
<i>Freedom of speech</i>	.20
More beautiful cities	-.09
<b>Economic growth</b>	-.20
<b>Strong defense forces</b>	-.30
<b>Fight rising prices</b>	-.35
<b>Maintain stable economy</b>	-.36
<b>Fight against crime</b>	-.44
<b>Maintain order</b>	-.60
Belarus	
<i>More say in government</i>	.76
<i>Less impersonal society</i>	.44
<b>Economic growth</b>	.39
<b>Maintain stable economy</b>	.25
<i>More say on job</i>	.24
<i>Freedom of speech</i>	.03
<i>Ideas count more than money</i>	.01
More beautiful cities	-.31
<b>Maintain order</b>	-.33
<b>Strong defense forces</b>	-.46
<b>Fight rising prices</b>	-.53
<b>Fight against crime</b>	-.71
Estonia	
<i>More say on job</i>	.70
<i>More say in government</i>	.54
<i>Ideas count more than money</i>	.41
<i>Less impersonal society</i>	.31
<i>Freedom of speech</i>	.19
More beautiful cities	-.04
<b>Fight against crime</b>	-.05
<b>Fight rising prices</b>	-.10
<b>Strong defense forces</b>	-.23
<b>Maintain stable economy</b>	-.51
<b>Economic growth</b>	-.54
<b>Maintain order</b>	-.58

(continued)

**Table 7-3—Continued**

China		Czechoslovakia*	
<i>More say in government</i>	.69	<i>More say in government</i>	.56
<i>Freedom of speech</i>	.48	<i>Less impersonal society</i>	.44
<i>Less impersonal society</i>	.36	<i>Freedom of speech</i>	.40
<i>Ideas count more than money</i>	.28	<i>Ideas count more than money</i>	.32
<b>Economic growth</b>	.27	<i>More say on job</i>	.30
<i>More say on job</i>	.27	<b>Economic growth</b>	.17
More beautiful cities	.03		
<b>Maintain stable economy</b>	-.29	<b>Maintain stable economy</b>	-.03
<b>Fight rising prices</b>	-.37	<b>Strong defense forces</b>	-.21
<b>Fight against crime</b>	-.43	<b>Maintain order</b>	-.42
<b>Strong defense forces</b>	-.47	<b>Fight rising prices</b>	-.45
<b>Maintain order</b>	-.61	More beautiful cities	-.46
		<b>Fight against crime</b>	-.65
 Bulgaria			
<i>More say in government</i>	.69	<i>More say in government</i>	.73
<i>Less impersonal society</i>	.50	<i>More say on job</i>	.53
<b>Economic growth</b>	.40	<i>Less impersonal society</i>	.51
<i>Freedom of speech</i>	.21	<i>Ideas count more than money</i>	.16
<i>More say on job</i>	.20	<i>Freedom of speech</i>	.12
<b>Maintain stable economy</b>	.11	<b>Economic growth</b>	.03
<i>Ideas count more than money</i>	.07		
<b>Strong defense forces</b>	-.33	<b>Maintain stable economy</b>	-.01
<b>Fight rising prices</b>	-.38	<b>Fight rising prices</b>	-.20
<b>Maintain order</b>	-.47	<b>Strong defense forces</b>	-.21
More beautiful cities	-.48	More beautiful cities	-.48
<b>Fight against crime</b>	-.71	<b>Maintain order</b>	-.56
		<b>Fight against crime</b>	-.57
 Hungary*			

were included in the 1990–91 World Values survey, and in three of these four societies the same basic structure applies. Once again, the only exception involves a single item, since in Brazil “economic growth” marginally loads as a Postmaterialist item.

More strikingly still, the overall pattern that emerges in Japan and South Korea is the same as we find in Western Europe and Latin America. Although these two East Asian societies started with profoundly different cultural traditions from those of the West, they have both become advanced industrial societies—and their publics respond in a fashion that is almost indistinguishable from that of Western respondents. The five Postmaterialist items cluster at one pole, and the six Materialist items cluster at the opposite pole. Moreover, the item concerning “More beautiful cities and countryside,” which gave ambiguous results in the West, shows a clear Postmaterialist polarity in both Japan and South Korea. The two East Asian countries not only conform to theoretical expectations, they actually show a slightly better fit than do most

Western countries. The evidence indicates that the emergence of a polarization between Materialist goals and Postmaterialist goals is *not* a uniquely Western phenomenon. It is a phenomenon of advanced industrial society.

There are societies in which the polarization between Materialist and Postmaterialist values is less distinct, but the division is *not* between Western and non-Western cultures. The countries that deviate most from the Materialist/Postmaterialist configuration are the ex-socialist countries, even those that have historically had close ties with the West.

The 1990–91 World Values Survey includes samples of 11 societies of the former Soviet bloc, as well as China. In 11 of these 12 countries (all but Poland) the five Postmaterialist items cluster together in one group.<sup>6</sup> In the Moscow region, Belarus, China, Bulgaria, the former Czechoslovakia, and Hungary, as well as in Poland, the item concerning “economic growth” falls into the Postmaterialist cluster. This is a surprising finding, from a nonsocialist perspective. It is far from accidental, however. “Economic growth” (or, indeed, almost anything connected with the economy) has fundamentally different connotations in a state-socialist society than it has in a market economy.

The socialist societies had authoritarian political systems and state-run economies that had become stagnant to the point of paralysis. By 1990, the existing rigid system of state controls had widely come to be seen as incompatible with economic growth. Even in China, which did continue to experience rapid growth, this growth was in the private sector. State-run industries were stagnant. In this context, as of 1990 economic growth had come to be seen as something that could only be attained by breaking free from the massive and sclerotic state bureaucracy and turning the economy over to individual initiative. In contrast with the West, where an emphasis on economic growth was linked with loyalty to the established order, in the state-socialist world many viewed economic growth as a goal that could only come through radical socioeconomic change. Moreover, these changes were closely linked with the Postmaterialist emphasis on individual autonomy; they required the liberation of the individual from state authority. Hence we find the apparent paradox that, in many of the former state-socialist societies, as well as in China, respondents who gave high priority to economic growth were the same people who emphasized “giving the people more say in government,” “more say on the job,” “freedom of speech,” and “a less impersonal, more humane society.”

Further analyses support our conclusion that in these societies Postmaterialist values are linked with support for reduced government involvement in the economy. In the 1990–91 World Values Survey, respondents were asked to place themselves on a ten-point scale measuring their attitudes toward governmental versus private ownership of business and industry. A

**TABLE 7-4. Percentage Favoring More Private Ownership of Business and Industry, by Value Type in 40 Societies, 1990-91**

		Percentage Favoring More Private Ownership Societies That Were Not Part of the Soviet Bloc						
		The Netherlands	Denmark	Britain	Japan	Iceland	Norway	Italy
Materialist	52	62	53	33	65	55	60	
Mixed	50	63	50	31	60	53	55	
Postmaterialist	36	49	38	22	51	36	45	
gamma	.21	.17	.14	.14	.13	.13	.12	
		South Africa	Belgium	Northern Ireland	Canada	West Germany	Chile	Mexico
Materialist	63	60	47	68	63	29	50	
Mixed	59	57	48	72	67	29	48	
Postmaterialist	51	49	37	64	58	25	40	
gamma	.10	.09	.08	.07	.07	.05	.04	
		Ireland	Spain	India	Portugal	Argentina	U.S.A.	Finland
Materialist	63	38	36	55	57	72	61	
Mixed	59	37	52	54	60	73	63	
Postmaterialist	50	33	51	49	55	74	66	
gamma	.03	.03	.03	.03	.03	.02	-.02	

	Turkey	Sweden	Brazil	France	South Korea	Nigeria	Austria
Materialist	34	41	42	42	45	26	54
Mixed	34	55	45	53	52	31	68
Postmaterialist	38	50	40	49	47	33	76
gamma	-.02	-.03	-.04	-.06	-.07	-.09	-.17
Eastern Europe, Societies of the Former Soviet Union, and China							
	Hungary	East Germany	Poland	Lithuania	Latvia	Czechoslovakia	Bulgaria
Materialist	58	70	51	44	49	47	47
Mixed	57	74	58	51	60	60	58
Postmaterialist	59	79	69	60	65	74	78
gamma	-.03	-.08	-.12	-.14	-.19	-.22	-.22
Russia							
	Belarus	Estonia	Moscow	China	China	China	China
Materialist	16	46	28	11	20	20	20
Mixed	33	63	45	22	36	36	36
Postmaterialist	51	81	68	59	73	73	73
gamma	-.22	-.31	-.33	-.34	-.38	-.38	-.38

Source: 1990-91 World Values Survey.

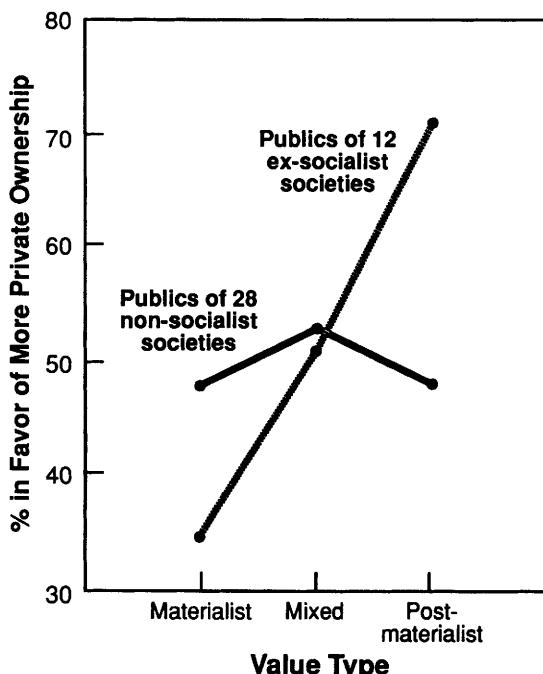
Note: Based on the four-item values index. Percentage scoring 1 through 4 on a 10-point scale ranging from 1 = private ownership should be increased to 10 = government ownership should be increased.

score of “1” endorsed the position that “Private ownership of business and industry should be increased,” while a score of “10” endorsed the position that the “Government ownership of business and industry should be increased.” Table 7-4 shows the relationship between Materialist/Postmaterialist values and positions on this question. Because we want to be sure that these results do not reflect differential responses to the “economic growth” question itself, we employ the basic four-item values battery that does not include this option. We divide the societies into two groups: societies that were not part of the Soviet bloc, on the one hand; and Eastern Europe, the former Soviet societies, and the PRC, on the other. For each group we have ranked these societies according to the strength of the relationship between the four-item Materialism/Postmaterialism values index and responses to the question about government ownership.

As table 7-4 demonstrates, in the non-socialist countries, people with Postmaterialist values tend to be slightly more favorable to the idea of a state-run economy than are those with Materialist values. This is not a strong relationship, but it reflects the traditional ideological heritage of the Left. This is particularly true in democratic states with strong socialist traditions, such as The Netherlands, Norway, Iceland, and Britain. In these countries, Postmaterialists are clearly more likely to favor state ownership than Materialists. In most of the societies that were not part of the Soviet bloc, the relationship is weak and in a few (such as Austria, France, and South Korea) the relationship is weak but reversed.

The situation is dramatically different in Eastern Europe, the societies of the former Soviet Union, and the PRC. In all twelve of these societies, people with Postmaterialist values are less favorable to a state-run economy than are the Materialists. The polarity of “progressive” values appears to have been reversed. Throughout these societies, people who place themselves on the Left and those with Postmaterialist values reject the idea of a state-run economy. These relationships are very strong in Estonia, Moscow, China, and Russia. In the PRC, for example, only 11 percent of the Materialists tend to favor more private ownership, while 59 percent of the Postmaterialists do. In Russia, the relationship is even stronger. Twenty percent of the Materialists favor more private ownership, while 73 percent of the Postmaterialists do.

In figure 7-1 we merge the results for the publics of the 28 non-socialist societies and those for the publics of the 11 former Soviet bloc societies, plus China.<sup>7</sup> When the results for the 28 nonsocialist societies are merged, there is no relationship between attitudes toward private ownership and Postmaterialist values. For the 12 socialist and ex-socialist societies, there is a very strong relationship between attitudes toward privatization and Postmaterialism. Among Materialists, only a third tend to favor privatization, whereas among those with Mixed values about half do. Among respondents who score as



**Fig. 7-1. Percentage in favor of privatization of business and industry by Materialist/Postmaterialist Values, among the publics of 28 nonsocialist societies and the publics of 12 socialist or ex-socialist societies, 1990–91. Based on the four-item values index. Percentages shown are those placing themselves at points 1 to 4 on a 10-point scale on which 1 = "private ownership of business and industry should be increased" and 10 = "government ownership of business and industry should be increased."** (Data from 1990–91 World Values Survey.)

Postmaterialists, seven out of ten tend to favor private ownership of business and industry.

There are also cross-national differences in the polarity of the goal of "trying to make our cities and countryside more beautiful." This item was designed to tap aesthetic values. But this item did not simply evoke aesthetic needs as it was intended to do. Instead, analyses of Western societies showed that this item seemed to tap an industrial/anti-industrial dimension on which collective development is seen as conflicting with personal security, and it showed a surprisingly strong relationship with safety needs. This goal has an ambivalent meaning in the World Values Survey, loading as a Postmaterialist value in 20 societies and as a Materialist value in the remaining 20.<sup>8</sup>

These inconsistencies are not random. The “beautiful cities” goal was usually a Postmaterialist value in advanced industrial democracies. When the twelve-item measure was first developed in 1973, the “beautiful cities” item tended to have a very slight Postmaterialist polarity (Inglehart 1977); it had a slight Postmaterialist polarity in Germany, Britain, The Netherlands, France, Belgium, and Denmark, but a slight Materialist polarity in Italy and Ireland. Nearly two decades later, this goal still registered as a slightly Materialist value in Ireland, and was only marginally scored as a Postmaterialist goal in Italy. With the exception of Portugal, this item has a Postmaterialist polarity in all of the remaining Western European societies, as well as in North America. Moreover, as we noted, the goal also has an even clearer Postmaterialist polarity in Japan and South Korea. In the four Latin American countries, the goal of “more beautiful cities” clearly emerges as a Materialist value, and it is also clearly a Materialist goal in the societies of the former Soviet bloc. In the West, this goal, originally designed to tap aesthetic values, appears to be performing its original mission. That this is a Materialist value in Eastern Europe reflects the environmental deterioration in these societies (see Inglehart 1992b). In these societies, environmental pollution has become a massive and life-threatening problem, far more severe than in the West. In these countries, pollution is not perceived primarily as an aesthetic problem, but one that is directly life-threatening. In fact, the death rates in some regions of the former East Germany, Poland, and the former Czechoslovakia are massively higher than elsewhere in these societies. In the West, the goal of “more beautiful cities” originally had only a slight Postmaterialist polarity, but over time it has become more strongly linked with the Postmaterialist cluster—in keeping with the original expectation that this goal tapped aesthetic needs. In the former Soviet bloc countries, with the worst levels of pollution in the world, this is not the case (see Inglehart 1992b).

