INSTITUTIONS, GENDER, AND ECONOMIC DEVELOPMENT:

A CASE STUDY OF TWO IGBO VILLAGES

By

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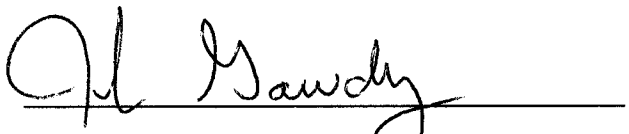

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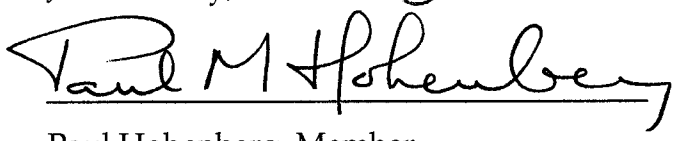

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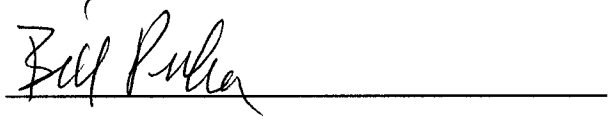

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ABSTRACT

This dissertation explores new directions in economic theory based on field research in two Igbo villages in Nigeria (Umuluwe—representative of traditional Igbo villages and Obigbo—representative of suburban, more modern, Igbo villages). Results from Ultimatum and Dictator Games played in Umuluwe show the importance of cultural context in economic behavior (endogenous preferences). The importance of endogenous preferences, as opposed to exogenous preferences, is discussed in relation to traditional welfare economic concepts of Pareto efficiency and Potential Pareto Improvement.

The information provided by the 2001 survey, regarding the age, occupation, education, income, number of children, affiliation to different associations, and other data, allows us to compare the socio-economic characteristics of the villagers in Umuluwe and Obigbo. The migration between Umuluwe and Obigbo is analyzed. Young people from Umuluwe migrate to Obigbo in search of better employment and education opportunities while retired people from Obigbo return to Umuluwe. In addition to the human flows, the income flows from Obigbo to Umuluwe reveal a symbiotic rural-suburban relationship between the two villages. As modernization changed the traditional socio-economic structure and institutions, it also enhanced the role of the symbiotic relationship between the two villages in Igbo society within the

traditional cultural matrix (based on the patrilineal polygamous extended family).

Based on the survey results, the labor market decision-making in the two villages is examined using a binary logit model. The occupational structure revealed for Umuluwe and Obigbo villages is analyzed in combination with personal characteristics, household demographics, and economic conditions in the village of residence. This study allows us to conduct the discussion regarding the probability of an individual to have a paid occupation vs. a non-paid occupation at two levels: (1) decision-making of male vs. female villagers and (2) decision-making of Umuluwe vs. Obigbo residents. The results are consistent with the traditional cultural and institutional pattern in Igbo society.

CHAPTER 1

INTRODUCTION

But if we deny man's faculty of empathy, then there really is no game we can play at all, whether in philosophy, literature, science, or family. Actually, we must come to recognize that the game is not the same in physical sciences as in sciences of man; that contrary to what Pareto and numberless others preached, there is not only one method by which to know the truth.

Nicholas Georgescu-Roegen (1971, 363)

1.1 Author's Foreword

This dissertation has a long history that cannot be separated from the evolution of my thinking about economics and social institutions. My interest in economic development started many years ago in Romania, which at this moment (Fall 2003) is an example of not very successful transition economy. At that time I worked as a physicist designing gas sensors and also studying economics as an undergraduate student. I was struggling to understand how the economic concepts I was learning could be applied in real life in an ex-communist country torn apart by a painful and seemingly long-term process of transition to a market economy. The question that kept coming back to me again and again was why the economic transition policies designed by respected scholars and researchers

did not have the desired results? Where was the mistake? I tried to find examples of countries where the policy mix recommended by the World Bank and the International Monetary Fund were working to provide the desired results. That research work turned into my bachelor thesis dealing with transition in Latin America, China, and Eastern Europe. I was still not satisfied because the conclusions were not encouraging at all and my question was still unanswered. I got an answer when, in my quest for similarities and analogies between physics and economics, I came across Nicholas Georgescu-Roegen's book *The Entropy Law and the Economic Process*. Only then I realized that the problem with economic policies (the final link of the economic science chain and the most visible for non-economists) originates deep in the fundamental concepts of economics, in their level of abstraction and their application. At that moment my detective work began, and since then it has occupied much of my time and energy.

1.2 The contribution of Nicholas Georgescu-Roegen

The following pages owe a debt to Georgescu-Roegen first for being a forerunner — even if largely unrecognized — of many of the "new" ideas in current economic theory, and second for the role his work played in shaping my personal point of view. Georgescu-Roegen is best known for his application of the Second Law of Thermodynamics, the entropy law, to the economic process. I will only present some of his ideas without mentioning the controversies they

generated, many of which still reverberate in papers published today. Even if decades passed since he wrote his most important essays, many of his ideas are as insightful today as on the day they were written and they deserve to be recalled. Given this purpose, the reader will have to forgive the extensive quotes. The study of the questions raised by Georgescu-Roegen became of interest only slowly, but nowadays more and more scholars, both mainstream and heterodox, address them.

Georgescu-Roegen's contributions to economic theory are well known among scholars of economic methodology. Paul Samuelson, in his introduction to Georgescu's *Analytical Economics*, calls him "a scholar's scholar, an economist's economist." His contributions to economic theory place him among the top economists of the twentieth century. In his *Introduction* to *The Entropy Law and the Economic Process* (1971, 1), Georgescu-Roegen argued that the fundamental flaws built into standard economic theory are the concepts of *Homo economicus* and the mechanistic blueprint underlying the structure of economic science:

> No science has been criticized by its own servants as openly and constantly as economics. The motives of dissatisfaction are many, but the most important pertains to the fiction of *homo economicus*. The complaint is that this fiction strips man's behavior of every cultural propensity, which is tantamount to saying that in his economic life man acts mechanically. This is why the shortcoming is ordinarily exposed as the mechanistic outlook of modern economics [...]

> Mechanics knows only locomotion, and locomotion is both reversible and qualityless. The same drawback was built into modern economics by its founders, who, on the testimony of Jevons and Walras, had no greater aspiration than to create an economic science after the exact pattern of mechanics [...]

The paper "The Pure Theory of Consumer's Behavior" (Georgescu-Roegen 1936) contained the kernel of the idea of revealed preference and foreshadowed recent work in behavioral economics and game theory showing the social nature of economic decisions. Many of the "new" findings in behavioral economics such as lexicographic (absolute) ordering of preferences, institutional constraints on economic behavior, the importance of hysteresis (historical lock-in), and many other "anomalies" in consumer behavior were discussed in detail by Georgescu-Roegen over fifty years ago.

For half a century Georgescu-Roegen presented sophisticated critiques of neoclassical theory from within and provided an outline of alternatives to standard welfare economics. He insisted upon the importance of drawing analytical boundaries relevant to the purposes of specific studies (Georgescu-Roegen 1971, 1979). Standard economics was criticized for its *arithmomorphism*, that is, the characterization of economic behavior as having a one-to-one mapping onto the real numbers set. The alternative is to also use what he refers to as *dialectical* representation. Arithmomorphic representations of economic

phenomena are separated from their opposites by a null set, but dialectical concepts are separated from their opposites by a penumbra where they overlap. For example, we may characterize all vehicles as being "cars" or "trucks" but we know that there are many vehicles that have characteristics of both (SUVs or mini-vans for example). Georgescu-Roegen argued that we need both arithmomorphic and dialectical concepts to study the economic process. Some phenomena require quantitative analysis, and others may only be understood using a qualitative approach. Some require both.

Economics is a social science and the economic process cannot be understood outside its social and institutional context (Georgescu-Roegen 1971, 1) while the general equilibrium framework of the neoclassical welfare economics was borrowed from classical physics (Georgescu-Roegen 1979, 321):

> The explanation of the outcome of a market is identical with the principle of virtual displacements that is used in mechanics for determining the static equilibrium. Demand and supply schedules may move up and down, but the system always returns to any of the previous equilibria. *Everything is exactly reversible as in mechanics*, where locomotion consists only of a change of place, not of quality.

In contrast to the approach of the new welfare economics, based on the laws of classical mechanics, Georgescu-Roegen advocated an evolutionary approach based on the laws of thermodynamics. He stressed that the economic

process is one of qualitative change characterized by discontinuous leaps rather than by marginal changes (1979, 325):

> The usefulness of the analytical models that represent similes of actual processes (divested, however, of any qualitative change) cannot be denied. But what matters most in the case of evolutionary structures is the emergence of novelties, of qualitative changes. For these aspects we have no other solution than that of a dialectical approach, involving in particular structural changes. This means to use *words*, instead of numbers, for truly qualitative changes cannot be represented by an arithmomorphic model.

Georgescu-Roegen (1966) pointed out that the attempt to build economic science in a similar way to physics led to the assumption of exogenous preferences for consumers and to ignore the endogenous nature of preferences and the importance of institutions:

> It is all right for physics to trust only what is amenable to sense-perception, i.e., only observables, because that is the sole contact we have with the outside world. It is equally understandable for physics to treat as fiction and view with mistrust the unobservables it had to invent in order to unify into one picture disparate observables and thus simplify its logical foundation. But there is absolutely no reason for economics to treat as fiction the very springs of economic action — wants, beliefs,

> expectations, institutional attitudes, etc. For these elements are known to us by immediate acquaintance, that is, more intimately than any of the economic "observables" —prices, sales, production, and so forth. (p. 119)
>
> [...] The obvious conclusion is that if economics is to be a science not only of "observable" quantities but also of man, it must rely extensively on dialectical reasoning. (p. 120)

Contemporary research in behavioral and institutional economics could help build the empirical database needed to reform/replace the standard welfare theory.

In contrast to the usual emphasis by economists on *substitution*, Georgescu-Roegen stressed the importance of *complementarity* and *non-substitution* in economic life. For example our industrial system relies on finite sources of energy that do not have good substitutes.

Georgescu-Roegen also questioned the microfoundations approach to macroeconomics. As Georgescu-Roegen's mentor, Joseph Schumpeter (quoted in Georgescu-Roegen 1979, 326), put it: "It is therefore misleading to reason on aggregative equilibrium as if it displayed the factors which initiate the change and as if disturbance in the economic system as a whole could arise only from those aggregates." The description of the macroeconomy requires a *hierarchical analysis* of interacting levels and different time scales.

I am indebted to Georgescu-Roegen's insights regarding economic development, especially peasant societies. He believed that neoclassical economics was formulated to describe the behavior of western city-dwellers and is not universally applicable; as a consequence, development policies should be tailored to specific situations and specific locations. Even if it was put forward more than forty years ago (Georgescu-Roegen 1960, 361-362) the following critique of both Marxian and neoclassical economics is still accurate. They failed to realize the importance of institutional differences between capitalist and non-capitalist (peasant) economies:

> As soon as we realize that for economic theory an economic system is characterized exclusively by institutional traits, it becomes obvious that neither Marxist nor Standard theory is valid as a whole for the analysis of a noncapitalistic economy, i.e. of the economy of a society in which part or all of the capitalist institutions are absent.

Development economics brought into question the differences between industrialized and developing countries and looked for ways to enable and sustain the economic growth of the last ones in order to increase living standards in the less developed countries. Work in this field emphasized the importance of the institutional framework and the different possible responses to the same mix of policies.

1.3 Potential Contribution and Structure of Dissertation

This dissertation takes as its starting point the idea that economic decisions cannot be understood outside their cultural context (a central theme in Georgescu-Roegen's work). This view is gaining widespread acceptance by economists today but my detective work went also back in time and took me for a while through the history of economic thought recalling some of the ideas of Walras, Pareto, Marshall, Hicks, Kaldor, Robbins, Georgescu-Roegen and many others. Currently, two particularly exciting areas of economic theory are:

(1) behavioral economics and game theory, and

(2) development economics.

Research in these areas is not only moving beyond the "rational actor" model of behavior, it is also pointing the way toward a comprehensive redirection of economic theory and policy.

Applied work in economics and policy recommendations lag behind the economic theory regarding the conceptual framework and their focus is mainly on the new welfare economics' concept of efficiency. Two states of the economy are compared in terms of potential Pareto improvements using the compensation principle; the basic assumption is that individuals in a society can be represented by the abstraction of *Homo economicus* with exogenous preferences (indifferent to the cultural/institutional context). Modern work in economic theory is moving beyond it towards various models of human behavior incorporating the more realistic assumption of endogenous preferences (dependent on the

cultural/institutional context). Contemporary research in behavioral economics, game theory, and experimental economics build the empirical database needed to reform/replace the standard welfare theory.

The neglect of the cultural/institutional matrix pertaining to various societies has led to a uniform approach in economic policy with disastrous results in the poorest areas of the world (Africa, Southeast Asia, Latin America, and the ex-communist countries in Eastern Europe). Instead of tailoring the policy recommendations on the existing institutional structure and the specific process of economic decision-making and working from there on, the usual approach was to try to change the institutional matrix ("modernize" it) in order to make it fit the conditions for which the policy works (for example trying to transform peasant societies in predominantly industrial ones even where agriculture was more efficient than industrial activities, like in the case of ex-communist countries).

The work presented in the following chapters will bring empirical results from a study in two Nigerian villages to:

1. Support the idea of 'endogenous preferences.'
2. Present the way local culture/institutions shape the labor market decision-making.

First, an example of endogenous preferences is revealed for the villagers in a traditional Igbo community in Southeastern Nigeria (Umuluwe village) using the results of two behavioral games, Ultimatum Game and Dictator Game, played in

May 2001. The results are discussed in relation to those of similar games played in a variety of other societies. Second, the results of a socio-economic survey administered in two Igbo villages (the traditional village Umuluwe and a more modern, suburban village Obigbo) are used to sketch the institutional structure of the villages, emphasizing their symbiotic relationship (migrants from Umuluwe represent one third of the population of Obigbo). Also, the socio-economic information was vital for a logit analysis of the labor market decision-making in the two villages (on two levels: males vs. females, and Umuluwe villagers vs. Obigbo villagers).

The dissertation is organized as follows:

- Chapter Two introduces the concepts of 'Pareto Efficiency,' 'Potential Pareto Improvement,' and 'Endogenous vs. Exogenous preferences', and the relationship between economic efficiency, institutions and economic policy.
- Chapter Three uses behavioral games to show that human behavior is better predicted by cross-cultural differences than by individual characteristics like age, gender, or income and reports the results of the Ultimatum and Dictator games played in rural Nigeria.
- Chapter Four provides the link between chapters 2 and 3 and chapters 5 and 6; it discusses the concept of 'institution' and presents a brief overview of institutional economics.
- Chapter Five discusses the economic and institutional arrangements and their impact on economic development using the case study of two Nigerian Igbo

villages (Umuluwe, the traditional-rural village and Obigbo, the suburban-modern village).

- Chapter Six examines in detail the question of gender and labor market decision-making using a logit model and survey data for the two Nigerian Igbo villages.
- Chapter Seven concludes.

CHAPTER 2

ECONOMIC BEHAVIOR AND ECONOMIC INSTITUTIONS: THE EXPANSION OF ECONOMIC THEORY

...[We] discuss the problem of public policy and institutional design, observing that we must judge policies and institutions not by how closely they approximate the assumptions of the fundamental theorems of welfare economics, but rather according to their ability to function effectively in the second-best world of ineradicable state and market failures.