Although cross-national differences in the structure of values are interesting, the weight of the evidence suggests that the core meaning of Materialism/Postmaterialism is similar across this wide range of societies. The quest for economic security is much more politicized in societies with state-run economies than in societies with market economies, which gives a distinctive meaning to items that refer to the economy. Apart from this, however, the Materialist goals show consistent results, and the five Postmaterialist items behave in a similar way in all types of societies, East and West, as well as North and South. On balance, cross-national similarities are far more striking than cross-national differences.

### **The Crystallization of Values**

By random processes, all five of the Postmaterialist items would fall into the same cluster only about 6 percent of the time. In fact, we find this pattern in

39 out of 40 cases—that is, in every society but Poland. In most cases, all six Materialist items fall into the opposite cluster, although there is some inconsistency, mainly because “economic growth” has quite different connotations in socialist countries from what it implies in nonsocialist societies.

Although there is remarkable consistency in the way people respond to these values across 40 societies, the *degree* to which this structure is crystallized into a strong Materialist/Postmaterialist dimension varies cross-nationally. In four countries (Lithuania, the former Czechoslovakia, Hungary, and India), the Materialist/Postmaterialist dimension did not emerge as the first principal component. In all four cases, however, a clearly recognizable Materialist/Postmaterialist dimension emerges as a second principal component that explains only slightly less variance than the first (and which would be the first component if it were a slightly stronger basis of polarization).

On the whole, the degree to which these items are crystallized into a Materialist/Postmaterialist dimension varies according to the degree of economic development. For example, even though the Materialist/Postmaterialist dimension emerges as the first component even in such poor countries as China and Nigeria, on the whole the structure of these values is more strongly crystallized in richer and more secure countries. Although choices among national goals throughout the world tend to reflect the same pattern as in Western nations, the choice among these goals is less structured in poorer countries. In Denmark, South Korea, West Germany, Italy, and Sweden, the first principal component explains between 24 and 27 percent of the variance. In India, China, Nigeria, South Africa, Portugal, Brazil, Mexico, and in all of the Eastern European and former Soviet societies except the former East Germany, Russia, and the Moscow region, this dimension explains from 17 to 19 percent of the variance. In addition, as we saw, in three Eastern European countries and in India, this Materialist/Postmaterialist dimension does not emerge as the first principal component.

As figure 7-2 demonstrates, the Materialist/Postmaterialist dimension is significantly less crystallized in poor countries than in rich ones. Our figure shows the percentage of the variance explained by the Materialist/Postmaterialist values dimension in our principal component analysis in each of these 40 societies, controlling for their per capita Gross National Product. In a few countries—such as Japan and the former Czechoslovakia—these values are less highly structured than one might expect based upon their wealth. Conversely, the mass publics in South Korea and Argentina have more highly structured values than one might expect. Overall, however, there is a strong ( $r = .61$ ) and statistically significant relationship. Clearly, values are more highly structured in relatively wealthy societies than in relatively poor societies.

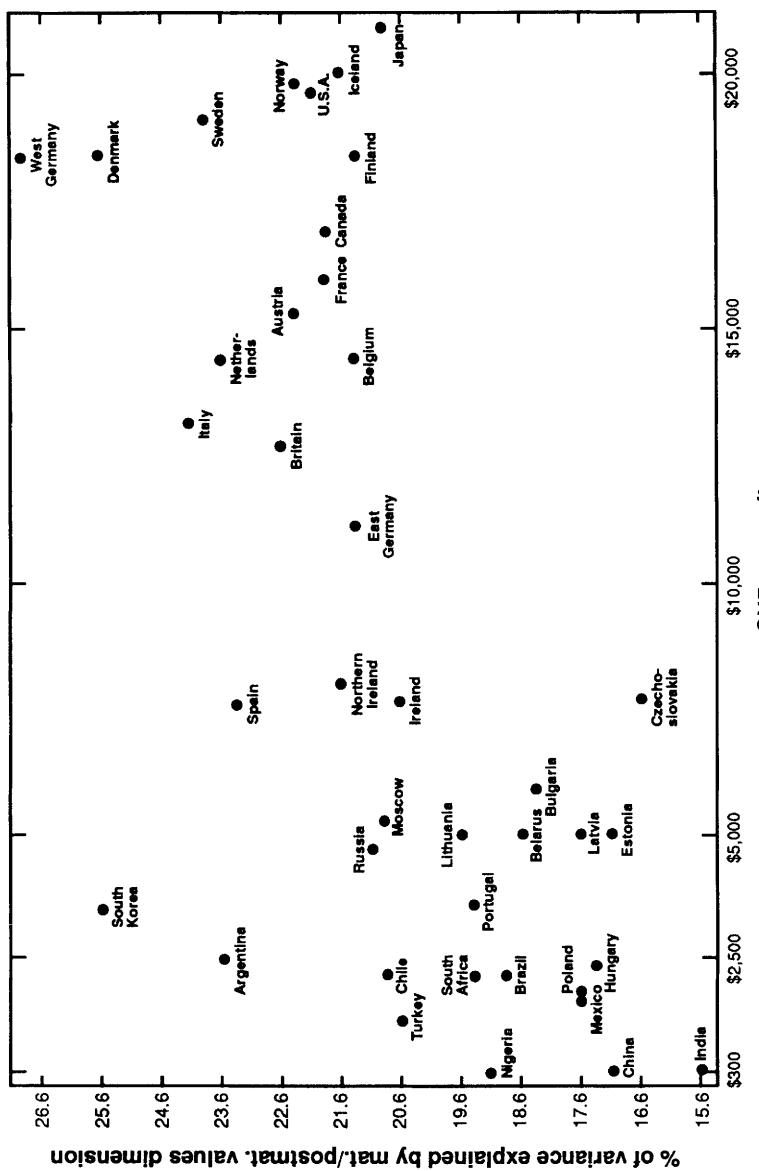


Fig. 7-2. Percentage of variance explained by Materialist/Postmaterialist values dimension, by gross national product in 40 societies, 1990–91. Based upon a principal component factor analysis of the 12 values items.  $r = .61$ ,  $p < .0001$ . (From 1990–91 World Values Survey. Economic data are from World Bank reports.)

## Rankings versus Ratings

Our measurement procedure requires respondents to choose their two top goals among each set of values. Some critics have argued that this procedure artificially forces respondents to choose among desired alternatives. An alternative procedure is to ask respondents to rate each value.

Scott C. Flanagan (1987) argues that if respondents are asked to rate values, rather than to rank them, a different value structure emerges. Analyzing a survey of the Japanese public conducted in 1984, he argues that respondents should be classified along three dimensions—libertarian, authoritarian, and materialist. Moreover, he argues that responses in Western societies would have a similar structure if respondents were asked to rate items. In fact, studies by Dalton (1980, 1981) in West Germany and by van Deth (1983b) in The Netherlands, demonstrate that a clear single dimension of Materialism/Postmaterialism emerges regardless of whether respondents rank or rate national goals. Inglehart (1990) suggested that Postmaterialism does not tap the same need for belonging in Japan as it does in Western societies, but the 1990–91 World Values Survey shows a basic structure of values in Japan (see table 7-3) that is strikingly similar to the pattern that emerges in Western Europe.

A more recent study by Clive Bean and Elim Papadakis (1994) employs a mail-back questionnaire conducted in 1988 that measures Materialist/Postmaterialist values among 1,800 Australian adults. They thus provide data on the structure of values for the one inhabited continent not included in the 1990–91 World Values Survey.

Bean and Papadakis also compare the approach of asking respondents to rank values and asking them to rate them. When they use the ranking method they obtain a first principal component on which all six of the items intended to tap Materialist priorities form a cluster having negative polarity, and all six items intended to tap Postmaterialist values form a cluster having a positive polarity. In other words, they find a clear Materialist/Postmaterialist dimension, with the Materialist items near one pole and the Postmaterialist items at the opposite pole. These results from Australia are thus very similar to results obtained by other investigators from literally dozens of other countries, and similar to the results for Western industrialized societies that we present in table 7-3.

However, when they employ a rating format, Bean and Papadakis obtain quite different results. The first principal component is one on which all 12 of the items are given relatively high (or relatively low) ratings. When subjected to a varimax rotation, this factor breaks down into a Materialist factor and a Postmaterialist factor (and the two are, of course, uncorrelated, since varimax rotation was used). Using this approach, there seems to be no such thing as a Materialist/Postmaterialist dimension.

These results seem contradictory. The authors argue that the rating approach reflects reality better than the ranking approach, because most respondents are really in favor of all 12 goals: they want freedom of speech *and* law and order *and* economic growth *and* low inflation *and* more say in government *and* strong defense forces. The rating system, they argue, is more “flexible” than the ranking system because it enables respondents to give high ratings to all 12 goals. Nevertheless, the respondents do give priority to the Materialist goals over the Postmaterialist goals (or vice versa) when they are constrained to do so by a ranking format.

Which pattern captures reality? It depends on which aspect of reality you want to capture. Ultimately, it comes down to the question: Do you want to measure *priorities* or *response patterns*?

It is perfectly true, as Bean and Papadakis point out, that most people would like to attain *all* of these goals. All 12 goals were designed to tap things that are universally desirable. Thus, in an unconstrained format, people can give positive rankings to everything. This tendency is magnified because the rating approach puts a dozen positive goals in an identical format, creating a series in which the easiest thing to do is to run down the list, giving similar ratings to item after item. This is an ideal setting for the “response set” phenomenon to occur. The result is systematically inflated positive correlations between all the items in the series. Less-educated respondents are particularly likely to utilize this approach, which is cognitively undemanding. Respondents do not need to differentiate among items—they can simply give a series of high (or low) ratings. These measurement procedures elicit information quickly, but they are not well suited for measuring priorities.

Rankings, on the other hand, are more time-consuming and more difficult to administer than ratings. With the ranking format, respondents cannot simply zoom down the list, giving similar ratings to every item. Respondents must painstakingly think out which goal, within a set of desirable items, is the *most* important, and which is the *second* most important. In politics, however, this is often much more useful information than simply knowing that individuals rate everything as “extremely important” or only “fairly important.”

Politics is, above all, about choices. True, environmental protection does not always conflict with economic growth; nor does promoting freedom necessarily conflict with maintaining order. However, these are the easy situations, in which the solution is obvious and everyone can be satisfied. The crunch comes when two or more desirable goals *do* conflict with each other. It is precisely then that important political issues arise. Under these circumstances people are forced to make choices. It is then that their basic value priorities come into play.

The rating approach can be useful and is appropriate for many purposes, but it is not an appropriate way to measure value priorities—and the value-

change theory is about priorities. The theory does not hypothesize that some people are opposed to economic and physical security, while others like them. On the contrary, it postulates that these are goals that the vast majority of people want to attain. The shift from Materialist to Postmaterialist priorities occurs when a given segment of the population has a sufficiently high level of economic and physical security that further emphasis on security has diminishing marginal utility. Postmaterialists do value economic and physical security, but they are not their top *priorities*. Because Postmaterialists *have* security (and not because they reject it), they give top priority to other considerations.

### **Developing the Twelve-Item Measure**

Our factor analyses demonstrate that a twelve-item measure can be constructed. Five items loaded as Postmaterialist values in 39 out of 40 societies, and our scoring is based upon the number of these goals the respondent chooses. If we were constructing a measure that only focused on developed societies, we might score the “beautiful cities” item as a Postmaterialist value. Likewise, if we were studying Materialist/Postmaterialist values only in Eastern Europe or in China, we might develop a measure that scored “economic growth” as a Postmaterialist value.

Our goal, however, is to build a measure that can be used across all of these societies. Our analyses demonstrate that five goals—“more say on the job,” “less impersonal society,” “ideas count more,” “more say in government,” and “freedom of speech”—have Postmaterialist polarity in 39 out of these 40 societies (and even in the 40th case, three of these five items have a Postmaterialist polarity). For cross-national comparisons on a global basis, we construct an index based upon how many of these items are given a high priority. Scores range from a low of 0, in which respondents choose none of these five goals, to 5, in which all five of them are selected.<sup>9</sup> When we conduct correlational analyses showing the relationship of variables to values within each society, we show the relationship between variables and the full six-point measure.

In our visual displays we rely mainly upon a Percentage Difference Index. In building this measure we score respondents as “high” if they choose three or more Postmaterialist goals and “low” if they choose no Postmaterialist goals. The PDI score is the percentage scoring high on this twelve-item index minus the percentage scoring low. Unlike the PDI based upon our four-item measure, the twelve-item PDI is not the functional equivalent of a mean score, although across the 40 societies scores on this measure correlate very strongly with an alternative measure based upon the mean number of Postmaterialist responses.

## **Conclusions**

In this chapter we have focused mainly on questions of measurement. One can justifiably ask whether the measurement of values across such a wide range of societies is feasible at all. Certainly, it is a daunting task. Researchers face serious obstacles in conducting surveys in countries lacking a strongly established tradition of survey research. We do not believe that our surveys of developing societies match the standards it is possible to attain in conducting surveys in Western Europe or the United States. Nevertheless, social scientists were able to interview reasonably representative samples in these societies.

As the 1990–91 World Values Survey has been provided to the social science community through the Inter-university Consortium for Social and Political Research, these surveys will be analyzed by scholars with a great deal of specialized knowledge about particular countries. Doubtless, intensive investigations of these surveys will demonstrate that these measures can be refined for within-nation and within-region comparisons. However, the evidence presented in this chapter indicates that a cross-nationally comparable measure of Materialism/Postmaterialism can be constructed across the wide range of societies we study.

Having established that Materialist/Postmaterialist values can be measured across this broad range of societies, we move to a crucial developmental question. What are the dynamics of value change across these 40 societies?

## CHAPTER 8

# Economic Security and Value Change on Five Continents

As was argued in chapter 7, the value-change thesis implies that the shift from Materialist to Postmaterialist values is potentially a universal process: it should occur in any country that moves from conditions of economic security to relative security, although during a transitional process older generations will continue to reflect the conditions that characterized their preadult experiences.

The value-change thesis has clear implications for the relationships between economic development and value change. Although a high level of per capita income does not *necessarily* produce a sense of security, it seems likely that people in rich countries will experience a stronger sense of economic security than those in poor nations. A high per capita GNP is at least a rough indicator of a country's level of economic security. In short, economic development should be conducive to a shift from Materialist to Postmaterialist values.

### **Economic Prosperity and Postmaterialist Values**

Although Inglehart's thesis clearly implies that rich countries should develop higher levels of Postmaterialism than poor countries, until now it was not possible to test this proposition adequately because most surveys had been carried out in relatively wealthy societies. The 1981–83 World Values Survey provided a partial test, which clearly supported Inglehart's basic thesis (see Inglehart 1990). As it provided data on only a handful of developing countries and only one state-socialist society, however, it was of limited utility.

Using the 1990–91 World Values Survey we can now test this hypothesis across the full range of economic development.<sup>1</sup> We begin by examining the distribution of Materialist/Postmaterialist values on our twelve-item index, which we present in table 8-1.