Samuel Bowles and Herbert Gintis (2000, 1413)

2.1 Introduction: Old and New Welfare Economics

Welfare economics grew out of the debate, going back to Adam Smith, between the proponents and the critics of *laissez-faire* capitalism (Feldman 1987). Proponents argue that the free market is the best mechanism through which individual desires may be expressed. The history of economic thought since Smith's time can be seen largely as a refinement and recasting in mathematical terms of the social benefits of the 'invisible hand' of the market. According to Albert and Hahnel (1990, Chapter 1, 3): "The essence of neoclassical welfare theory is that the performance of economic institutions can and should be judged according to whether they provide economic goods in quantities that accord with

people's relative desires for those goods." This seemingly simple proposition has turned out to be much more difficult to establish, both in theory and in policy application, than originally thought. Welfare theory today is changing so much that it has been described as undergoing a 'revolution' in its orientation (Albert and Hahnel 1990). Contemporary welfare economics is increasingly interdisciplinary and influenced by psychology, sociology and anthropology. As discussed in the pages that follow, current welfare theory incorporates such notions as interpersonal comparisons of utility, endogenous preferences, and the role of institutions in economic behavior.

Welfare economics began with Adam Smith and Jeremy Bentham and, through the marginalist revolution of the 1870s, was recast in neoclassical terms by Alfred Marshall, Arthur Pigou and others. Pigou was Marshall's successor at Cambridge University and is best known for extending and refining the notions of market failure and externalities. His work was in the tradition of Marshall's partial equilibrium analysis (Landreth and Colander 2002). Pigou and Marshall believed that interpersonal comparisons of utility were both necessary and desirable for economic policy. The break between the old and new welfare economics was the belief that to be scientific economic theory must avoid these interpersonal comparisons. The beginning of the New Welfare Economics (NWE) can be traced to Lionel Robbins (1932, 1938) and to the responses to his 1938 paper by Nicholas Kaldor (1939) and John Hicks (1939). Robbins rejected the notion of cardinal utility and argued that Pigou's use of interpersonal

comparisons of utility was scientifically unsound. More, he argued that since individual utilities are not comparable, the choice of a social optimum is a normative value judgment. For Robbins (1932, 152), economics "is incapable of deciding as between the desirability of different ends. It is fundamentally distinct from Ethics." The only valid foundation for a science-based economics was the ordinal welfare theorems.

According to Suzumura (1999) two basic approaches to social welfare can be identified in the New Welfare Economics:

(1) *The introduction of the compensation criterion by Kaldor (1939), Hicks (1940), Scitovsky (1941), and Samuelson (1950)*—This principle states that a change in the state of the economy is justified if the gainers from the change can potentially compensate the losers and still be better off. Whether such compensation actually takes place is a problem for politicians, not economists. Graaff (1957, 84-85) suggests "[t]he compensation tests all spring from a desire to see what can be said about social welfare or 'real national income'...without making interpersonal comparisons of well-being...They have a common origin in Pareto's definition of an increase in social welfare—that at least one man must be better off and no one worse off—but they are extended to situations in which some people are made worse off."

(2) *The introduction of the idea of a social welfare function by Bergson (1938) and Samuelson (1983[1947], chapter 8)*—Suzumura (1999, 205) sees the Bergsonian social welfare function as based on the "belief that the analysis of the logical

consequences of any value judgments, irrespective of whose ethical beliefs they represent, whether or not they are widely shared in the society, or how they are generated in the first place, is a legitimate task of welfare economics."

Welfare economics has a theoretical and an applied side. For Feldman (1987) the theoretical work on welfare economics addresses three main issues. First is the question of whether or not, in a competitive economy, the outcome will be for the common good. Second is how to address the question of distributional inequity. Can the common good be achieved by slight modification in the market mechanism or must the market be overridden to achieve societies' basic goals? Third, can the true interest of society be derived from the interests of isolated individuals? The NWE answers to these three questions constitute the fundamental theorems of welfare economics.

The applied side of welfare economics deals with practical questions addressed by cost-benefit analysis, the compensation principle, and consumers' surplus, which are rooted in the second fundamental theorem. Current controversies about the fundamental theorems have a direct bearing on the efficacy of economic policies based on them. To put these controversies in context it is useful to begin with the early formulations of general equilibrium theory by Leon Walras and Vilfredo Pareto.

2.2 The Founding Fathers of General Equilibrium Theory: Walras and Pareto

The first edition of Walras's *Elements of Pure economics* was published in 1874 while the "Edition définitive" (1926) incorporates Walras's afterthoughts and corrections recorded between 1900 and 1902. Walras (1977[1874], 57) presents political economy as being divided into a natural science, a moral science, and an art. The art or the applied science is "a programme of what ought to be...from the point of view of material well-being" while the natural science side is "an explanation of what is." In the end, "what ought to be from the point of view of justice is the concern of the moral science or ethics" (Walras 1977[1874], 60). After classifying every entity in the universe as persons (conscious and self-directing which is only man) or things (not conscious and not self-directing are mineral, plants, and animals) he proceeds to show how humans have the right over things. In the realm of the so-called human phenomena he makes a distinction between the two categories of industry and institutions. Industry encompasses all the relations among persons and things. He calls his theory of industry an applied science or art. Institutions comprise the relations between persons and institutional theory falls in the realm of moral science or ethics (Walras 1977[1874], 62-63). Social wealth is defined as "all things material and immaterial that are *scarce*, that is to say, on one hand, *useful* to us and, on the other hand, only available to us in *limited quantity*." He clarifies these concepts further, asserting that things are useful "whenever they are seen to be capable of

satisfying a want." Furthermore, "we need not concern ourselves with the morality or immorality of any desire which a useful thing answers or serves to satisfy." Also relevant is Walras's distinction between scarce things and non-scarce things (1977[1874], 65):

> I say that things are available to us only in a limited quantity whenever they do not exist in such quantities that each of us can find at hand enough completely to satisfy his desires. There are a certain number of utilities in this world, which, present at all, are available to us in unlimited quantities. Such are atmospheric air, the light and warmth of the sun in daytime, and water... These things, though useful, are generally not scarce and are consequently not items of social wealth. Under exceptional circumstances they may become scarce, and then they do become part of social wealth.

Walras (1977[1874], 71) asserted that the pure theory of economics must precede applied economics and has to resemble the physico-mathematical sciences (like mechanics or hydrodynamics) in every respect and use the methods and language of mathematics:

> ...the pure theory of economics ought to take over from experience certain type concepts, like those of exchange, supply, demand, market, capital, income, productive services and products. From these real-type concepts

the pure science of economics should then abstract and define ideal-type concepts in terms of which it carries out its reasoning.

After eliminating from the social wealth concept the valueless things, what is left can be investigated by the science of pure economics in the same way as mechanics does (Walras 1977[1874], 84):

> The whole world may be looked upon as a vast general market made up of diverse special markets where social wealth is bought and sold. Our task is to discover the laws to which these purchases and sales tend to conform automatically. To this end, we shall suppose that the market is perfectly competitive, just as in pure mechanics we suppose, to start with, that machines are perfectly frictionless.

Contemporary economic theorists have criticized the tendency to equate 'utility' to 'per capita consumption' (see Frey and Stutzer 2002). It is interesting to note that this narrowing of the meaning of well-being began with Walras (who was searching for 'ideal-type concepts') over 100 years ago. Utility was stripped of subjective meaning and left only with material connotations.

Vilfredo Pareto (1971[1909], 36, 113) was another prominent partisan of the physical analogy for economic science, a fighter for a science freed from the subjective burden by the use of mathematics:

> Strange disputes about predestination, about the efficacy of grace, etc., and in our day incoherent ramblings on solidarity show that men have not freed themselves from these daydreams which people have gotten rid in the physical sciences, but which still burden the social sciences... Thanks to the use of mathematics, this entire theory, as we develop it in the Appendix, rests on no more than a fact of experience, that is, on the determination of the quantities of goods which constitute combinations between which the individual is indifferent. The theory of economic science thus acquires the rigor of rational mechanics.

Pareto succeeded Walras at the University of Lausanne, and continued to expand the work that was to become the 'new' welfare economics (Brue, 1994). We mentioned Walras's opinion (1977[1874]) regarding the three aspects of political economy: natural science, art, and moral science or ethics. Pareto used the abstraction of "*homo oeconomicus*, who performs only economic actions" in the same way physics uses the point as an abstraction for a body (Pareto 1971[1909], 12). Pareto (1971[1909], 13, 14) was careful to caution the reader that using abstractions in order to build the theory does not support the use of its conclusions as such for policy purposes, but in contrast to Walras he did not consider moral science to be a part of political economy:

> Political economy does not have to take morality into account. But one who extols some practical measure ought to take into account not only the

economic consequences, but also the moral, religious, political, etc., consequences... One who praises free trade, restricting himself to its economic effects, is not constructing a faulty theory of international commerce, but rather is making an incorrect application of an intrinsically true theory. His error consists of disregarding other political and social effects, which are the subjects of other theories.

2.3 From Pareto Improvements to Potential Pareto Improvements

Perhaps the above observation by Pareto was the moment in the development of the new welfare theory when the separability argument came to life. This is the idea that economics should be concerned with efficiency and leave questions of distribution to others. As Kaldor (1939, 550) put it:

> There is no need for the economist to prove—as indeed he never could prove—that as a result of the adoption of a certain measure nobody in the community is going to suffer. In order to establish his case, it is quite sufficient for him to show that even if all those who suffer as a result are fully compensated for their loss, the rest of the community will still be better off than before. Whether the landlords, in the free-trade case, should in fact be given compensation or not, is a political question on which the economist, *qua* economist, could hardly pronounce an opinion.

Calcott (2001, 6) points out that the separability argument does not deny that the questions of distribution and efficiency are linked. It merely suggests that they may be dealt with separately through monetary redistribution (as stated in the second fundamental theorem). The separability issue is related to the compensation principle.

The Pareto principle states that for an increase in social welfare to take place at least one person must be made better off and no one else be made worse off. A situation is considered Pareto-optimal (Pareto efficient) if it is impossible to make further changes that satisfy the Pareto principle. The Pareto principle is so stringent that it hardly ever applies in real policy situations. Most economic policies involve helping one group and harming others. The compensation principle maintains that a change is an improvement if the gainers from the change can *potentially* compensate the losers and still be better off, or if the losers cannot profitably pay the gainers not to make the change. A critical feature of a potential Pareto improvement is that compensation need not actually be paid to the losers. According to Calcott (2001, 6) this position was taken further by the New Welfare Economics: "If a particular distribution of welfare is pursued, this should be done, not by interfering with markets, but by altering the distribution of initial endowments, or by redistributing purchasing power by a non-distortionary tax system (lump sum taxes and allowances). In other words, economists assert that efficiency can be dealt with separately than equity." Arrow (1974, 6) puts this quite strongly: "Any complaints about its [the competitive

market economy's] operation can be reduced to complaints about the distribution of income, which should then be rectified by lump sum transfers."

Soon after Kaldor and Hicks stated it, the notion of a potential Pareto improvement and the compensation principle ran into a number of theoretical difficulties. The compensation principle is related to certain anomalies like the Scitovsky paradox (inconsistency and cycling) and the Boadway paradox. Figure 1 shows two utility possibility frontiers, each related back to a contract curve in consumption space, and each of these associated with a point on a production possibilities frontier (see Varian 1992, 406). The PPI criterion was supposed to allow economists to make policy recommendations regarding any two points on the two different utility possibilities curves in Figure 1. For example, using the PPI criterion a movement from point **X** to point **X′** should be made since from **X′** it is possible to move to **X″** where both consumers are better off compared to the original point **X**. It is also true, however, that a movement from **X′** to **X** is justified because from **X** it is possible to move to point **X‴** where both consumers are better off compared to the starting point **X′**.

To eliminate this cycling problem, Scitovky proposed a double criterion for a potential Pareto improvement. It must be shown that the gainers from a change can compensate the losers so they will agree to the change (Kaldor criterion), and that it is not possible for the losers to bribe the gainers not to make the move (Hicks criterion). But Gorman (1955) showed that the Scitovsky criterion violates the assumption of transitivity.

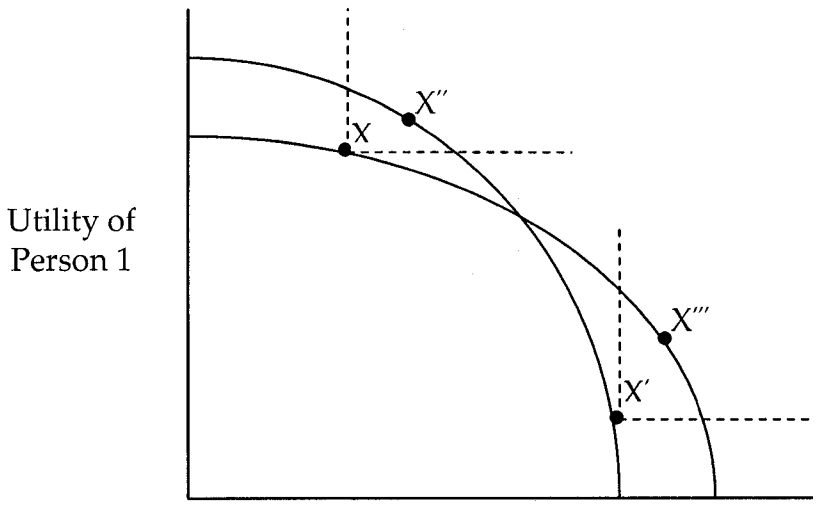


Figure 2.1 Cycling Under the PPI Test

Boadway (1974, 926) showed that "when comparing alternative projects or policies, the one with the largest net gain is not necessarily the 'best' one in the compensation sense." Scitovsky, Boadway, Chipman, Suzumura and others have pointed out in various ways that comparing two points on utility possibility frontiers is impossible without making interpersonal comparisons of utility. Chipman and Moore (1978, 579-580) point out other difficulties with the compensation principle and argue that it may be appropriate in a collectivist environment but is ethically indefensible in a *laissez-faire* economy:

> If such an economist was operating in a *laissez-faire environment*, that is, one in which disposable incomes were determined by market forces and a

given distribution of private ownership of productive factors, he would be making positive recommendations which—in terms of some value judgments—would lead to a reduction in social welfare. To dismiss such an outcome as being a "political question to which the economist, *qua* economist, could hardly pronounce an opinion" is to wash one's hands of the responsibility for one's own actions.

It is altogether another matter if an economic adviser is operating in a *collectivist environment*, that is, one in which it is known in advance that the distribution of incomes will be controlled in such a way as to maximize welfare in terms of *some* social welfare function... As it was perceived by Pareto (1909, 363), however, such optimality criteria are more appropriate for a collectivist environment (as defined above) than a laissez-faire one. Nevertheless, the Compensation Principle has tended to be applied, even explicitly (as by Kaldor) to a laissez-faire environment.

Much of environmental economics is based on the notion of a potential Pareto improvement (Stavins, Wagner, and Wagner 2002). Applied work in economics and policy recommendations have followed the lead of Hicks and Kaldor and focused on efficiency. Judging efficiency involves comparing two states of the economy in terms of potential Pareto improvements. The conditions under which such comparisons can be made are at the center of the current revolution in welfare economics.

During the past two decades or so a "quiet revolution" (Albert and Hahnel 1990) has been taking place in welfare economics. As Albert and Hahnel (1990, chapter 1, 3) point out, what is different about current criticisms of neoclassical welfare theory is that they are coming from *within* the neoclassical framework:

> Much current work on the frontiers of welfare theory requires a new view of people and society adequate to formulate problems it addresses and envision directions to proceed. This "pressure from within" is very different from "pressure from without." After all, the traditional welfare paradigm has not gone unchallenged...These challenges were not compelling for traditional welfare theorists because they were premised on different priorities and concerns than those operative in the economic mainstream.

Today, great progress is being made within mainstream neoclassical economics in moving beyond the central new welfare assumptions of economic man and perfect competition. These concepts are being discarded in many current economic models of human behavior and economic production.