Before turning to the overall relationship between economic development and values, we will examine the results within geographic and political regions. As of 1988, the seven wealthy countries of the European Community<sup>2</sup> had a mean per capita income of \$15,466.<sup>3</sup> Only in Britain did as many

**TABLE 8-1. Distribution of Values in 40 Societies, 1990–91**

Society	Number of Postmaterialist Goals Selected						Total Percentage	(N)	Score on Values Index
	0	1	2	3	4	5			
<b>Wealthy Countries of the European Community</b>									
West Germany	6.7%	24.1	28.6	21.1	12.4	7.0	99.9%	(1,710)	33.8
Britain	8.9%	25.6	29.2	21.9	10.0	4.4	100.0%	(1,356)	27.4
The Netherlands	3.2%	19.5	24.9	26.4	17.8	8.2	100.0%	(935)	49.2
France	6.3%	20.1	29.0	26.4	12.4	5.8	100.0%	(902)	38.3
Belgium	6.1%	23.0	29.5	24.5	11.6	5.2	99.9%	(2,318)	35.2
Italy	8.1%	20.3	29.2	21.5	14.0	6.9	100.0%	(1,810)	34.3
Denmark	7.3%	24.0	31.1	21.0	10.6	6.1	100.0%	(892)	30.4
<b>Less Wealthy Societies of the European Community</b>									
Ireland	10.8%	27.5	31.0	19.2	8.9	2.7	100.1%	(976)	20.0
Portugal	12.0%	26.3	37.8	17.3	5.1	1.5	100.0%	(976)	11.9
Spain	9.2%	21.4	27.9	23.0	12.7	5.8	100.0%	(3,408)	32.3
Northern Ireland	14.1%	25.4	31.4	20.9	7.4	.7	99.9%	(283)	14.9
<b>Western European Countries Not in Community</b>									
Austria	6.8%	26.3	33.0	19.6	10.7	3.6	100.0%	(1,380)	27.1
Iceland	7.3%	23.4	36.8	21.7	8.5	2.2	99.9%	(688)	25.1
Finland	1.4%	10.1	29.7	34.9	18.2	5.6	99.9%	(444)	57.2
Norway	12.4%	26.4	33.5	17.8	7.7	2.2	100.0%	(1,111)	15.3
Sweden	6.4%	23.1	31.3	23.0	10.5	5.7	100.0%	(901)	32.8
<b>North America</b>									
Canada	5.3%	23.4	34.4	21.2	11.2	4.5	100.0%	(1,545)	31.6
U.S.A.	9.5%	30.5	30.1	17.6	9.3	3.0	100.0%	(1,688)	20.4
<b>Latin America</b>									
Argentina	12.3%	27.5	32.5	15.3	8.3	4.0	99.9%	(932)	15.3
Brazil	11.3%	30.4	33.6	18.3	4.7	1.8	100.1%	(1,680)	13.5
Chile	11.1%	26.0	33.8	18.7	7.8	2.5	99.9%	(1,368)	17.9
Mexico	5.4%	22.0	40.8	22.7	7.3	1.8	100.0%	(1,193)	26.6
<b>Eastern Europe</b>									
Bulgaria	12.4%	28.7	43.1	14.5	1.3	.0	100.0%	(890)	3.4
Czechoslovakia	13.3%	36.2	32.9	14.6	3.0	.1	100.0%	(1,384)	4.4
East Germany	5.5%	29.6	37.9	19.0	5.5	2.4	99.9%	(1,226)	21.4
Hungary	28.0%	35.0	27.1	8.7	1.1	.1	100.0%	(900)	-18.1
Poland	12.6%	33.6	37.8	13.2	2.4	.5	100.1%	(850)	3.5

*Source:* 1990–91 World Values Survey.

*Note:* Based upon the 12-item values measure. The values index is the percentage scoring high on the 12-choice Materialism/Postmaterialism measure minus the percentage scoring low on the 12-choice measure. Respondents are scored as high if they choose three or more Postmaterialist goals; they are scored as low if they choose no Postmaterialist goals. Although a weighting factor is used for most countries, the number in parentheses is the actual number of respondents who received a score on the 12-choice measure of Materialism/Postmaterialism.

**TABLE 8-1—Continued**

Society	Number of Postmaterialist Goals Selected						Total Percentage	(N)	Score on Values Index
	0	1	2	3	4	5			
<b>Societies of the Former Soviet Union</b>									
Estonia	13.2%	32.5	41.2	10.3	2.7	.1	100.0%	(864)	-.1
Latvia	14.0%	33.2	38.9	12.5	1.2	.1	99.9%	(720)	-.2
Lithuania	15.6%	34.5	33.6	13.3	2.5	.4	99.9%	(847)	.6
Belarus	19.3%	35.3	33.6	9.9	2.0	.0	100.1%	(912)	-7.4
Moscow	16.0%	30.5	35.8	14.4	3.0	.2	99.9%	(894)	1.6
Russia	26.5%	32.3	28.8	10.4	1.7	.2	99.9%	(1,704)	-14.2
<b>Middle East</b>									
Turkey	6.2%	20.3	39.4	22.6	8.5	3.1	100.1%	(907)	28.0
<b>Asia</b>									
China	16.0%	41.0	35.5	6.5	1.0	.1	100.0%	(960)	-8.4
India	13.1%	33.0	38.0	13.4	1.9	.5	99.9%	(2,150)	2.7
<b>East Asia</b>									
Japan	4.7%	23.5	39.1	24.0	7.6	1.1	100.0%	(655)	28.0
South Korea	17.9%	31.1	28.7	15.5	5.3	1.5	100.0%	(1,210)	4.4
<b>Africa</b>									
Nigeria	21.7%	31.6	31.2	13.0	1.4	1.1	100.0%	(954)	-6.2
South Africa	14.2%	29.4	33.8	17.3	4.7	.7	100.0%	(2,523)	8.5

as 9 percent of the public choose none of the five Postmaterialist values, although in these countries, as elsewhere throughout the world, few chose all five values. For these seven wealthy countries, the mean score on our values index was 35.5 points. The four poorest societies of the Community had a mean per capita income of \$6,785. In all of them at least 9 percent chose no Postmaterialist values, and in Northern Ireland one out of seven respondents chose none. The mean score on the values index was 19.8 points.

We also have data on five Western European countries that were not members of the European Community, and all of them are relatively wealthy. As of 1988 these countries had an average per capita income of \$18,702. Norway is somewhat of an "underachiever," with one out of eight respondents choosing no Postmaterialist values, and with a values index score of 15.3. Likewise, Finland seems to be somewhat of an "overachiever." Only about one Finn in 70 chose no Postmaterialist values, and the average index score was 57.2, the highest of any of the 40 societies studied. On the whole, however, these societies conform relatively well to the thesis that wealth

promotes Postmaterialist values, and their mean score on the values index is 31.5 points.

The United States, like Norway, is an underachiever in the development of Postmaterialist values. Despite a high per capita GNP (\$19,840), the values index score is only 20.4 points. Together, the two North American societies have an average per capita GNP of \$18,400, and a mean value score of 26.0 points. The relatively poor Latin American countries tend to fit the overall pattern fairly well, although they have somewhat higher levels of Postmaterialism than one would expect, mainly because of high levels of Postmaterialism in Mexico. Only one out of 20 Mexicans chose no Postmaterialist values, and Mexico's overall score on the values index was 26.6 points.<sup>4</sup> These four countries have an average per capita GNP of \$2,172 and a mean score on the value index of 18.9 points.

The five Eastern European countries conform very well to the thesis that poor countries should have low levels of Postmaterialism. The countries have, on average, a per capita GNP of only \$5,788, and their mean score on the values index is only 2.9 points. Moreover, the richest of these societies, the former East Germany (with a per capita GNP of \$11,118), has a far higher level of Postmaterialism than any of the four other countries. On the other hand, Hungary, although relatively poor (with a per capital GNP of \$2,460), has an even lower level of Postmaterialism than we might predict. Over one-fourth of the Hungarians surveyed chose no Postmaterialist values, and its score on the values index is -18.2, the lowest of any of the 40 societies surveyed.

The six societies of the former Soviet Union also fit the predicted pattern fairly well. On average, these societies had a per capita GNP estimated to be \$5,000. In these societies, between an eighth and a fourth of the respondents chose none of the five Postmaterialist values, and the mean score on our values index was -3.3.

The one Middle Eastern country, Turkey, has a somewhat higher level of Postmaterialism than we would expect. Despite a per capita GNP of only \$1,280, only 6 percent of the respondents chose no Postmaterialist values, and the score on the values index was 28.0. China and India clearly fit the pattern, however. They are among the three poorest countries in our study, with per capita GNPs of only \$330 and \$340, respectively. In China about one out of six respondents chose no Postmaterialist values and in India about one in seven chose none of these five national goals. Their scores on the values index were -8.4 and 2.7, respectively. However, as we will see, although both countries have low levels of Postmaterialism, the relationship between youth and Postmaterialism is strong in China and nonexistent (or even negative) in India.

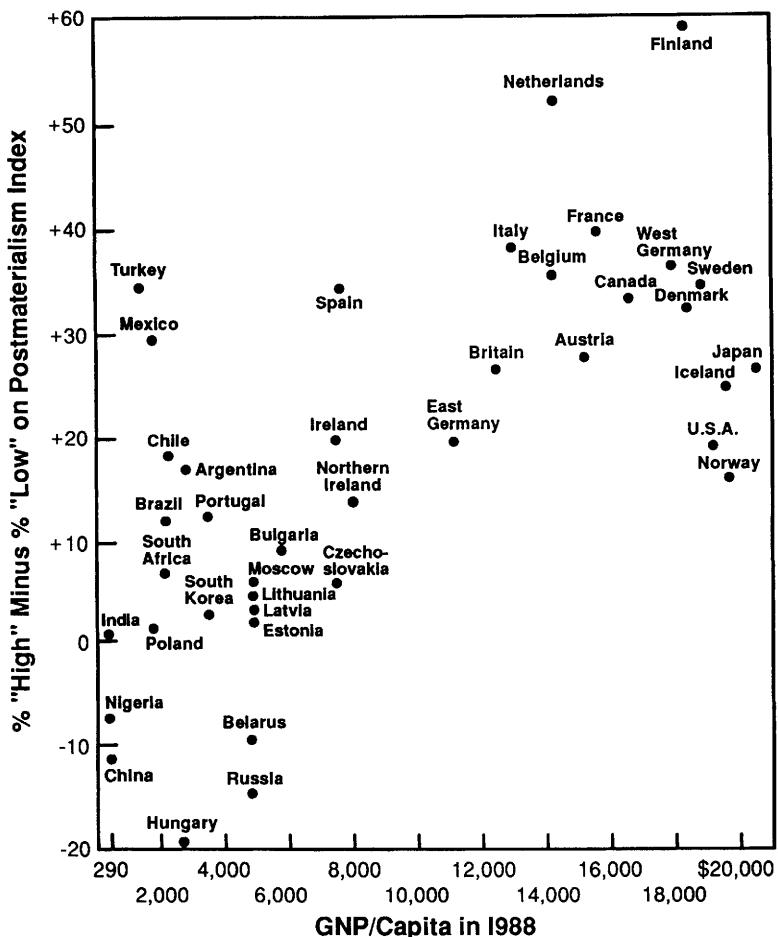
The two East Asian societies also fit the pattern, although given Japan's

wealth, one might predict even higher levels of Postmaterialism.<sup>5</sup> Nevertheless, as predicted, Japan, which was over six times as wealthy as South Korea (a per capita GNP of \$21,020 versus \$3,600), has substantially higher levels of Postmaterialism than its neighbor. Only about one Japanese respondent in twenty chose no Postmaterialist values, whereas one out of six Koreans chose none of these five goals. In Japan, the values index score was 28.0, whereas it was only 4.4 in South Korea.

Finally, although we have data from only two African countries, they fit the expected pattern. According to World Bank statistics, Nigeria is the poorest of the 40 societies we study, with a per capita GNP of only \$290.<sup>6</sup> As expected, there are few Postmaterialists. Indeed, over one Nigerian in five chose no Postmaterialist values and the index score was -6.2. South Africa is substantially richer, but even so has a per capita GNP of only \$2,290. One out of seven respondents chose none of the five Postmaterialist values, and the index score was 8.5 points. Data are also available from one other African country, Zambia. Here, too, we find an overwhelming preponderance of Materialists over Postmaterialists.<sup>7</sup>

In figure 8-1 we pool the results from all 40 societies from the 1990-91 World Values Survey into one analysis. The results provide a striking confirmation of the thesis that wealth promotes Postmaterialism. There is a strong tendency for societies with a relatively high per capita GNP to have higher scores on our twelve-item value index than societies that are relatively poor. As our discussion of regional patterns suggests, a few countries are statistical outliers. Some rich countries, such as Norway and the United States, have lower levels of Postmaterialism than we would expect based upon their economic development; and some poor countries, such as Mexico and Turkey, score higher than we would expect. However, the overall correlation between wealth and values is impressive:  $r = .68$ , which is significant at the .0001 level. The regression coefficient reported in figure 8-1 seems low, since it is expressed in terms of movement on our values index for each increased dollar in per capita GNP, but the T-statistic demonstrates that this result is very unlikely to have occurred by chance. Put differently, the regression coefficient indicates that every \$1,000 increase in per capita GNP contributes to a 1.7-point gain on the Materialist/Postmaterialist values index.

Juan Diez-Nicolas (1994) demonstrates that this relationship is also found at the regional level *within* Spain. He has included the four-item values battery in monthly regional surveys of the Spanish public since 1988. Cumulating large numbers of interviews for each region enables him to perform statistically reliable analyses of the relationship between age and values and economic security at the regional level, in a country with a great deal of regional variation. He finds that the relative level of Postmaterialism varies



**Fig. 8-1. Materialist/Postmaterialist values by economic development in 40 societies, 1990–91. Based on the 12-item Materialist/Postmaterialist values index.  $r = .68$ ,  $p < .0001$ , Beta = .0017,  $T = .5790$ ,  $p < .0000$ . (From 1990–91 World Values Survey. Economic data are from World Bank reports.)**

considerably from region to region, and that these differences are stable over time. The wealthiest regions (the Basque country and Madrid) consistently have the highest proportion of Postmaterialists and the poorest regions (Andalusia and Castille-La Mancha) have the lowest proportions of Postmaterialists. These relationships are strong, and they show a particularly good fit with a region's level of economic development 25 years prior to the survey, during the median respondents' adolescent years.

## Are Relationships Linear?

The regression techniques we employ assume linear relationships. Inglehart (1987) has argued earlier that economic security has diminishing marginal utility. When people are economically secure, additional economic security has decreasing marginal value, and they thus tend to emphasize Postmaterialist goals. Does employing regression analysis contradict the assumption that increasing prosperity has diminishing returns?

Not significantly. Once societies become very prosperous, increased prosperity probably has little effect, but the range of economic development among the 40 countries that we compare is so great that statistics assuming linear relationships do little to violate reality.

Let us review the argument more carefully. Inglehart has argued that there is a diminishing marginal utility to the impact of economic forces. In societies of scarcity, economic factors largely determine how people behave. With the emergence of Postmaterialism this changes, however, and quality-of-life considerations become increasingly important. Since increasing income brings diminishing returns, its impact is not purely linear. We would expect to find some Postmaterialists even before a society reaches a low threshold of security, but Postmaterialists should be relatively scarce. From the very outset Inglehart has found at least small numbers of Postmaterialists, even among the oldest Europeans, who were raised before World War I during periods of severe deprivation, when real economic levels were no higher than they are in China today.

There is a substantial difference between the values of Europeans who had formative socialization experiences before World War II and those who came of age after the war. However, the post–World War II period was not an all-or-nothing threshold in the development of Postmaterialist values. It was a watershed period, however, in another sense. Among the postwar cohorts, Postmaterialists emerged from a tiny minority to a group that, for the first time, constituted a major political force. The postwar generation in advanced industrial societies was the first generation in which Postmaterialists were as numerous as Materialists. Because Postmaterialists tend to be more highly educated and articulate than Materialists, Postmaterialists became politically influential. The breakthrough of Postmaterialists into a position of political prominence and of high visibility in the mass media did come suddenly, but this breakthrough followed a long period of incremental development.

Our data show that Postmaterialists make up only a tiny segment of the population of preindustrial societies. They are a growing segment, however, which though very rare among the old, make up a substantial share of the younger and better-educated strata in such societies as Japan and South Korea. As the value-change theory implies, and as the data we have presented show, there *are* very few Postmaterialists in low-income countries such as China. As

the theory also implies, however, and as we shall show, although there are very few Postmaterialists among the older cohorts in China, as we move to the younger cohorts, who have been raised under conditions of rapidly rising prosperity, they do become a significant element.

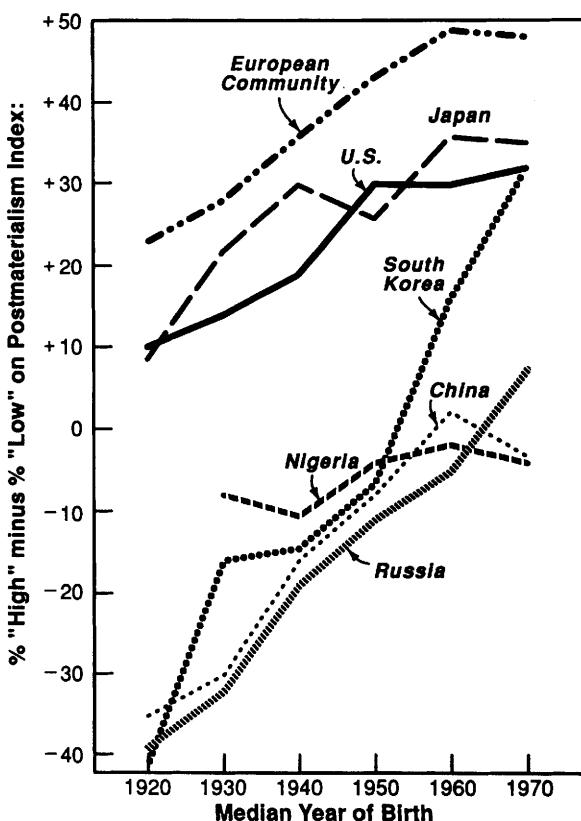
### Economic Growth and Postmaterialist Values

Although the data we present in figure 8-1 are cross-sectional, the Postmaterialist values thesis implies that this configuration reflects a dynamic process in which economic development contributes to increasing numbers of people with Postmaterialist values through a gradual process of intergenerational change. If this theory is correct, we should find a higher proportion of Postmaterialists among the younger cohorts than among the old, *provided* that a society has had sufficient economic growth during the past four or five decades that younger cohorts experienced significantly greater economic security during their preadult years than cohorts who are now in their fifties, sixties, and seventies.

We should bear in mind that a country's economic *level* of development will have a different impact on Postmaterialist values than will the country's rate of economic *growth*. The implications of the value-change thesis are clear on this point. Countries having relatively high *levels* of economic development (as indicated by a high per capita GNP) should have relatively high *levels* of Postmaterialism. Countries that have experienced relatively high rates of economic *growth* should reveal large *differences* in the values of younger and older cohorts.<sup>8</sup> Accordingly, in chapter 4 we pointed to the relatively weak relationship between age and values in Britain and the United States as evidence that low rates of economic growth are associated with relatively weak intergenerational differences in values.

In figure 8-2, we show the relationship between age and Materialist/Postmaterialist values (using the twelve-item index) in several selected societies. As the figure shows, in most societies younger cohorts do manifest considerably higher levels of Postmaterialism than older cohorts. This is not a phenomenon limited to Western democracies: it is found across societies having a wide range of political and economic institutions and a wide variety of cultural traditions. Although the richer countries have much higher absolute proportions of Postmaterialists than the poorer ones, we also find a steep slope reflecting intergenerational differences within poor countries that have experienced rapid increases in the prevailing living standards during the past several decades.

The results for most of the European Community countries have already been examined in detail in chapter 4, and are combined into a single line in figure 8-2 to avoid excessive complication. Overall, the European Community



**Fig. 8-2. Materialist/Postmaterialist values by birth cohort in selected societies, 1990–91. Based on the 12-item Materialist/Postmaterialist values index. (From 1990–91 World Values Survey.)**

has the highest proportion of Postmaterialists on this graph, with the United States and Japan also ranking relatively high. Even the oldest birth cohorts in the advanced industrial societies rank higher than the youngest cohorts of most other countries, but an upward slope, illustrating a rising proportion of Postmaterialists to Materialists as we move from the old to the young, is found in some poor countries as well.

At first glance, it might seem surprising that a shift from Materialist to Postmaterialist values appears to be taking place in such a country as Russia, which experienced economic stagnation during the decade preceding these surveys and by 1990 was in a state of economic collapse.<sup>9</sup> If the Postmaterialist value shift simply reflected recent conditions, we would *not* expect to find intergenerational differences in Russia. However, the value-change theory

postulates a long term process of intergenerational change based on the differences experienced during a given cohort's preadult years. From this perspective, we *would* expect to find sizeable intergenerational differences, for it is clear that the cohorts born in the 1950s, the 1960s, and the 1970s had formative experiences that were characterized by far more secure circumstances than those of the cohorts born in the 1920s, 1930s, or 1940s.

For example, older Russians experienced the civil war and the mass starvation linked with forced collectivization during the 1920s, followed by the terror and the Stalinist purges of the 1930s, and the starvation and loss of 27 million lives that the Soviet Union suffered during World War II. The 1950s and 1960s, by contrast, were an era of recovery and rapid economic growth. In this era Khrushchev boasted, "We will bury you," predicting that by 1984 the USSR would be more economically developed than the United States. At the time, many Western observers thought it a plausible boast. Recent years have been calamitous, creating a period effect that tends to drive all of the Russian cohorts downward toward the Materialist pole. However, the formative years of younger Russians were far more secure than those of the older Russians, and if the intergenerational differences reflect differences in preadult experiences, we would indeed expect to find sizeable intergenerational change. We do, as figure 8-2 demonstrates. Though the Russian cohort line starts at a level far below that of the richer countries, intergenerational differences in Russia are even steeper than those found in Western Europe, the United States, or Japan. Future research will be needed to determine whether the relatively Postmaterialist values of young Russians will persist in the face of the economic collapse following the dissolution of the Soviet Union.

China shows an equally steep slope, reflecting sharp intergenerational differences that may have contributed to the spring, 1989, clash between young intellectuals and an octogenarian leadership still in control of the army. There were massive differences between the formative experiences of the older generations in China, which lived through an era of mass starvation and civil war that went on almost continuously from the 1920s to 1949, and those of the younger cohorts, brought up under conditions of relative stability and rising prosperity—broken by the severe but relatively brief upheavals of the Great Leap Forward and the Cultural Revolution in the late 1960s.

South Korea reveals the most dramatic set of intergenerational value differences of all 40 societies we study. Since the 1950s, economic growth rates in South Korea have been spectacular. Among all of the countries for which the World Bank reports data, only Singapore had a higher rate of economic growth during the period from 1965 to 1990. Apart from this minestate, South Korea has led the world in economic growth, rising from starvation-level poverty in the 1950s to become a relatively prosperous country. In keeping with this history, the oldest cohort of Koreans has a clear

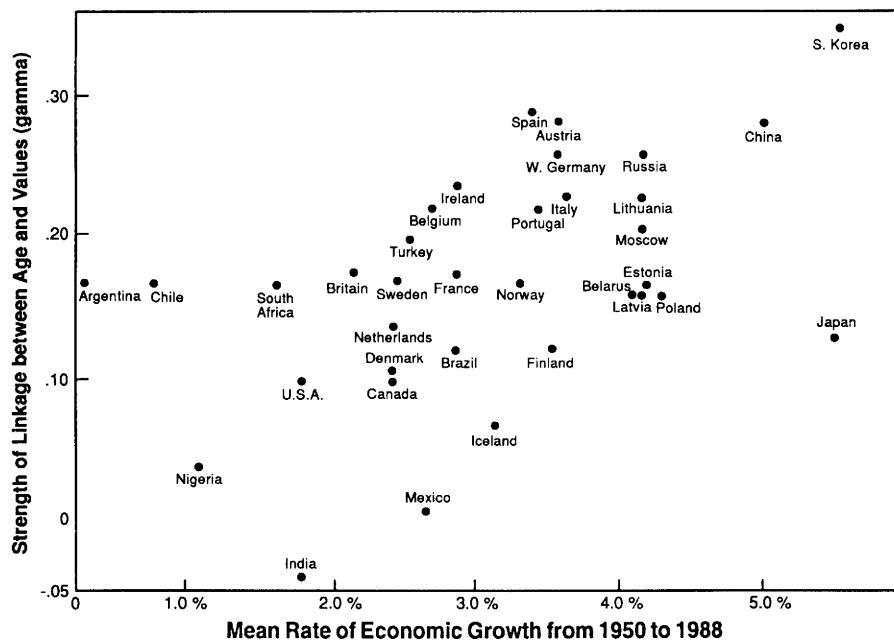
preponderance of Materialist priorities, ranking below any other country, and, as table 8-1 and figure 8-1 show, overall levels of Postmaterialism in Korea are still low. However, the youngest South Koreans show a clear preponderance of Postmaterialist values, with the trend line rising so steeply that this youngest cohort actually converges with its American counterpart.

By contrast with South Korea, the Nigerian data reveal negligible cohort differences: the old are almost as likely to emphasize Postmaterialist values as the young. Here again, the size of the intergenerational value differences reflect the rate of economic growth that the country has experienced. According to World Bank statistics, Nigeria has had virtually no increase in per capita income since the 1960s. As our theory implies, intergenerational value differences are present if the formative years of the younger cohorts were shaped by significantly higher levels of economic security than those of the older cohorts. In countries that have *not* experienced economic development, we do not expect to find intergenerational differences in values.<sup>10</sup>

In figure 8-3 we condense the relationship between age and values into a single coefficient and show the relationship between age and values, controlling for rates of economic growth between 1950 and 1988.<sup>11</sup> As the figure demonstrates, the selected examples in figure 8-2 reflect the overall pattern: intergenerational value differences tend to be largest in those countries that have experienced the highest rates of economic growth during the preceding four decades. Accordingly, the correlation between age and values is strongest in such countries as South Korea and China, and weak or negligible in such countries as Nigeria or India—which also have relatively unequal distributions of income, with the result that substantial proportions of the population live at the edge of starvation.

Intergenerational value differences are relatively weak in the United States. Although the United States has a moderately high absolute *level* of Postmaterialism, the rate of intergenerational change is relatively small. Although the United States has been one of the world's richest countries since the start of the twentieth century, it has not experienced dramatic *changes* between the formative experiences of younger and older cohorts comparable to those that have characterized Europe and East Asia. The United States has been a relatively rich country throughout the lifetime of virtually everyone in the sample, and was not devastated by World War II, but it has had relatively slow growth rates in recent decades.

As usual, we find some deviant cases. Argentina and Chile are “overachievers,” with larger intergenerational differences than their economic growth rates would predict. Japan is an “underachiever,” showing smaller intergenerational differences than its history of economic growth would lead us to expect. However, the overall pattern is clear. High rates of economic growth tend to be associated with large intergenerational value differences.



**Fig. 8-3. Relationship between age and values, by past rates of economic growth in 35 societies, 1990–91. Based on the 12-item Materialist/Postmaterialist values index.  $r = .52$ ,  $p < .001$ . Data on economic growth were not available for Bulgaria, Czechoslovakia, East Germany, Hungary, and Northern Ireland. (From 1990–91 World Values Survey. Economic data are from World Bank reports.)**

The relationship is strong ( $r = .52$ ) and statistically significant at better than the .001 level.

### Value Change from the Early 1980s to the Early 1990s

Data from a long time series would be needed to directly demonstrate that economic development tends to produce a global intergenerational shift toward Postmaterialist values. The necessary data are not available for most of these countries. Nevertheless, the evidence that is available has a remarkably good fit with the predictions of the value-change thesis.

Fortunately, by comparing the results of the recent World Values Survey with those of the 1981–83 World Values Survey we can make some time-series comparisons.<sup>12</sup> For 19 of these countries, data from the four-item values battery are available in the earlier World Values Survey, and for the United States we can make a comparison employing the 1980 National Elec-

**TABLE 8-2. Percentage of Postmaterialists  
Minus the Percentage of Materialists in 20  
Societies, 1981-83 and 1990-91**

	Years of Surveys		
	1981-83	1990-91	Shift
West Germany	-11	14	+25
Britain	-13	0	+13
The Netherlands	-2	26	+28
France	-14	4	+18
Belgium	-16	2	+18
Italy	-39	6	+30
Ireland	-20	-4	+16
Spain	-41	-6	+35
Northern Ireland	-45	-7	+38
Iceland	-10	-14	-4
Finland	21	23	+2
Norway	-21	-19	+2
Sweden	-10	9	+19
Canada	-6	14	+20
U.S.A.	-24	6	+30
Argentina	-20	-4	+16
Mexico	-19	-14	+5
Hungary	-50	-41	+9
Japan	-32	-19	+13
South Africa	-16	-33	-17

*Source:* The 1981-83 World Values Survey and the 1990-91 World Values Survey. As the values questions were not asked in the United States in the 1981-83 World Values Survey, the U.S. results for the first period are from the 1980 National Election Study.

*Note:* Based on the four-item values index.

tion Study survey. In table 8-2 we compare scores on our basic four-item value index (the percentage of Postmaterialists minus the percentage of Materialists) in 1981-83 with those from our more recent survey.

As table 8-2 shows, 18 of these 20 countries show the predicted shift toward Postmaterialist values. Only Iceland and South Africa reveal a shift in the opposite direction.<sup>13</sup> It is not surprising that these are deviant cases. During the early 1980s, Iceland had the highest inflation rate in Western Europe, which by 1985 had reached an annual rate of 100 percent. Since then, government policies have dramatically reduced inflation, but at the cost of relatively high unemployment (by Icelandic standards) and an 8 percent decline in GNP between 1987 and 1990. It is even less surprising that South Africa shows a shift toward Materialist goals. A society's values at any given time reflect a combination of long-term trends and current period effects—and

South Africa experienced a period of severe insecurity during the 1980s. Its economy, suffering from international boycott and low commodity prices, experienced economic stagnation. Moreover, widespread violence and political instability led to growing concern for physical security among both blacks and whites. Powerful period effects were working to produce a sense of insecurity, rather than the security that contributes to Postmaterialist values.