2.4 Economic Man and Endogenous Preferences

The goal of the NWE was to establish a positive economics based on the sanctity of individul choice. A major source of controversy in economic theory, at least since the days of Thorstein Veblen at the turn of the last century, is the notion of

'economic man' or *Homo economicus*. Neoclassical welfare economics characterizes human behavior as independent of social and cultural context, that is, preferences are considered to be *exogenous.* In the welfare model, the basic characteristics of rational economic man do not vary from country to country or from culture to culture. *Homo economicus* is narrowly rational, always consistent in his choices, insatiable in consumption, and egocentric to the point of having no social responsibilities other than maximizing his own happiness. This approach to describing human behavior is the subject of heated controversy when applied to many complex phenomena such as ecosystem health, long-term climate change, or the development of the macroeconomy.

The new welfare economics assumes that the basic units of analysis are individual consumers and individual firms. These units can be cast either as 'representative agents' or as the 'average' behavior of aggregate firms and households (van den Bergh and Gowdy 2003). Human beings are reduced to "homogenous globules of desire" to use Veblen's (1898) characterization of economic man. Human behavior is assumed to be so universal that cultural differences are inconsequential and may safely be ignored. All individuals strive to maximize utility by choosing logically and consistently among alternatives. Likewise, firms are assumed to be concerned solely with maximizing profits.

The developing alternative recognizes that the behavior of individuals and firms cannot be adequately represented without considering the *interdependencies* between them and this requires an approach allowing for

multiple equilibria, interactions between agents, and recognizing that relying on a universal model to describe all human behavior and human cultures may be inappropriate. The experience of the last decades has demonstrated the limitations of welfare economic models and of the policies based on them. Policy failures in the areas of economic development (Stiglitz 2002), climate change (Spash 2002), and biodiversity loss (Gowdy 1997) among others, have brought to the surface long-neglected questions about the basic assumptions and policy relevance of welfare economics. These controversies have also exposed the gap between theoretical advances in neoclassical economics and the applied work being done by mainstream economists. Extending the standard economic model of human behavior has been the research focus of recent Nobel Prize winners in Economic Science—Amartya Sen (1998 winner), Gary Ackerlof and Joseph Stiglitz (2001 winners) and Daniel Kahneman and Vernon Smith (2002 winners). Recognition from the Nobel committee of their path-breaking contributions shows that the economic profession increasingly appreciates this kind of work.

As discussed above, the intent of the NWE was to make economics a true science, that is, to separate factual statements from value judgments. Interpersonal comparisons of utility were to be avoided. This was the major task of the economic man construct. Human preferences were the starting point of economics regardless of where they came from. Lionel Robbins (1932, 24) put it clearly: "economics is not concerned with ends as such... and it asks how their [human beings'] progress towards their objectives is conditioned by the scarcity

of means...Economics takes all ends for granted." Gintis (1969, 110) rephrased Robbins' statement "...we act as if it is a good thing that individuals have what they want, and as if they know best what they want." Friedman (1962, 13) justifies the traditional assumption of exogenous preferences:

> Despite qualifications, economic theory proceeds largely to take wants as fixed. This is primarily a case of division of labor. The economist has little to say about the formation of wants; this is the province of the psychologist. The economists' task is to trace the consequences of any given set of wants. The legitimacy of any justification for this abstraction must rest ultimately, in this case as with any other abstraction, on the light that is shed and the power to predict that is yielded by the abstraction.

Current work in neoclassical welfare economics questions the exogenous preferences approach, and more and more, considers preferences to be endogenous. In a way this current work is a return to the beginnings of neoclassical economics. More than one century ago, Marshall in his *Principles* mentions the importance of non-selfish motives and other preferences that are unknown to *Homo economicus*. He also stressed that biological approaches are more appropriate than mechanical analogies (Bowles and Gintis 2000, 1411). Daily activities and the social and cultural institutions influence human preferences. Also, past training and activities influence preference formation. On the first page of *Principles* Marshall (1920[1890], 1) states:

> ...man's character has been moulded by his everyday work, and the material resources which he thereby procures, more than by any other influence unless it be that of his religious ideals...

Later on the same page he adds:

> his character is being formed by the way in which he uses his faculties in his work, by the thoughts and the feelings which it suggests, and by his relations to his associates in work, his employers or his employees.

But Marshall's modern ideas were "supplanted by a more elegant...Walrasian model that dropped them altogether" (Bowles and Gintis 2000, 1411).

Elster (1978, 39-40) explains that "Choice according to consistent preferences is an important part of what we meant by intentionality, whereas the laws governing the endogenous change of preferences are purely causal operating 'behind the back' of the actor concerned." Von Weizsacker (1971, 346) stresses the importance of endogenous preferences on Pareto optimality and discusses the neglect of them by traditional welfare theory:

> One of the reasons why economists did not very deeply discuss this question may be that their present concepts of Pareto optimality and efficiency possibly are not flexible enough to cope with endogenously changing tastes. It may become necessary to change the conceptual framework of our theory; we may be forced to ask almost philosophical

questions about the concepts we use. In every discipline, there is always a reluctance to engage in this kind of activity.

Criticisms of *Homo economicus* are not new. But they have taken on a new life with the current resurgence of theoretical and empirical work in behavioral economics, experimental economics, and game theory. Recent empirical evidence collected in a variety of cultural settings has demonstrated consistent deviations from the standard economic model of behavior (Alesina and Ferrara 2000; Bohnet and Frey 1999; Cason and Mui 1997; Eckel and Grossman 1998; Fehr and Tougareva 1995; Gil-White 2001; Gintis 2000; Güth and Tietz 1990; Manski 2000; Nowak, Page, and Sigmund 2000; Ostrom 2000). The general conclusion is that behavior is strongly influenced by cultural conditioning. Also, humans consistently behave more altruistically than the standard economic model predicts. While economists recognize that individuals may be motivated by intrinsic considerations, such as a sense of honesty, trust, fairness or commitment, they have either shied away from altruism "almost comically" (Samuelson 1993), or have adopted an approach to altruism based on the rational actor model. Recent empirical evidence suggests that it is more analytically useful to recognize the complex and multifaceted characteristics of human behavior. People act both selfishly and cooperatively (Etzioni 1986; Caporael 1997), and they adhere to social norms and values that often generate immediate

disutility for themselves (Elster 1989; Boyd and Richerson 1992; Fehr and Gächter 2002).

These empirical studies offer support for the "utility function" Georgescu-Roegen (1960) proposed: $\Omega = \psi(Y; Y_s)$. Utility is a function not only of individual utility Y but also Y_s which stands for the "criteria by which the individual views the welfare of his community." This result, however, cannot be incorporated into the framework of the New Welfare Economics. If the utility of one individual depends on that of another, then constrained utility maximization is undefined (Henderson and Quandt 1980, 297). The optimal consumption of one person depends on the optimal consumption of the other and a unique equilibrium cannot be obtained. A realistic model of human economic behavior is inconsistent with standard welfare theory. Again, this argument has been made for over one hundred years (Veblen 1898), but the difference today is that economists can explain pro-social behavior in formal game-theory models that can be analyzed mathematically and tested experimentally (Sigmund, Fehr and Nowak 2002). The critique of economic man has reached a state of sophistication so as to be able to enter the mainstream.

The ultimate impact on welfare theory of these new results from behavioral economics and game theory is hard to gage. Rational economic man is a key underpinning of the desirability of market outcomes and economists are quite vocal in touting the sanctity of individual preferences. Alan Randall (1988, 217) writes: "The mainstream approach is doggedly nonjudgmental about

people's preferences: what the individual wants is presumed to be good for that individual." In fact, however, in surveys by economists eliciting preferences, expressed preferences are filtered though the axioms of consumer choice (Gowdy 2004). For example, the lexicographic ordering of preferences, as defined by Georgescu-Roegen (1968) does not allow for substitution between certain goods. A person dying of thirst will give everything she has for another drop of water. These sorts of preferences show up routinely in surveys designed to capture preferences for environmental goods. Spash and Hanley (1995) found that a significant number of respondents refuse to make trade-offs between biodiversity preservation and market goods. Stevens et al. (1991) found that sixty-seven percent of respondents agreed with the statement that "As much wildlife as possible should be preserved no matter what the cost." But the common practice among surveyors is to throw out 'protest bids' that do not conform to the stylized description of behavior dictated by the axioms of consumer choice.