## **Conclusions**

Our arguments in this chapter have been far more speculative than those in chapters 2 through 5. In those chapters we were actually working with many surveys for each country and had data over the course of two decades. Here we have examined data from many more countries across a much wider political, cultural, and economic range, but for the most part we have relied upon a single survey for each society. Even the comparisons in table 8-2 are based upon only two data points, and therefore must be seen as much more tentative than the trends we have documented for Germany, Britain, The Netherlands, France, Belgium, Italy, Denmark, and Ireland.

Future surveys may ultimately determine whether the worldwide trend toward Postmaterialism suggested by these data actually occurs. Even our ability to study such trends in the future is in doubt. A restoration of authoritarian regimes in societies that have only recently begun to liberalize would probably reimpose limitations on survey research.

Even though more data are needed, this broad range of data from the World Values Surveys helps place the Western European data in global perspective. These new data illustrate two major points.

First, the shift from Materialist to Postmaterialist values is not a uniquely Western phenomenon. Rather, it is found in societies with widely different institutions and cultural traditions. The rise of Postmaterialist values is closely linked with prosperity and seems to occur wherever a society has experienced enough economic growth in recent decades that the younger birth cohorts have experienced significantly greater economic security during their formative years than did the older cohorts. In preindustrial societies, conversely, there are few Postmaterialists and there is little difference between the values of young and old: intergenerational value differences reflect a society's rate of economic growth. Economic prosperity, of course, is only one factor that contributes to security, but it is an important factor and we have relatively good cross-national and cross-time data for it. War, domestic upheaval, and ethnic conflict can also have a major impact on values, but because they are situation-specific and less readily quantified they are more difficult to analyze empirically.

Second, where value change has occurred, intergenerational differences

are remarkably robust. In Western Europe, clear and substantial differences between the values of younger and older birth cohorts persisted through the recessions of the mid-1970s and early 1980s. More remarkably still, in Russia and Eastern Europe sizeable intergenerational differences seem to have persisted through the economic collapse of the late 1980s and early 1990s. Values show predictable period effects in response to current economic conditions. However, the Postmaterialist value shift does not simply reflect current conditions. Rather, it has a long-term component that seems to reflect the distinctive formative circumstances that given birth cohorts experienced as much as 40 or 50 years ago.



## CHAPTER 9

### Conclusions

Throughout this book we have argued that value change is a function of both short-term and long-term forces. Because only data over time can document a trend, most of our analyses focus on eight Western European societies for which we have many surveys over a period of two decades. In chapter 2, we clearly document a sharp increase in Postmaterialism in Denmark, and a clear trend toward Postmaterialism in West Germany, Britain, The Netherlands, France, Italy, and Ireland. We also provide some evidence of a trend toward Postmaterialism in the United States. Belgium was an exception, for overall levels of Postmaterialism were only slightly higher in 1993 than they were 23 years earlier.

In his first analysis of Postmaterialist values, Inglehart (1971) predicted that there would be a trend toward Postmaterialism. However, this analysis was based only upon surveys conducted in 1970, and his prediction was based on his interpretation of age-group differences. Young Europeans were far more likely to have Postmaterialist values than their elders, and Inglehart argued that these differences resulted largely from differences between the formative socialization of young Europeans and those of their elders. This interpretation was speculative, although it was buttressed by the finding, as the theory implied, that age-group differences were less pronounced in Britain than they were in Germany, The Netherlands, France, Belgium, and Italy. Inglehart acknowledged that his prediction of a trend toward Postmaterialism could not be proven with the data then at hand. As he wrote (1971, 1005), “Ultimately, of course, our thesis can be proved or disproved only with the aid of longitudinal data.”

Fortunately, we now have the necessary data. Some scholars, such as Gabriel A. Almond (1990), argue that “Inglehart’s work is one of the few examples of successful prediction in political science.” Nevertheless, as we have seen, even in recent years, some scholars have challenged the conclusion that there is a trend toward Postmaterialism, and others have argued that if such a trend exists, it does not result from differences between the formative experiences of younger and older Europeans.

Critics of Inglehart’s thesis have sometimes failed to understand that the value-change thesis postulates both short-term and long-term value change,

and that both types of change can occur simultaneously. It has been clear from the outset that value changes do not reflect long-term forces alone. The major long-term force that drives Postmaterialism upward is generational replacement, the gradual process through which younger cohorts with relatively Postmaterialist values replace older cohorts with heavily Materialist values. If generational replacement were the only factor driving value change, there would be a gradual progression toward Postmaterialist values that would vary only as a function of changing birthrates and death rates, with any short-term declines in Postmaterialism resulting solely from sampling error. In none of the eight Western European societies we study does the trend over the past two decades fit such a pattern.

Replacement is a gradual process, especially in advanced industrialized societies. One perceptive critic, James D. Wright (1978), grasped this point, and actually projected future levels of Postmaterialism in Germany using data presented in Inglehart's *The Silent Revolution*. He estimated that a Postmaterialist majority would arrive in West Germany only by 2015, and then only if one made projections based upon "exceedingly optimistic assumptions." "The revolution is not only silent," Wright wrote (1978, 272), "it is proceeding at a glacial pace."

Realistic estimates about the future impact of replacement must recognize that the actual pace of replacement itself will be slow. However, in the long term, its effects can transform the basic motivations of a society. Moreover, once one understands that the long-term forces that push Postmaterialism upward lead to gradual change, it is easy to understand why short-term fluctuations can swamp these long-term effects in any given year. These short-term forces are implicit in Inglehart's theory, however, which holds that *insecurity* contributes to Materialism. Conversely, Harold D. Clarke and Nitish Dutt's (1991) critique, if valid, would seriously undermine Inglehart's theory: it claims that high levels of unemployment contributed to *Postmaterialist* values.

In chapter 3, we analyze the impact of short-term forces on value change in the eight Western European societies we study over time. Our time-series analyses demonstrate that once we take the effects of inflation and unemployment into account, there is a statistically significant trend toward Postmaterialism in all eight societies. This trend is small, averaging only about one point per year on the four-item values index, but this trend is very close to what we would expect from generational replacement alone. High levels of inflation do contribute to short-term movements toward Materialism, as Inglehart's thesis predicts, but Clarke and Dutt's argument that unemployment contributes to Postmaterialism does not hold up when subjected to a rigorous test based upon data collected during the course of two decades.

In chapter 4, we present evidence on the values of birth cohorts in these

eight countries, examining values from 1970 through 1992 in Germany, Britain, The Netherlands, France, Belgium, and Italy, and from 1973 through 1992 in Denmark and Ireland. We can track the values of six birth cohorts as they move through the life cycle. Except for Belgium, there is no country in which *aging* contributes to Materialism. Admittedly, as W. Phillips Shively (1991) argues, such evidence does not conclusively demonstrate that Europeans fail to become more Materialistic in their values as they age. It is always possible that there is a natural tendency for aging to contribute to Materialist values, but that some thus-far unidentified short-term force conducive to Postmaterialism has somehow prevented Materialism from increasing. To say that a life-cycle interpretation for age-group differences is conceivable, however, does not mean that such an interpretation is plausible. We present considerable evidence demonstrating that short-term changes in values move in a fashion consistent with Inglehart's theory. Scholars who argue that age-group differences result primarily from life-cycle differences need to present plausible evidence that supports their interpretation. It has not been presented so far, and we doubt that such evidence can be mustered.

Moreover, our arguments about the impact of generational replacement do not rest upon our generational interpretation of age-group differences. As we point out, if cohorts do not become more Materialist with age, the gradual change in the cohort composition of European society will lead to higher levels of Postmaterialism. This is true, regardless of the reasons that young cohorts do not become more Materialistic. As Abramson (1983) pointed out, generational replacement can lead to six different outcomes. One outcome is for replacement to have no effect, but given that in all eight Western European societies (and indeed in 39 of the 40 societies we study) young adults are more likely to have Postmaterialist values than their elders, replacement must affect the overall distribution of values. Replacement can *create* a trend toward Postmaterialism, it can *contribute* to a trend, it can *prevent* a trend toward Materialism, it can *impede* a trend toward Materialism, and it can even *reverse* a trend toward Materialist values.

We measure the actual effect of replacement upon the overall distribution of values using an algebraic standardization procedure. We compare the actual scores on our four-item measure of Materialist/Postmaterialist values with the values of a hypothetical population in which no replacement occurred. This procedure is simple, and alternative estimation procedures are possible, but it is the clearest way to demonstrate the alternative effects of replacement upon the overall distribution of values. We find that generational replacement contributed to the rise in Postmaterialism in Denmark, although Postmaterialism grew faster than replacement alone would predict. In Germany, Britain, The Netherlands, France, Italy, and Ireland, replacement either created or was the main force contributing to the trend toward Postmaterialism. In Belgium,

replacement prevented a trend toward Materialism. Moreover, there were also subperiods in which replacement impeded a trend toward Materialism or reversed a trend toward Materialism. For our combined European sample, replacement led to about 90 percent of the overall shift toward Postmaterialism. Clearly, it was the major long-term force contributing to the rise of Postmaterialism.

Demonstrating that replacement was the major force contributing to Postmaterialism does not demonstrate *why* younger cohorts have higher levels of Postmaterialism. We argue that this is the case because they experienced greater security during their formative years. In chapter 5, we examine an alternative explanation for this relationship that stressed that the young had higher levels of formal education than their elders. This provides an occasion to discuss the multifaceted meaning of education in advanced industrial societies, as well as the meaning of education as a variable in social-science analysis. As we show, the relationship between education and Postmaterialism supports Inglehart's thesis that high levels of Postmaterialism among young Europeans result from differential socialization experiences.

Even if one concludes that the Postmaterialism of the young results from their higher levels of formal education, it would still be reasonable to employ our knowledge about age-group differences in values to make projections about future levels of Postmaterialism. In chapter 6, we use our value surveys, as well as census projections about the future age distribution of these European societies, to project future levels of Postmaterialism for the years 2000, 2010, and 2020. The evidence suggests that replacement is likely to contribute to higher levels of Postmaterialism into the twenty-first century, but it also demonstrates that the impact of replacement is likely to diminish somewhat because of low birthrates in most Western European societies.

Inglehart's more recent evidence has already persuaded some critics that there is a trend toward Postmaterialism, and that this trend is likely to continue. In *Culture Shift*, Inglehart presented evidence on trends through 1988, along with some of our earlier projections on the likely impact of replacement on the future of Postmaterialism (Abramson and Inglehart 1987). Wright, who had earlier raised perceptive criticisms about the slow pace of replacement processes, was convinced. As he writes in his review of *Culture Shift* (1991, 893), "The brunt of the original exposition turned on showing cross-sectional age differences in material and postmaterial values; in most cases, younger respondents were more Postmaterialist than older ones, which was taken as evidence of true generational differences that would persist over time." As Wright observes, "The obvious counterpossibility was that Postmaterialist youth would become more materialist with age." However, based upon evidence that Inglehart presented in *Culture Shift*, Wright concludes that "the

evidence does *not* suggest any loss of Postmaterialist enthusiasm as respondents age. Material sentiments still tend to predominate in nearly all societies analyzed, but this is mainly true in the older cohorts; the process of generational replacement has inexorably, if slowly, increased the Postmaterialist faction everywhere, especially among the better educated, and a Postmaterialist majority is only a matter of time."

Inglehart's original surveys were in six Western European societies, and most of the early surveys were either of Western Europe or the United States. But Inglehart's thesis suggests that the forces that contribute to Postmaterialist values should prevail in all societies in which younger cohorts have experienced substantially more security during their formative years than older cohorts have.

The World Values Surveys carried out in 1981–83 and 1990–91 provide further evidence that economic security contributes to the rise of Postmaterialism. The 1990–91 World Values Survey is especially valuable, for it covers an exceptionally wide range of countries. In addition, it employs the full twelve-item values battery, allowing us to test whether values can meaningfully be measured across such a diverse group of countries.

By analyzing the structure of values in these 40 societies, we demonstrate that values can be measured, and that the Materialist/Postmaterialist concept has similar meaning across cultures. Factor analyses presented in chapter 7 demonstrate that in all of these societies respondents choose among national goals in a coherent way. As the theory implies, values tend to be more highly structured in advanced industrial societies than in poorer countries, but most national goals consistently load as either Materialist or Postmaterialist values across these societies. There are some cross-national differences, in particular when we compare the socialist and former state-socialist societies with nonsocialist societies, but there is also compelling evidence that we can construct a cross-culturally comparable measure of Materialist/Postmaterialist values.

In chapter 8, we use an index based on the twelve-item values battery to demonstrate that economic security is strongly related to Postmaterialist values across a wide range of societies. It is important to distinguish between the effects of economic wealth and the effects of economic growth. The value-change theory predicts that wealthy countries should have higher levels of Postmaterialism than poorer societies. This finding is strongly supported by our cross-national analyses. The theory also predicts that high rates of economic growth should contribute to relatively large age-group *differences* in values. This thesis, too, is supported.

We did not explain all of the variation in values by focusing on economic variables. Future research should examine the impact of foreign and domestic

violence on the way values develop. Governmental policies may also affect values, since governments with encompassing welfare systems may promote feelings of security.

Analysis of the World Values Surveys demonstrates that the shift from Materialist to Postmaterialist values is not just a Western phenomenon. The rise of Postmaterialist values is closely linked with prosperity and seems to occur wherever a society has experienced enough economic growth that the younger birth cohorts have experienced significantly greater security than their elders. Moreover, where value change has occurred, intergenerational differences are robust. Values do respond to predictable period effects in response to current economic conditions, but the shift toward Postmaterialist values does not simply reflect current economic conditions. Rather, it has a long-term component that appears to reflect the distinctive formative experiences that birth cohorts experienced as much as 40 or 50 years ago.

Even though the young are more likely to value Postmaterialist goals than their elders in 39 of the 40 societies we study, there is no guarantee that the trend toward Postmaterialism will continue. As Otis Dudley Duncan observed (1968, 679), “There is nothing about a trend—supposing it to have been reliably ascertained for some specific period—that guarantees its own continuation.” It does seem likely that—at least for several decades—future generational replacement will tend to push Postmaterialism upward. As Herbert H. Hyman (1972, 243) observed, “It is the inevitable fact of life that the young will replace the old and will determine the future course of any trend. Thus if the young differ from the old, and were to continue to do so despite their own aging, some prediction can be ventured.” Although the young have higher levels of Postmaterialism in every society except India, the strength of that relationship varies according to the rate of economic growth during the past four decades. In countries in which there has been rapid economic growth, young adults are much more likely to have Postmaterialist values than their elders. In societies where economic growth has been slow, age-group differences tend to be small.

Despite abundant evidence demonstrating a shift to Postmaterialism, we must be cautious in our predictions. Although generational replacement is likely to push Postmaterialism upward, our time-series analyses demonstrate that economic forces—especially changing inflation rates—can also affect value change. Thus, while a trend has been clearly documented, and although young Europeans have remained more Postmaterialist despite their own aging, economic forces will also influence the pace, and even the direction, of future value change. It is possible to make projections about the future magnitude of value change in Western Europe, as Wright (1978) did in his review of *The Silent Revolution*, as we have done in earlier work (Abramson and Inglehart 1987, 1992; Inglehart 1990), and as we have done in chapter 6.

However, these projections are only guidelines about what would happen if political and economic conditions remain constant.

Despite the speculative nature of such projections, they underscore a demographic reality. Western societies are characterized by low birthrates and low death rates, and birthrates have been especially low since the mid-1970s. As a result, generational replacement may have less impact during the coming decades than it had over the past two decades. In fact, during the next few decades replacement is likely to have a greater impact on values in non-European societies than in Western Europe, especially where recent economic growth has contributed to sharp differences between the values of younger and older cohorts. The potential for replacement is far greater in societies in which a large proportion of the population is young. The percentage of the population below the age of 15 varies dramatically across this range of societies. In the early 1990s, according to Eurostat statistics, only about 15 percent of the population of the former West Germany was below the age of 15. In the United States, according to World Bank statistics, 22 percent of the population was below the age of 15. In Ireland, 26 percent was below the age of 15, the highest of any European society.

Among the countries of Eastern Europe and the societies of the former Soviet Union, the proportion of the population below the age of 15 ranges from 19 percent in the former East Germany and the Moscow region (our estimate) to 25 percent in Poland. In South Korea, there seems to be an especially high potential for change, since the relationship between age and values is very strong, and since 25 percent of the population is below the age of 15. However, the portion of the population below the age of 15 is higher in all of the Latin American countries, ranging from 29 percent in Argentina to 38 percent in Mexico. Despite draconian birth control policies, 27 percent of the Chinese population is below the age of 15. In Turkey, 35 percent of the population is below the age of 15, while in India 36 percent of the population is below this age. The percentage below the age of 15 is highest in the two African societies—39 percent in South Africa and a staggering 46 percent in Nigeria.

Of course, we do not know what the values of those under 15 will be, since they have not been studied in our surveys. In most of these countries, the young have enjoyed greater economic security than those who are now 50 to 75 years of age, which could lead us to expect them to have higher levels of Postmaterialism than their elders. Nevertheless, future levels of security depend upon economic and political events that are yet to unfold. The consequences of the breakup of the Soviet Union are only beginning to be felt, and it is easy to advance a bleak scenario for that region. It is possible to end on a brighter note, however. We now have data on values from a wide range of societies, representing 70 percent of the world's population. In many of these

societies, conducting these surveys in cooperation with scholars from these countries would have been impossible a decade earlier. The changes that made such research possible have benefited social scientists. They have the potential for benefiting ordinary citizens as well. If economic development continues to take place—as it has on the whole for the past 50 years—there is a long-term prospect that mass publics will become increasingly supportive of democratic institutions.

## Appendix: Distribution of the Adult Population in Eight Western European Societies, by Years of Birth

Census Estimates for Each Society: 1970 and 1992; 1973 and 1992

European Community Surveys for Each Society:  
1970-71 through 1992; 1973 through 1992

Census Estimates for Combined Population  
of Six Societies: 1970 and 1992

European Community Surveys for Combined Sample  
of Six Societies: 1970-71 through 1992

**TABLE A1. Distribution of Adults by Years of Birth in Eight Western European Societies, Estimates for 1970 and 1992; 1973 and 1992**

Age in 1970	Years of Birth	Number in Thousands					
		End of 1970	End of 1992	End of 1970	End of 1992	End of 1970	End of 1992
		Germany		United Kingdom		The Netherlands	
Unborn	1976-77	0	1,238.6	0	1,310.9	0	363.9
Unborn to 4	1966-75	0	8,743.8	0	8,305.8	0	2,340.0
5-14	1956-65	0	10,683.6	0	8,891.5	0	2,543.2
15-24	1946-55	7,956.8	8,678.0	8,069.0	7,883.0	2,316.6	2,368.2
25-34	1936-45	8,898.5	9,008.8	6,868.1	6,490.6	1,752.7	1,700.5
35-44	1926-35	8,010.4	7,118.1	6,500.2	5,665.5	1,533.1	1,374.7
45-54	1916-25	6,618.5	4,856.0	6,817.6	4,683.2	1,412.7	1,052.4
55-64	1906-15	7,224.6	3,135.5	6,576.3	2,646.6	1,198.5	550.5
65 and over	Before 1906	8,691.4	630.4	7,305.6	622.4	1,339.8	121.3
	Total	47,400.2	54,092.8	42,136.8	46,499.5	9,553.4	12,416.7

*(continued)*

TABLE A1—Continued

Number in Thousands							
Age in 1970	Years of Birth	End of 1970	End of 1992	End of 1970	End of 1992	End of 1970	End of 1992
		France		Belgium		Italy	
Unborn	1976–77	0	1,500.5	0	241.8	0	1,521.6
Unborn to 4	1966–75	0	8,578.4	0	1,389.2	0	9,100.1
5–14	1956–65	0	8,739.3	0	1,596.6	0	8,980.8
15–24	1946–55	8,533.7	8,612.2	1,450.8	1,450.5	7,949.6	7,879.9
25–34	1936–45	6,080.1	5,728.0	1,167.9	1,130.1	7,304.6	7,036.6
35–44	1926–35	6,649.1	5,793.5	1,278.6	1,110.9	7,357.3	6,531.6
45–54	1916–25	5,353.9	4,067.3	1,106.6	789.6	5,985.3	4,589.3
55–64	1906–15	5,213.4	2,509.0	1,078.3	442.0	5,920.2	2,623.4
65 and over	Before 1906	6,591.4	635.5	1,295.7	94.9	5,598.0	475.3
	Total	38,421.6	46,163.6	7,337.9	8,245.6	40,115.0	48,738.6
Age in 1973	Years of Birth	End of 1973	End of 1992	End of 1973	End of 1992		
		Denmark		Ireland			
Unborn	1976–77	0	128.8	0	136.3		
Unborn to 7	1966–75	0	763.9	0	583.5		
8–14	1959–65	0	555.7	0	321.7		
15–17	1956–58	223.0	223.3	170.4	142.5		
18–27	1946–55	787.4	770.9	456.5	457.2		
28–37	1936–45	690.5	648.2	332.4	343.8		
38–47	1926–35	566.8	487.1	306.3	267.6		
48–57	1916–25	581.5	416.1	312.9	222.1		
58–67	1906–15	522.3	237.1	270.2	110.8		
67 and over	Before 1906	517.1	53.0	267.3	20.4		
	Total	3,888.6	4,284.1	2,116.0	2,606.0		
Percentage Distribution							
Age in 1970	Years of Birth	End of 1970	End of 1992	End of 1970	End of 1992	End of 1970	End of 1992
		Germany		United Kingdom		The Netherlands	
Unborn	1976–77	0%	2%	0%	3%	0%	3%
Unborn to 4	1966–75	0	16	0	18	0	19
5–14	1956–65	0	20	0	19	0	21
15–24	1946–55	17	16	19	17	24	19
25–34	1936–45	19	17	16	14	18	14
35–44	1926–35	17	13	15	12	16	11
45–54	1916–25	14	9	16	10	15	8
55–64	1906–15	15	6	16	6	13	4
65 and over	Before 1906	18	1	17	1	14	1
	Total percent	100%	100%	99%	100%	100%	100%
(N, in thousands)		47,400.2	54,092.8	42,136.8	46,499.5	9,553.4	12,416.7

TABLE A1—Continued

Age in 1970	Years of Birth	Percentage Distribution					
		End of 1970	End of 1992	End of 1970	End of 1992	End of 1970	End of 1992
France      Belgium      Italy							
Unborn	1976–77	0%	3%	0%	3%	0%	3%
Unborn to 4	1966–75	0	19	0	17	0	19
5–14	1956–65	0	19	0	19	0	18
15–24	1946–55	22	19	20	18	20	16
25–34	1936–45	16	12	16	14	18	15
35–44	1926–35	17	13	17	13	18	13
45–54	1916–25	14	9	15	10	15	9
55–64	1906–15	14	5	15	5	15	5
65 and over	Before 1906	17	1	18	1	14	1
	Total percent	100%	100%	101%	100%	100%	99%
(N, in thousands)		38,421.6	46,163.6	7,377.9	8,245.6	40,115.0	48,738.6
Age in 1973      End of 1973      End of 1992      End of 1973      End of 1992							
Denmark      Ireland							
Unborn	1976–77	0%	3%	0%	5%		
Unborn to 7	1966–75	0	18	0	22		
8–14	1959–65	0	13	0	12		
15–17	1956–58	6	5	8	6		
18–27	1946–55	20	18	22	18		
28–37	1936–45	18	15	16	13		
38–47	1926–35	15	11	14	10		
48–57	1916–25	15	10	15	9		
58–67	1906–15	13	5	13	4		
67 and over	Before 1906	13	1	13	1		
	Total percent	100%	101%	101%	100%		
(N, in thousands)		3,888.6	4,284.1	2,116.0	2,606.0		

*Source:* Our 1970 estimates are based upon our calculations from tables that present the population according to actual year of age. Results for 1970 for Germany, the United Kingdom, The Netherlands, Belgium, and Italy are based upon Statistical Office of the European Communities (1977a), table 1.1C. Results for The Netherlands and Belgium are most accurate for our purposes since they are based upon the population as of December 31, 1970. Estimates for Germany are as of May 27, 1970, for the United Kingdom as of April 4, 1971, while for Italy they are estimates as of October 24, 1971. For France, our results are based upon Institut National de la Statistique et des Études Économique (1973), table 3. They are based upon the population as of January 1, 1971.

Our 1973 estimates for Denmark and Ireland are based upon Statistical Office of the European Communities (1977b, table 1), which presents five-year age-group categories as of January 1, 1974. As the five-year cohort categories did not match the cohorts used in our survey analysis, we assumed that each single year of the age group made up one-fifth of the five-year age group. For Germany and the United Kingdom we based our 1992 estimates upon Statistical Office of the European Communities (1992), table B-3, and for the remaining six countries we used table B-6. The German and British estimates are based upon the population as of January 1, 1990, and the remaining estimates are based upon the population as of January 1, 1991. As the German and British data are for three years before the end of 1992, we needed to estimate projected survival rates between January 1, 1990, and the end of 1992. We estimated survival rates for German and British single-year age groups by calculating the percentage of the age group that survived between January 1, 1987, and January 1, 1990, and applied that survival rate to estimate what the population of that age group would be at the end of 1992. (The population results for 1986 are from Statistical Office of the European Communities, 1989, table 4 for each country.) For example, as of January 1, 1987, there were 346,700 Germans aged 70. As of January 1, 1990, there were 316,800 Germans aged 73, a survival rate of 91.4 percent. As of January 1, 1990, there were 477,500 Germans aged 70. Applying the survival rate of 91.4 percent, we estimate that as of January 1, 1993, there were 436,400 West Germans aged 73. Similar calculations were made for Britain. For the remaining six countries we estimated attrition rates over a two-year period using Statistical Office of the European Communities, 1990, table B-5, which presents the population by single year of age as of January 1, 1989. The calculations followed the same logic described above.

**TABLE A2. Distribution of the Adult Population in Germany,  
by Years of Birth, 1970–71 through 1992**

Years of Birth	Year of Survey								
	1970–71	1973	1976	1977	1978	1979	1980	1981	1982
1976–77	0%	0%	0%	0%	0%	0%	0%	0%	0%
1966–75	0	0	0	0	0	0	0	*	6
1956–65	0	3	11	12	13	14	17	21	27
1946–55	14	17	15	15	15	17	18	17	16
1936–45	22	26	20	22	21	21	19	19	17
1926–35	19	19	19	17	17	18	16	16	11
1916–25	17	15	14	14	13	14	14	13	12
1906–15	15	13	14	14	15	13	13	12	9
Before 1906	12	8	8	6	5	3	3	3	2
Total percentage	99%	101%	101%	100%	99%	100%	100%	101%	100%
(N)	(4,011)	(1,957)	(1,007)	(2,014)	(2,002)	(1,005)	(2,015)	(1,966)	(2,437)

Source: European Community Surveys.

Note: A weighting factor is used in the analysis. However, the number of cases in parentheses is the actual number of respondents. Asterisk (\*) indicates less than 1 percent.

**TABLE A3. Distribution of the Adult Population in Britain,  
by Years of Birth, 1970–71 through 1992**

Years of Birth	Year of Survey								
	1970–71	1973	1976	1977	1978	1979	1980	1981	1982
1976–77	0%	0%	0%	0%	0%	0%	0%	0%	0%
1966–75	0	0	0	0	0	0	0	1	5
1956–65	0	3	10	12	13	17	18	19	24
1946–55	13	21	20	20	20	20	20	20	19
1936–45	17	20	19	17	18	16	17	15	15
1926–35	14	16	15	16	15	14	16	14	13
1916–25	20	15	14	14	14	14	13	14	12
1906–15	17	15	14	13	14	13	11	12	10
Before 1906	19	11	8	8	6	6	5	5	3
Total percentage	100%	101%	100%	100%	100%	100%	100%	100%	101%
(N)	(3,950)	(1,933)	(1,051)	(2,177)	(2,159)	(1,103)	(2,289)	(2,149)	(2,163)

Source: European Community Surveys.

Note: A weighting factor is used in the analysis. However, the number of cases in parentheses is the actual number of respondents. Asterisk (\*) indicates less than 1 percent.

Year of Survey									
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
0%	0%	0%	0%	0%	0%	0%	0%	1%	3%
7	7	13	14	14	15	16	19	19	19
17	19	16	15	17	18	17	16	15	16
14	16	15	15	14	14	15	15	16	16
19	19	17	18	17	18	19	18	18	16
17	12	15	15	16	16	13	15	13	14
13	17	17	16	15	14	14	12	13	11
10	9	7	6	6	4	5	5	4	5
3	1	1	1	1	1	*	1	1	*
100%	100%	101%	100%	100%	100%	99%	101%	100%	100%
(2,106)	(2,045)	(2,036)	(2,072)	(1,950)	(2,058)	(2,226)	(2,072)	(2,073)	(2,078)

Year of Survey									
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
0%	0%	0%	0%	0%	0%	0%	0%	2%	3%
5	6	9	11	12	15	15	19	19	19
19	19	18	18	20	20	21	18	19	19
22	21	20	20	21	20	20	17	17	16
14	15	13	15	14	14	13	14	13	13
12	14	13	11	12	12	11	13	13	14
15	14	15	14	12	13	12	12	12	11
10	9	10	9	8	6	8	6	5	4
2	3	2	1	1	1	*	1	1	*
99%	101%	100%	99%	100%	101%	100%	100%	101%	99%
(1,997)	(2,125)	(2,177)	(2,055)	(1,974)	(2,031)	(1,933)	(2,047)	(2,127)	(2,074)

**TABLE A4. Distribution of the Adult Population in The Netherlands,  
by Years of Birth, 1970–71 through 1992**

Years of Birth	Year of Survey								
	1970–71	1973	1976	1977	1978	1979	1980	1981	1982
1976–77	0%	0%	0%	0%	0%	0%	0%	0%	0%
1966–75	0	0	0	0	0	0	0	1	6
1956–65	0	6	6	9	12	20	22	23	26
1946–55	22	22	23	25	26	22	21	21	22
1936–45	20	18	22	21	19	16	16	16	15
1926–35	21	16	16	14	16	14	14	14	11
1916–25	16	14	13	14	13	12	12	12	10
1906–15	12	13	13	11	10	11	11	10	7
Before 1906	10	11	7	5	5	5	4	3	3
Total percentage (N)	101% (3,509)	101% (1,464)	100% (1,123)	99% (1,993)	101% (2,076)	100% (1,092)	100% (2,095)	100% (2,102)	100% (2,284)

Source: European Community Surveys.