2.5 Efficiency, Institutions, and Economic Policy

Aristotle and David Hume considered complementary behavioral theories. For Hume (1898[1754], 117) "Political writers have established it as a maxim, that, in contriving any system of government...every man ought to be supposed to be a knave and have no other end, in all his actions, than his private interest" while for Aristotle (1962, 1103) "Lawgivers make the citizen good by inculcating habits

in them, and this is the aim of every lawgiver; if he does not succeed in doing that, his legislation is a failure. It is in this that a good constitution differs from a bad one." For Bowles (1998, 20) it is unfortunate that economists have not followed Aristotle: "Economists have followed Hume, rather than Aristotle, in positing a given and self-regarding individual as the appropriate behavioral foundation for considerations of governance and policy."

Bowles (1998, 20) asserts that assumptions about preferences may influence the effectiveness of economic policies. Hirschman (1985, 10) suggests that the view of most economists regarding preferences leads to an underlying bias in favor of incentives to modify behavior:

> to deal with unethical or antisocial behavior by raising the cost of that behavior rather than proclaiming standards and imposing prohibitions and sanctions. The reason is probably that they think of citizens as consumers with unchanging or arbitrarily changing tastes in matters civic as well as commodity-related behavior...A principal purpose of publicly proclaimed laws and regulations is to stigmatize antisocial behavior and thereby to influence citizens' values and behavioral codes.

The above discussion of 'Pareto Efficiency,' 'Potential Pareto Improvement,' and 'Endogenous vs. Exogenous preferences' is important to contemporary environmental and development policies. The theoretical difficulties discussed before relating to the notion of a potential Pareto

improvement are directly related to the almost exclusive reliance on the competitive market and the underlying rationality assumptions of development policies. Some examples will clarify this further.

Calcott (2001, 2) discusses the 'efficiency criterion' and its stress on the view that government policies should be evaluated according to their effects on total surplus. Konig and Jongeneel (1997) discuss how in applied economics, the concept of a 'Potential Pareto Improvement' as an actual improvement is used in the literature to justify policies about welfare state reform, liberalization of foreign trade and investment, and European integration. Their characterization of the connection between welfare theory and economic policy is worth reproducing here:

- Welfare state policies loosen the direct ties between effort and reward, and this creates disincentives on work, savings, and entrepreneurship. Therefore, in economic studies, which neglect the negative effects of widespread worker insecurity, liberal reform automatically leads to positive net benefits, so that the compensation principle is satisfied. On this basis, many economists proclaim that welfare state reform increases macro-economic efficiency, even if increased income inequalities resulting from it suggest that losers have not been actually compensated (Atkinson 1996).
- Many economists claim that social welfare is increased by a liberalization of the international movements of products and capital

> (e.g. Falconer and Sauvé 1996; Johnson 1996). However, while liberal reforms in this field may benefit consumers by lower priced, better-quality or new kinds of products, in many cases they also force producers to painful adjustments. Indeed, such reforms typically involve both winners and losers, and the positive general evaluation of them relies on the compensation principle, as it looks only at whether net benefits are positive or negative, ignoring what happens to losers...This approach has also been adopted in the various studies of agricultural trade liberalization occasioned by the Uruguay-round of GATT negotiations (e.g. IMF 1989; OECD 1987, 1990; Tyers and Anderson 1992). Here, neo-Paretian welfare economics has become a straightforward 'scientific' support for economic-liberal policies.

Chipman (1978, 580) observes that by accepting the concept of a Pareto-Barone-Samuelson welfare ordering, the compensation principle leads to "a very different conclusion than the founders of the New Welfare Economics had in mind: the need for an activist policy for the determination of the distribution of income and wealth, rather than exclusive reliance on market forces combined with a given pattern of private ownership of resources." Chipman (1978, 581) concludes that, after 35 years of technical discussions about welfare theory, we are forced to return to Robbins' 1932 position "We cannot make policy recommendations except on the basis of value judgments, and these values

should be made explicit." In presenting the utilitarian justification for egalitarian measures Robbins stated (1938, 638): "If [Henry] Maine's Brahmin had told me that members of such and such a caste or race were eligible for taxation ten times as heavy as others, since they were only one-tenth as capable of true happiness, the strength of my resistance would not have rested on belief in the social law of diminishing marginal utility. The belief that that helped could only rest on the prospect of putting up a smoke-screen of technical jargon to terrify an ignorant antagonist..." Chipman (1978, 581) responds to this quote by observing: "When all is said and done, the New Welfare Economics has succeeded in replacing the utilitarian smoke-screen by a still thicker and more terrifying smoke-screen on its own."

Bowles (1998, 22) suggests that "preference endogeneity gives rise to a kind of market failure" which requires a different welfare economics "encompassing the effects of economic policies and institutions on preferences and for this reason more adequate for the consideration of an appropriate mix of markets, communities, families, and states in economic governance." The general conclusion of contemporary welfare theorists is that we should judge policies and institutions according to how effectively they function in a world characterized, not by perfect competition and rational behavior, but rather by uncorrectable market failure, imperfect competition and uneven political and economic power (Bowles and Gintis 2000, 1412).

The existence of endogenous preferences and cultural institutions is

central to the debate in development economics about whether or not the neoclassical model of competitive economies is applicable everywhere. That is, is there one linear, progressive development path that will transform all "backward" countries into American economic clones? Stiglitz (2000) argues that in neoclassical development policy, local institutions and cultures are ignored as factors in stabilizing or destabilizing an economy. He argues that in the model of perfect competition, humans are regarded as being the same all over the world, rational, self-interested, insatiable, pleasure maximizing creatures. The local color of institutions is ignored and thus the entire social network in a particular country. In the welfare economics framework, policies are directed at changing the non-developing or underdeveloped economies to become similar to what is considered the "successful" system, the Western type. This approach underlies the policy recommendations made nowadays by international organizations like the World Bank, the International Monetary Fund (IMF), and the World Trade Organization (WTO). It is true that the World Bank and other international agencies are financing small-scale projects by involving local communities in their design and implementation. But is also true that the economic side of those projects uses the concepts and the tools of the New Welfare Economics that gives them an incomplete image of the problem they try to solve.

Real economic systems—at least during the past two hundred years or so—undergo rapid, qualitative and irreversible change. Bowles (1998, 20) suggests that economic institutions "may affect preferences through their direct

influences on situational construal, forms of reward, the evolution of norms, and task related learning as well as their indirect effects on the process of cultural transmission itself." Economic change may be driven by exogenous factors such as changing resource endowments or climate change and also by different patterns and speeds of cultural adaptation, institutional change, and historical accidents.

2.6 Conclusion

Funtowicz and Ravetz (1994) argue that we are now in a period of "post normal" science, a period characterized by high risk and a high degree of uncertainty. Public policy decisions must now be based on limited information but with increasingly severe consequences from wrong decisions. Environmental problems are now global and the problem of 'underdevelopment' does not seem as tractable as it once did in the halcyon post war years of the 1950s and 1960s. One ray of hope is the increasingly realistic view of human nature being adopted by mainstream neoclassical economists. The 'behavioral approach' advocated by scores of contemporary economists draws on insights and empirical results from biology, psychology and experimental economics. It extends the behavioral foundations of economic theory by explaining the anomalies within the conventional preference paradigm (Bowles and Gintis 2000, 1414). Once the borders between economics and other behavioral sciences cease to be an impediment to understanding economic phenomena there is hope for economic

theory moving beyond *Homo economicus* by "taking account of the institutional and behavioral peculiarities defining a problem, as well as the possibility of many equilibrium outcomes" (Bowles and Gintis 2000, 1433).

The next chapter will explore various aspects of the basic idea that humans are social animals. This simple insight builds on current work in economic theory discussed above. This contemporary work is breaking the theoretical impasse posed by *Homo economicus* and may lead to the formulation of more realistic and effective environmental and social policies.