Note: A weighting factor is used in the analysis. However, the number of cases in parentheses is the actual number of respondents. Asterisk (\*) indicates less than 1 percent.

**TABLE A5. Distribution of the Adult Population in France,  
by Years of Birth, 1970–71 through 1992**

Years of Birth	Year of Survey								
	1970–71	1973	1976	1977	1978	1979	1980	1981	1982
1976–77	0%	0%	0%	0%	0%	0%	0%	0%	0%
1966–75	0	0	0	0	0	0	0	1	5
1956–65	0	5	10	13	16	16	20	21	25
1946–55	18	22	21	20	20	26	19	22	21
1936–45	18	18	18	18	15	16	15	14	13
1926–35	17	18	18	15	17	12	15	14	13
1916–25	16	13	13	12	11	14	12	12	10
1906–15	13	13	15	15	14	11	12	12	9
Before 1906	18	11	6	6	7	5	6	4	4
Total percentage (N)	100% (4,141)	100% (2,227)	101% (1,355)	99% (2,266)	100% (2,143)	100% (986)	99% (1,977)	100% (1,997)	100% (2,138)

Source: European Community Surveys.

Note: A weighting factor is used in the analysis. However, the number of cases in parentheses is the actual number of respondents. Asterisk (\*) indicates less than 1 percent.

Year of Survey									
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
0%	0%	0%	0%	0%	0%	0%	0%	1%	2%
6	8	11	12	15	15	18	16	21	20
23	22	21	21	21	22	21	22	21	22
21	21	20	21	20	20	19	19	19	18
15	15	16	15	15	14	14	14	13	13
13	13	13	13	13	12	12	14	12	12
12	10	11	11	10	11	10	10	10	10
9	9	7	6	6	5	6	5	3	3
2	2	1	1	1	1	1	1	*	*
101%	100%	100%	100%	101%	100%	101%	101%	100%	100%
(2,048)	(2,033)	(2,053)	(2,027)	(1,969)	(2,029)	(1,995)	(1,367)	(2,044)	(2,005)

Year of Survey									
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
5	7	9	11	13	14	18	20	21	22
21	22	21	20	20	21	20	19	19	19
21	19	19	20	20	20	18	16	17	16
13	13	13	13	12	12	13	14	14	15
13	14	15	15	14	14	13	13	14	15
11	12	12	11	12	13	12	12	11	9
12	10	9	8	7	6	5	5	3	3
4	3	2	2	2	1	1	*	*	*
100%	100%	100%	100%	100%	101%	100%	99%	100%	100%
(2,012)	(2,014)	(2,017)	(1,998)	(2,002)	(1,994)	(2,045)	(2,023)	(2,007)	(2,010)

**TABLE A6. Distribution of the Adult Population in Belgium,  
by Years of Birth, 1970–71 through 1992**

Years of Birth	Year of Survey								
	1970–71	1973	1976	1977	1978	1979	1980	1981	1982
1976–77	0%	0%	0%	0%	0%	0%	0%	0%	0%
1966–75	0	0	0	0	0	0	0	1	3
1956–65	0	5	11	14	15	16	20	20	27
1946–55	18	20	22	18	19	20	17	19	16
1936–45	16	16	18	16	16	17	17	16	16
1926–35	18	15	16	17	16	16	16	13	14
1916–25	14	15	13	13	14	14	12	16	13
1906–15	16	14	12	13	12	12	12	11	9
Before 1906	18	14	8	9	8	5	6	4	3
Total percentage	100%	99%	100%	100%	100%	100%	100%	100%	101%
(N)	(2,755)	(1,266)	(1,078)	(1,994)	(2,021)	(1,000)	(2,005)	(1,920)	(2,230)

Source: European Community Surveys.

Note: A weighting factor is used in the analysis. However, the number of cases in parentheses is the actual number of respondents. Asterisk (\*) indicates less than 1 percent.

**TABLE A7. Distribution of the Adult Population in Italy,  
by Years of Birth, 1970–71 through 1992**

Years of Birth	Year of Survey								
	1970–71	1973	1976	1977	1978	1979	1980	1981	1982
1976–77	0%	0%	0%	0%	0%	0%	0%	0%	0%
1966–75	0	0	0	0	0	0	0	2	5
1956–65	0	4	13	15	17	18	20	20	26
1946–55	20	24	19	17	18	18	17	18	16
1936–45	17	16	18	19	20	19	20	18	16
1926–35	20	19	17	17	15	16	16	16	16
1916–25	16	16	15	16	17	16	15	15	12
1906–15	16	13	12	11	11	10	10	8	7
Before 1906	11	8	6	4	2	3	3	3	2
Total percentage	100%	100%	100%	99%	100%	100%	101%	100%	100%
(N)	(3,823)	(1,909)	(1,052)	(2,180)	(2,205)	(1,170)	(2,224)	(2,253)	(2,326)

Source: European Community Surveys.

Note: A weighting factor is used in the analysis. However, the number of cases in parentheses is the actual number of respondents. Asterisk (\*) indicates less than 1 percent.

Year of Survey									
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
0%	0%	0%	0%	0%	0%	0%	0%	1%	2%
3	5	6	6	13	15	18	19	20	21
19	23	22	23	25	24	20	19	19	18
18	19	21	20	18	16	17	16	17	17
17	14	16	17	17	17	15	13	13	13
14	13	14	18	13	13	16	15	15	15
15	14	13	9	9	10	10	11	10	10
10	9	7	6	5	5	4	5	4	5
4	3	2	1	1	1	1	1	1	*
100%	100%	101%	100%	101%	101%	101%	100%	100%	101%
(2,033)	(2,053)	(2,027)	(2,006)	(2,015)	(2,046)	(2,030)	(1,949)	(2,067)	(1,924)

Year of Survey									
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
0%	0%	0%	0%	0%	0%	0%	0%	2%	4
6	8	9	11	14	15	18	21	22	22
20	20	22	21	19	20	19	17	17	17
18	17	16	17	18	17	17	16	16	16
17	18	16	16	16	15	16	16	15	14
17	18	18	16	17	17	17	14	15	15
14	12	12	11	11	11	10	12	10	9
7	7	6	6	5	5	4	3	4	2
1	1	1	1	*	*	*	*	*	*
100%	101%	100%	99%	100%	100%	101%	100%	101%	99%
(2,064)	(2,157)	(2,174)	(2,200)	(2,085)	(2,079)	(2,033)	(2,085)	(2,083)	(2,098)

**TABLE A8. Distribution of the Adult Population in Denmark,  
by Years of Birth, 1973 through 1992**

Years of Birth	Year of Survey							
	1973	1976	1977	1978	1979	1980	1981	1982
1976–77	0%	0%	0%	0%	0%	0%	0%	0%
1966–75	0	0	0	0	0	0	2	5
1956–65	4	6	11	13	16	19	19	21
1946–55	24	22	22	20	20	19	19	19
1936–45	15	19	17	20	18	17	17	18
1926–35	15	13	15	14	14	15	14	11
1916–25	16	16	14	13	14	12	12	11
1906–15	15	15	14	12	11	13	12	11
Before 1906	10	9	7	8	7	6	5	4
Total percentage	99%	100%	100%	100%	100%	101%	100%	100%
(N)	(1,119)	(962)	(2,007)	(1,989)	(999)	(2,003)	(2,015)	(2,206)

Source: European Community Surveys.

Note: A weighting factor is used in the analysis. However, the number of cases in parentheses is the actual number of respondents. Asterisk (\*) indicates less than 1 percent.

**TABLE A9. Distribution of the Adult Population in Ireland,  
by Years of Birth, 1973 through 1992**

Years of Birth	Year of Survey							
	1973	1976	1977	1978	1979	1980	1981	1982
1975–77	0%	0%	0%	0%	0%	0%	0%	0%
1966–75	0	0	0	0	0	0	2	7
1956–65	7	14	19	19	21	24	26	29
1946–55	19	20	18	19	19	19	19	18
1936–45	16	13	16	15	15	15	14	13
1926–35	17	15	15	15	14	14	14	13
1916–25	16	20	15	17	17	16	14	11
1906–15	15	12	12	11	10	9	9	8
Before 1906	10	6	5	4	3	2	2	2
Total percentage	100%	100%	100%	100%	99%	99%	100%	101%
(N)	(1,199)	(980)	(2,005)	(2,010)	(1,006)	(2,014)	(1,990)	(2,188)

Source: European Community Surveys.

Note: A weighting factor is used in the analysis. However, the number of cases in parentheses is the actual number of respondents. Asterisk (\*) indicates less than 1 percent.

Year of Survey										
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	
7	6	9	10	14	15	17	19	19	20	
17	20	18	19	18	22	21	18	17	18	
19	20	21	21	19	15	22	19	19	18	
18	17	18	16	16	15	13	14	14	13	
12	12	11	11	13	13	11	12	12	12	
13	14	12	14	13	15	12	14	14	11	
10	9	9	7	7	5	4	4	3	4	
4	3	3	2	1	1	1	*	*	*	
100%	101%	101%	100%	101%	101%	101%	100%	99%	99%	
(2,027)	(1,986)	(2,017)	(2,040)	(1,994)	(2,015)	(2,014)	(2,000)	(2,000)	(2,000)	

Year of Survey										
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
0%	0%	0%	0%	0%	0%	0%	0%	3%	5%	
6	9	13	14	16	18	21	20	23	22	
25	25	21	20	19	20	20	19	20	20	
20	18	19	19	18	19	18	17	16	14	
13	15	13	14	15	13	13	14	13	14	
14	14	15	15	15	14	13	13	12	14	
12	12	12	11	10	11	10	11	10	9	
8	6	6	6	5	4	4	5	3	2	
2	1	2	1	1	*	*	1	*	*	
100%	100%	101%	100%	99%	99%	99%	100%	100%	100%	
(1,989)	(2,008)	(2,017)	(2,009)	(2,002)	(2,004)	(2,022)	(2,024)	(2,020)	(2,009)	

**TABLE A10. Distribution of Combined Adult Population in Six Western European Publics, by Years of Birth, 1970 and 1992**

Age in 1970	Years of Birth	Number in Thousands		Percentage Distribution	
		End of 1970	End of 1992	End of 1970	End of 1992
Unborn	1976–77	0	6,177.3	0%	3%
Unborn to 4	1966–75	0	38,457.3	0	18
5–14	1956–65	0	41,435.0	0	19
15–24	1946–55	36,276.5	36,871.8	20	17
25–34	1936–45	32,071.9	31,094.6	17	14
35–44	1926–35	31,328.7	27,594.3	17	13
45–54	1916–25	27,294.6	20,037.8	15	9
55–64	1906–15	27,211.3	11,906.9	15	6
65 and over	Before 1906	30,821.9	2,579.8	16	1
	Total	185,004.9	216,154.8	100%	100%

*Source:* See table A1. The results combined census results from Germany, Britain, The Netherlands, France, Belgium, and Italy.

**TABLE A11. Distribution of the Adult Population among Six Western European Publics, by Years of Birth, 1970–71 through 1992**

Years of Birth	Year of Survey								
	1970–71	1973	1976	1977	1978	1979	1980	1981	1982
1977–78	0%	0%	0%	0%	0%	0%	0%	0%	0%
1966–76	0	0	0	0	0	0	0	1	5
1956–65	0	4	11	13	15	17	19	20	26
1946–55	17	21	19	18	19	20	19	19	18
1936–45	19	20	19	19	19	18	18	16	15
1926–35	18	18	17	16	16	15	15	15	13
1916–25	17	15	14	14	14	14	14	14	12
1906–15	15	13	13	13	13	12	12	11	9
Before 1906	14	10	7	6	5	4	4	3	3
Total percentage	100%	101%	100%	99%	101%	100%	101%	99%	101%
(N)	(22,189)	(10,756)	(6,666)	(12,624)	(12,606)	(6,356)	(12,605)	(12,387)	(13,578)

*Source:* European Community Surveys. We used combined national samples from Germany, Britain, The Netherlands, France, Belgium, and Italy.

*Note:* A weighting factor is used in the analysis. However, the number of cases in parentheses is the actual number of respondents. Asterisk (\*) indicates less than 1 percent.

---

Year of Survey

1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
0%	0%	0%	0%	0%	0%	0%	0%	1%	3%
6	7	10	12	13	15	17	19	20	21
19	20	19	19	19	19	17	18	17	18
18	18	18	18	18	17	16	16	17	16
16	16	15	15	15	15	17	15	15	14
15	14	15	14	15	16	16	14	14	14
13	14	14	13	13	13	13	12	11	10
10	9	8	7	6	5	4	5	4	3
3	2	1	1	1	1	*	1	*	*
100%	100%	100%	99%	100%	101%	100%	100%	99%	99%
(12,260)	(12,427)	(12,484)	(12,358)	(11,995)	(12,237)	(12,262)	(11,543)	(12,401)	(12,341)

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## **Notes**

### **Chapter 1**

1. Muller and Seligson's analyses are also distorted by the data they employ. They use the Freedom House codings of levels of democracy. This coding schema uses the stable democracies to define the top level of their scales. From the start, stable democracies have been assigned the maximum possible score, and cannot become more democratic. As Muller and Seligson's analysis is based upon change, this means they cannot attain high scores on their dependent variable. They are testing hypotheses about short-term change, but their methodology virtually guarantees that they cannot detect change among stable democracies.

2. As of November 1, 1993, the European Community was officially renamed the European Union. As all of the surveys we employ in this book were conducted before this change, we refer to these countries as members of the European Community.

### **Chapter 2**

1. Surveys of Luxembourg began in 1973 and of Northern Ireland in 1976, but these samples have been relatively small. Greece has been surveyed from 1980 onward and surveys began in Spain and Portugal in 1986. The time series provided by Greece, Spain, and Portugal are not long enough to effectively analyze the impact of generational replacement.

2. Beginning in the fall of 1990, the EuroBarometer surveys include the newly formed states from the territory that used to comprise East Germany. To maintain over-time comparability, we exclude respondents from these states from our analyses.

3. The results for 1993 are based upon EuroBarometer #39, conducted in the spring of 1993. These results were provided directly by EuroBarometer staff, which sent us the overall distribution of scores for each country on the four-item values index. As of this writing, we have not analyzed the relationship between age and values for the 1993 data. With a single exception, we discuss the 1993 results only in this chapter.

4. We combine results for 1970 and 1971 to be consistent with results presented by Inglehart 1977. For all subsequent reports we present results according to single years. For 1977, 1978, and for 1980 through 1992, we combine the results of two survey years. Clarke and Dutt (1991) and Duch and Taylor (1993) also employ a single annual result for their analyses, although Thomassen and van Deth (1989) provide results for each semiannual survey.

5. More specifically, the percentage difference index is equivalent to a mean score that assigns each Postmaterialist a score of 100, each respondent with mixed values a score of 0, and each Materialist a score of -100.

In the vast majority of analyses, there is a monotonic relationship among the three categories of this measure. For example, in the 1992 U.S. presidential election Postmaterialism was positively correlated with voting for Bill Clinton. According to our analysis of the 1992 NES survey, among major-party voters who were Postmaterialists ( $N = 247$ ), 75 percent voted for Clinton, among those with "mixed" values ( $N = 860$ ), 57 percent voted for Clinton, and among major-party voters who were Materialists ( $N = 212$ ), only 44 percent voted for Clinton (based upon weighted  $N$ s using the time-series weight).

6. As noted above (note 3), as of this writing we have not analyzed the 1993 results by age.

7. Factor analyses demonstrate that the beautiful cities item does not clearly tap Postmaterialist values, and in our scoring we classify it as measuring neither Materialist nor Postmaterialist values.

8. Somewhat different scoring procedures are used when the twelve-choice measure is employed across the entire range of 40 societies sampled in the 1990–1991 World Values Survey. See chapter 7 for a discussion.

### **Chapter 3**

1. As there are only six data points for the United States, we cannot conduct the type of multivariate time-series analysis of value change that we will present for the Western European countries.

2. Economic data in this chapter are based upon statistics published by the Statistical Office of the European Communities. German economic statistics for 1990, 1991, and 1992 exclude the states that used to comprise East Germany.

3. Chatfield (1989, 62) points out that conventional tests of autocorrelation lack power when there is an  $N$  of less than 100. He suggests that the most powerful test is to examine the first-order autocorrelation function coefficient. As there are 18 observations for Denmark and Ireland, a finding of  $+/- .471$  indicates the presence of autocorrelation; as there are 19 observations for the other countries and for the six-nation sample, a finding of  $+/- .458$  indicates autocorrelation. None of the first-order autocorrelation functions is close to this magnitude. The highest first-order autocorrelation function is in Germany (.263). Germany is the only country in which a result is more than marginally affected by controlling for autocorrelation.

4. Even though there was no problem with autocorrelation, we removed the minimal effects of autocorrelation using iterative Prais-Winsten estimators (see Ostrom 1990 for a discussion). These results are presented in Inglehart and Abramson 1993, table A1. Except for a changing significance level in Germany (the significance of the relationship between unemployment and values falls from .0616 to .1334), there are only marginal differences between the results in table 3-3 and those in that table.

5. Clarke and Dutt (1991) also argue that Inglehart's measure of Materialism/Postmaterialism manifests a high level of individual-level instability. This argument is not relevant to our thesis in this book, since even relatively high levels of

individual-level instability are compatible with the thesis that long-term generational replacement tends to drive Postmaterialism upward. However, we have elsewhere argued (see Inglehart and Abramson 1992) that Clarke and Dutt's estimates are unreliable. LISREL analyses by Inglehart (1990), De Graff (1988), and van Deth (1989) all indicate higher levels of stability than Clarke and Dutt found.

6. We have not yet demonstrated that Materialism/Postmaterialism can be validly measured in non-Western societies and in the former state-socialist countries. Evidence demonstrating that it can be measured in these societies is presented in chapter 7.

7. This is strongly suggested by the evidence from the 1990–91 World Values Survey that we present in chapter 8.

#### **Chapter 4**

1. In addition to the eight countries we study in this chapter, the tendency for young adults to have more Postmaterialist values than their elders is also found in Luxembourg, Northern Ireland, Greece, Spain, and Portugal. However, for reasons discussed in chapter 2 (see note 1), we do not have enough data to adequately study change over time in these societies.

2. The tables in the appendix can be used to approximate the number of cases upon which the results in tables 4-2 through 4-9 are based.

3. We employ Ordinary Least Squares (OLS) estimates. The bottom-line statistic we report is based upon the mean relationship for all 19 survey years.

4. Differential death rates can lead to problems in tracking cohorts when they reach old age, since Postmaterialists (who have higher levels of education and income) tend to live longer than Materialists. As their social composition changes, older cohorts can become more Postmaterialist. Our analyses of educational levels among cohorts as they age suggest that by 1983 differential death rates were affecting the composition of the 1906–15 cohort, and in our analysis of replacement effects we do not use the results for this cohort after 1982. After 1973, we no longer employ results for the cohort born before 1906.

5. The full ten-year cohort is not actually sampled until 1980, however.

6. For an example of such an attempt, see Böltken and Jagodzinski 1985.

7. Once again, we employ OLS estimates. For these estimates, we track the 1956–65 cohort from 1980 through 1992, since the full ten-year cohort was not sampled until 1980. We do not estimate change for the 1966–1975 cohort since the full cohort was not sampled until 1990. For Denmark and Ireland, we track the 1906–15 cohort between 1973 and 1982.

8. This procedure for estimating change over time was introduced by Converse 1976.

9. For Denmark and Ireland we use the proportion of respondents in each cohort in 1973 as our base.

10. For alternative procedures for estimating the effects of replacement, see Firebaugh 1989 and Mayer 1992. As we have provided the full cohort matrices upon which our estimates are based, analysts can make alternative estimates using different procedures. We employ the methods developed by Abramson (1983) because they are the most useful for illustrating the alternative effects of generational replacement.

11. In making our estimates, our main problem is assigning a value to cohorts that are no longer included in our matrix. As there is little evidence that cohorts become more Materialist as they age, we assign the value based upon their scores for the last two years in our cohort matrix. For Denmark and Ireland we base our value for the cohort born before 1906 on the PDI score in the 1973 survey. For a detailed example of how such calculations are conducted, see Abramson 1983, 61 n. 14.

12. This table can also be used to estimate the number of cases upon which the cohort results for table 4-10 are based.

13. As with our earlier estimates, the major problem we face is assigning a value score for cohorts too old to appear in our matrix. After 1973, we no longer present results for the cohort born before 1906. We set the value for that cohort according to the mean of its index scores for the 1970–71 and 1973 surveys. After 1982, we no longer utilize results for the 1906–15 cohort. We assign a value to this cohort based upon the mean of its index scores for 1981 and 1982.

## **Chapter 5**

1. For a demonstration that generational replacement was the major force pushing overall levels of education upward in the United States during the postwar years, see Abramson 1983.

2. One major problem is that they systematically exclude from their analysis Europeans born before World War II—and thus do not measure differences between pre- and postwar cohorts. They excluded respondents born before 1939 because they consider data on macroeconomic conditions collected before 1950 to be of poorer quality than more recent statistics (see Duch and Taylor 1993, 758, n. 17). In fact, Dalton (1977) demonstrates in a similar analysis that it is possible to cope with these problems of measurement noncomparability. In a revised analysis for Italy, The Netherlands, the United Kingdom, Denmark, and France, Duch and Taylor (1994) do include prewar cohorts and find a positive correlation between economic conditions and Postmaterialist values in France. Once again, their main finding is the importance of the respondents' level of education.

3. A failure to understand this distinction seems as evident in Duch and Taylor's (1994) reply to our criticism as it was in their original article. For a discussion of the differing implications of economic development and economic growth, see chapter 8.

4. In their revised analysis, Duch and Taylor (1994, 819) argue that they "reject the notion that education is simply a proxy for the prosperity of one's family when one is growing up." Of course, we make no such claim. However, we do argue that this is one important component of what education taps.

## **Chapter 6**

1. Future population projections published by Eurostat are based upon the population of the former West Germany.

2. These projections are based upon five-year age groups that we have combined to fit our ten-year cohort categories.

3. Projections are provided for 1995, 2000, 2005, 2010, 2015, and 2020. The

projections are for the beginning of each of these years. The projections for 2000, 2010, and 2020 fit our cohort categories exactly. These census projections allow us to estimate the cohort distribution of these societies 7, 17, and 27 years from the end of 1992.

4. So, too, have their fathers. However, projections about birthrates rely heavily upon knowledge about the number of women of childbearing age.

5. The surveys in Denmark and Ireland began in 1973. As we saw in chapter 4, during the actual period covered by our surveys 33 percent of the adult population in Denmark was replaced, and 41 percent had been replaced in Ireland.

6. The combined cohort distribution for these six societies in 1970 and 1992 is presented in table A10.

7. We present results for the cohort born between 1976 and 1985. However, about one-fifth of this cohort is made up of Europeans born in 1976 and 1977, and these Europeans were old enough to be included in our 1992 surveys.

8. Obviously, these projected values will depend heavily upon the overall level of Materialism/Postmaterialism in 1992, as well as upon the distribution of values among the cohorts.

9. During 1992 we measured values among only 296 respondents born during these two years. They registered a PDI score of 3, and thus had the same level of Postmaterialism as the 1966–75 cohort. However, the number of these youths sampled is too small to reach reliable conclusions.

10. For surveys between 1970–71 and 1979 we compare the 1946–55 cohort with the 1936–45 cohort; for surveys between 1980 and 1989, we compare the 1956–65 cohort with the 1946–55 cohort; and for 1990, 1991, and 1992, we compare the 1966–75 cohort with the 1956–65 cohort.

11. Based upon comparisons between 1980 and 1992, the only years for which full ten-year cohorts can be compared.

## **Chapter 7**

1. We include only those surveys that employ measures of Materialism/Postmaterialism. In addition to the countries presented in table 7-1, Switzerland was surveyed in 1988–89, Slovenia was surveyed in 1992, and Romania was surveyed in 1993. These three samples fall outside the time frame for the 1990–91 World Values Survey and are not included in our analysis.

2. Even in these societies some citizens refuse to cooperate with public opinion researchers, and in the United States refusal rates have been growing during the postwar years. For a discussion of this problem, see Brehm 1993.

3. For discussions of the problems encountered in conducting survey research in the successor states of the Soviet Union, see Finifter 1994 and Silver 1993.

4. For example, in-person interviews in the United States and Western Europe often rely upon respondent cards or booklets in which respondents can read options from a list of alternatives. In measuring value priorities, respondents are presented with cards listing national goals. In societies in which illiteracy is widespread, these goals must be read to many respondents.

5. In this analysis we have merged the cases from all ten societies.

6. In three of these societies, Lithuania, the former Czechoslovakia, and Hungary, this clear clustering emerges when we examine the second principal component in the factor analysis.

7. In this analysis we have merged all of the respondents from each group of societies.

8. In three of these countries, however, Russia, Belarus, and Lithuania, these results may reflect the way that this item was translated. In these three countries, this item read, "Improving amenities in the cities and country."

9. We employ the same scoring for Poland, even though only three of these five goals load as Postmaterialist values. As we are less confident about the validity of this scoring for Poland than for the remaining 39 societies, the analyses in the following chapter were also conducted twice. Analyses were conducted for all 40 societies and for the 39 societies excluding Poland. Excluding Poland has very little effect on the results, and we have reported the results for all 40 societies.

## **Chapter 8**

1. For a discussion of the scoring procedures used to measure Materialism/Postmaterialism across this wide range of societies, see chapter 7.

2. Luxembourg is the eighth relatively wealthy member of the Community, but it was not included in the World Values Survey.

3. We weighted all countries for each regional group equally in computing these means. We employ World Bank reports for our estimates of both per capita GNP and economic growth rates.

4. The 1981–83 World Values Survey found that Mexico had a relatively high score on the four-item index of Materialism/Postmaterialism. In some respects, this finding parallels Almond and Verba's (1963) finding that Mexico had relatively high levels of politicalization. They attribute this result, at least in part, to the ideological impact of the Mexican revolution.

5. Previous analyses suggest that Japan has somewhat lower levels of Postmaterialism than one would predict on economic grounds alone and suggest that values in Japan are to some extent characterized by preindustrial values. See Flanagan 1979, 1982a, 1982b; Inglehart 1982, 1990.

6. There is considerable controversy about the actual population of Nigeria and obviously economic data from Nigeria are relatively unreliable compared with those from advanced industrial societies. However, even if the World Bank estimate was off substantially, there is no question but that Nigeria is among the poorest countries that we study.

7. To the best of our knowledge, Zambia is the only other African country in which a nationally representative survey has measured Materialist/Postmaterialist values. In May, 1993, Michael Bratton and Beatrice Liatto-Katundu conducted a survey of 421 voting-age Zambians that included the four-item values battery. Among the 408 respondents who can be scored on this four-item measure, only 3 percent were Postmaterialists, 43 percent had mixed values, and 54 percent were Materialists. The PDI score of -51 is lower than the four-item PDI score in any of the

40 societies we studied in the 1990–91 World Values Survey. For a discussion of the Zambian survey, see Bratton and Liatto-Katundu 1994.

8. Despite the clear difference between the impact of economic *level* and the impact of rates of economic *growth*, scholars often confuse the two phenomena. See, for example, Duch and Taylor (1993, 1994). They argue, for example, that young Russians should be more Materialist than older Russians. This might be true for young Russians now experiencing Russia's current economic collapse, but we would expect that Russians born during the 1960s, who grew up in a period of relatively slow growth but relatively greater prosperity, would be more Postmaterialistic than older Russians born in the decade following World War II. These older Russians grew up in a period of more rapid economic growth, but one of relative economic deprivation. As the data we have presented in this chapter show (table 8-1, fig. 8-1), Russia has relatively low levels of Postmaterialism. As the data we are about to present (see figs. 8-2 and 8-3) show, however, there is a strong tendency for young Russians to have higher levels of Postmaterialism than older Russians do. For further evidence, see Abramson and Inglehart 1994.

9. For an additional discussion of the relationship of age to value differences among Eastern European countries and societies of the former Soviet Union, see Abramson and Inglehart 1994.

10. As Zambia has registered negative economic growth during the past two decades, we would expect a weak relationship between age and Postmaterialism. Given that only 3 percent of all Zambians are Postmaterialists on the four-item values index, even young Zambians are unlikely to be Postmaterialists, but they are somewhat more likely to choose at least one Postmaterialist goal than older Zambians are. The relationship between age and values using the gamma coefficient is .16. The relationship between age and scores on the four-item values index is higher in 32 of the 40 societies we studied in the 1990–91 World Values Survey.

11. We employ a gamma based upon the relationship of age (as measured in ten-year age groups) to the number of Postmaterialist values chosen by each respondent.

12. Readers will recall that in chapter 2 we also were able to make time-series comparisons with 1973 using the twelve-item values index. See table 2-4.

13. Although the first World Values Survey measured Materialism/Postmaterialism in Denmark, technical problems render this measurement noncomparable with the second World Values Survey. At the request of the Argentine investigators, the 1983 survey of Argentina was not released through the ICPSR.



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