CHAPTER 3

CULTURE AND ECONOMIC BEHAVIOR: FAIRNESS AND RETALIATION IN A RURAL NIGERIAN VILLAGE

Let us not think of ourselves as being like those primitive men of our imagination who needed no because nature alone supplied all their needs. Nature relinquished her functions, so to speak, the moment we usurped them. Social man is too weak to do without others; he is in all ways needy from the moment of his birth to the moment of his death and, rich or poor, he could not survive if he received nothing from others.

Jean-Jacques Rousseau (2003 [1757], 31)

[Let us]...return again to the state of nature, and consider men as if but even now sprung out of the earth, and suddenly (like mushrooms), come to full maturity, without any kind of engagement with each other.

Thomas Hobbes (1949 [1651], 100)

3.1 Beyond *Homo economicus*

Hobbes' metaphor was one of the first statements of the idea that human behavior could be studied in isolation from its social context. *Homo economicus* sets aside the specific ways in which society shapes economic decision-making and concentrates on individuals as isolated entities. The notion that individual

preferences should be the starting point has led economists to make strong statements about the nature of economic choices. *Homo economicus* is self-regarding, consistent, and narrowly rational in making choices. Bowles and Gintis (2000, 1413) write: "The economic man known to students of Walrasian economics acts on the basis of preferences that are self-regarding—excluding such intrinsic values as altruism, fairness, and vengeance—and are defined over a restricted range of outcomes—excluding honesty as well as concerns about the *process* rather than simply the *outcome* of exchange *per se*."

Recent work within the neoclassical framework demonstrates that preferences go beyond 'tastes' and are in Bowles' (1998, 4) opinion "reasons for behavior, that is, attributes of individuals that (along with their beliefs and capacities) account for the actions they take in a given situation." In this broader definition, preferences include Sen's commitments (Sen 1977), Harsanyi's (1982) moral preferences as distinct from personal preferences, the manner in which the individual construes the situation in which the choice is made (Ross and Nisbett 1991), the way that the decision situation is framed (Tversky and Kahneman 1986), compulsions, addictions, habits, and more broadly, psychological dispositions (Bowles 1998, 4). Findings from evolutionary biology are also beginning to influence how economists think about altruism and economic behavior (Field 2001).

A growing body of experimental evidence suggests that human behavior is influenced by phenomena that would not affect *Homo economicus.* Economic

institutions—markets among them—allocate goods and services and influence preference formation in ways contrary to the usual economic assumption of exogeneous preferences. Concerns about others (both positive and negative) and about the processes involved in decision-making are important sources of behavior (Bowles and Gintis 2000, 1417). Humans are social beings and their preferences and behavior are shaped by social interaction as opposed to anonymity, and by economic institutions which influence who interacts with whom, who performs which tasks, and which behaviorally conditioned pay-offs are important. Much of the new behavioralist orientation in mainstream economics is coming from game theory, a field once considered to be a bastion of orthodoxy. Communication and increased group identity positively influence the contributions in public goods games (Ledyard 1995, Dawes, Van de Kragt and Orbell 1988) and induces cooperative play in prisoner's dilemma interactions (Kollock 1997). Bowles (1998, 6) analyzes how institutions enhance social interaction and influence preferences:

> the role of institutions such as schools and churches in the acquisition of cultural traits may be enhanced by seeing them—along with markets, firms, families, and governments—as distinct patterns of social interaction affecting the diffusion of cultural traits in a population in ways often unrecognized by any of the participants.

Examination of different cultures shows that economic decision-making may be organized in a number of very different, culturally specific ways. Firth (1958, 69) observes about a pre-market society in southeastern New Guinea "There is...no final measure of the value of individual things, and no common medium whereby every type of good and service can be translated into terms of every other." The results of a worldwide effort to examine the behavior of a number of non-western societies seem to confirm Firth's assertion (Henrich et al. 2001).

A related line of research is examining the role of markets in shaping behavior. Bowles (1998, 11) sees markets as being "powerful cognitive simplifiers" facilitating comparison among disparate objects and "allowing radical reductions in the complexity with which one typically views an assortment of disparate goods." Based on results of Dictator and Ultimatum Games, Schotter, Weiss and Zapater (1996, 38) analyze the market's influence on behavior:

> The morality of economic agents embedded in a market context may...be quite different from their morality in isolation. While we are not claiming that people change their nature when they function in markets, it may be that the competition inherent in markets and the need to survive offers justifications for actions that in isolation would be unjustifiable.

Bowles (1998) suggests five ways preferences—treated as cultural traits, or learned influences on behavior—can be influenced by markets and other economic institutions: (1) framing and situation construal; (2) intrinsic and extrinsic motivations; (3) effects on the evolution of norms; (4) task performance effects; and (5) effects on the process of cultural transmission. The result is that "preferences are internalized" and "economic institutions may induce specific behavior—self-regarding, opportunistic, or cooperative, say—which then become part of the behavioral repertoire of the individual" (Bowles 1998, 5). Carpenter (2002, 16) concludes that, "if markets are more like anonymous supermarkets than small intimate farmers markets, peoples' social preferences (i.e. their regard for other people's well being) will diminish over time. Further, an even stronger diminution of social preferences takes place when markets are highly competitive." As Bowles (1998, 2) points out:

> The rapid rise of feminist values, the reduction in family size, and the transformation of sexual practices coincident with the extension of women's labor force participation likewise suggest that changes in economic organization may foster dramatic changes in value orientation.

Arguing that even within well-established markets human behavior is more complex than the standard economic model assumes, Bowles and Gintis (1999) present a model that describes human beings as neither altruistic nor blatantly self-interested, utility maximizers. They describe human beings as

Homo reciprocans, in the sense that they typically exhibit altruistic tendencies toward those who cooperate with them and reciprocate their altruistic gestures. Reciprocal behavior is a tendency by individuals who perceive the behavior of others as being beneficial or harmful to themselves to respond in kind. In a dynamic game setting, this sort of behavior may be consistent with conventional economic notions of rationality. But results from traditional societies depart from both behavioral models, *Homo economicus* and *Homo reciprocans*. Alexander (2001) uses new evidence and theoretical models from evolutionary biology to argue that human societies are characterized by pure altruism, a trait inherited by the process of group selection. In many traditional societies, such as that of the Igbo people of Nigeria discussed later in this chapter, fairness is an important predictor of economic behavior but retaliation is not (Henrich et al. 2001). Instead, non-cooperative behavior elicits a cooperative response.

Evidence from game theoretic experiments such as the Ultimatum and Dictator Games (Hoffman, McCabe, Shachat, and Smith 1994), various versions of the Public Goods Game (Ostrom, Gardner and Walker 1994), and the existence of altruistic punishment (Fehr and Gächter 2002) show that non-social explanations (such as "rational economic man") are inadequate to predict actual human behavior.

In the Ultimatum Game one person, the 'proposer', is offered a sum of money—say $100—and told to split it with another, anonymous, person, the 'responder'. The responder may accept the offer, or reject it in which case neither

person receives anything. In either case the game is not replayed – it is a one-shot game. The model of *Homo economicus* predicts that offers should be as low as possible and that no one would reject a positive offer since "more is always preferred to less." If the smallest unit is $1 then the proposer should offer $1, keep $99 and the respondent should accept it. This prediction almost never holds when the game is played in "western" societies like those in North America, Europe and Japan. The results are remarkably similar in dozens of studies played under a variety of conditions. Proposers typically offer substantial amounts of money, two-thirds of the offers are between 40 and 50 percent. Offers less than 30% are usually rejected (Gintis 2000, Sigmund, Fehr and Nowak 2002). The Dictator Game is played much the same way except that respondents cannot reject offers. They must accept whatever is offered. Even without the possibility of rejection, the typical offer is 35 to 40 percent.

Dictator and Ultimatum Game results hold even when the amount of money offered is substantial. Cameron (1999) played the Ultimatum Game in Indonesia with the equivalent of three months salary and the results were the same. Hoffman, McCabe and Smith (1996) varied the amount offered from $10 to $100 and found no statistical difference between the results. The Jerusalem experiment (Roth et al. 1991) and a cross-cultural project in 15 small-scale societies revealed sizable differences in the way some cultures play the games (Henrich et al. 2001). In some cultures, like the Au of Papua New Guinea, offered more than half the sum to the responder. Other cultures offered as low as 15

percent and no offers were rejected (more details will be given in section 3.4). When the games were played in rural Nigeria (Gowdy, Iorgulescu, and Onyeiwu 2003) proposers offered about the same amounts in the Ultimatum and Dictator Games, near 50 percent, and only 1 Ultimatum Game offer out of 73 was rejected (Table 3.3 presents the results in different experiments including that in rural Nigeria).

These and other games have shown that cross-cultural differences are better predictors of human behavior than individual characteristics like age, gender, or income. These games and other economic, ethnographic, and experimental evidence from a variety of traditional and market-oriented societies show unequivocally that people often behave altruistically. Experimental results show that pure altruism holds even in simple one-shot games where the participants know they will never interact again (Fehr and Gächter 2002, Frank, Gilovich and Regan 1993). Nowak, Page and Sigmund (2000) suggest that human emotional responses have been shaped by millions of years of living in small groups and that our emotions are responsive to anonymous interactions.

3.2 The Igbo Village of Umuluwe, Imo State, Nigeria

The Igbo (or Ibo) people, estimated to be over 10 million in number (Onyeiwu 1997), inhabit the fertile region of the lower Niger River, between latitude 5 and 7 degrees north and latitude 6 and 8 degrees east, corresponding to the entire Imo, Abia, Anambra, and Enugu states, while a significant number of them are

included in the Rivers and Delta states (see Annex). In the east are the Ibibio people, in the north the Igalla, Idoma, and Ogoja people, in the south the Ijo, and in the west the Edo (Korieh 1996, IV, 2). The village of Umuluwe is situated within the predominantly Christian southeast region of Nigeria, and is about 20 miles west of the regional capital of Owerri. Like most communities in Igboland, the Umuluwe people live in a close-knit, nucleated village of about 2000 people. The phrase "Umu" means "the children of" and most Igbo villages' names start with "Umu" to indicate that they are the descendants or children of somebody. The village is made up of four smaller and interdependent units—Umuezelaegbe, Umuanunu, Umurehe, and Umuagwukwu. Each of the four village units is in turn made up of a number of extended families, each of which traces its origins to common ancestors. Igbo society is patrilineal with the husband being the head of the household, and responsible for the well-being of his family not only to his family but also to the larger community. The extended family system has been fashioned by the Igbo people for community development. Several small villages sharing the same cultural, social and religious practices surround Umuluwe.

In the past the Igbo people did not resettle permanently outside of their birthplace (although there were temporary displacements due to persecutions in the years after independence and during the Biafra War). This may explain the Igbo custom of returning frequently to their birth villages and why the village is a rallying point for Umuluwe descendants. Every Igbo considers the village to be more important than the nation-state. Recent Igbo history in Nigeria has made

this custom much more important, as communities use these return visits for re-establishing societal ties and priorities.

Except for interaction (through marriages, the church, and trade) with other neighboring villages, Umuluwe has very limited contact with the federal government and the outside (not-Igbo) world. This is indicated by the fact that the first contact with Caucasians for most of the villagers was when two of the members of a research team (Gowdy and Iorgulescu) from Rensselaer Polytechnic Institute visited the village in Spring 2001.

Although farming is the main occupation of the villagers, it is often combined with activities such as palm-wine tapping, fishing, hunting, petty trading, bricklaying, painting, tailoring, and shoe mending. The village's main economic resources are land, cash crops (palm trees and fruits), water, and paving stone. Farming is mainly for subsistence, although surpluses are sometimes produced and sold at the weekly markets in neighboring villages. Proceeds from such surpluses are used to purchase items such as meat, milk, sugar, and bread. The villagers also use the proceeds to pay community dues, school fees for their children and health care fees. Prior to the introduction of Christianity in the village, the Umuluwe people practiced a traditional religion known as *Ofoism.* This native religion was based on a belief in a High God (*Chukwu* or *Chineke)* – omnipotent and omnipresent, with symbols or sanctuaries representing him found in every home, compound or village square. The belief in a future life and a lack of concern with materialism were also characteristic of this religious system (Njaka, 1974, 29;

Basden, 1966, 36). The fact that this High God can be personalized as well as shared by the community may explain the Igbo acceptance and affinity for the Christian religion.

The Umuluwe community has social and political institutions specific to West Africa (Onyeiwu, 1997). The economic behavior of the villagers of Umuluwe cannot be understood without some knowledge of these institutions. Historically, the Igbo people have a complex and sophisticated form of political life with governmental power and governance much more diffused than in many places in Africa. At the community level, Igbo people adhere to representation from the general populace through Chiefs and then to Elders, without any formal, centralized political authority. The coalition of elders, charismatic members of the village and the village associations govern the village informally. Each extended family also regulates the behavior of members of the family, and has the authority to impose penalties on deviant members. Nearly all adult members of the community belong to at least one community-based association. The village associations are mainly focused on the execution of village development projects such as roads, bridges, electricity, etc. Given the lack of government support, these associations play a pivotal role in the economic development of the village.

Umuluwe social customs and traditions are based on an ethical system that promotes hard work, honesty, trust, and cooperation. The Umuluwe community often rewards people who excel in their respective professions by awarding them the title of "chief" which does not led to material rewards but

rather respect and reverence. Chiefs display the qualities of trustworthiness, honesty, hard work, and high moral standards and are regarded as role models for the younger members of the community.

Obligation to the community and the individuals within it is also a distinguishing feature of the Umuluwe society. Individuals are obligated to help fellow villagers who suffer poor harvest, or whose homes have been destroyed by a storm or fire. It is often said that one's "social security" is the solidarity and support of the village as a whole. To underscore the cohesion among the Umuluwe community, it is quite unusual for a villager to take other members of the community to court or report them to the police. Although the British colonial rulers established English-style courts in Igboland as far back as 1862 (Orji, 1987, 108), the Umuluwe people rarely use them. Conflicts are resolved within the Umuluwe community through the mediation of elders, the extended families, and the village associations.

3.3 The Ultimatum and Dictator Games: Experimental Design and Procedure

The Ultimatum and Dictator Games were played together on successive days in Umuluwe. On the first day the games were played in an informal setting in a private home with two groups of proposers and respondents; 11 pairs in the first group and 12 pairs in the second group. On the second day the game was played with a larger number of people, a total of 50 pairs, after Sunday mass, held in the

village school building. Although the games were played on two consecutive days, details of the game were not revealed by the first-day players in spite of the intimacy of village life. The wife of a player who played on the first day did not know about the game when she played on the second day. Neither did the brother of a player who played on the first day. The game was explained separately to the proposers and respondents who were then separated until the game ended.

The Ultimatum Game was played with real money, 100 Naira worth about 1 US dollar. This amount represents about one day's wage for casual labor and is a substantial amount of money, since about one-half of the villagers surveyed earn less than $40 a year in cash. The Ultimatum and Dictator Games are being played worldwide in a variety of cultures (Heinrich et al. 2001) and the standard amount played is one day's wage (Ensminger 2001). The game was played in units of 10 Naira using the double anonymous framework developed by Hoffman et al. (1994). The double anonymous procedure is important because if the identity of the players is known, then an unfair offer may lead to sanction outside the game.

After the game was explained to the villagers, a demonstration of it was given and then questions about the game were answered. Concern was expressed in all groups that the money given away might be "juju money", that is, money obtained as a result of magic related to human sacrifice. They were reassured by one of the researchers (Onyeiwu), a former resident of the village,

who explained that "Whiteman no dey do juju", that is, "white people do not practice juju." If Onyeiwu had tried to play the game without foreigners present the fear of juju would have been a more serious problem. The idea that "easy" money is tainted is common in traditional societies and not without merit. Once the juju question was resolved, villagers showed no reluctance to accept the money. Perhaps this is due to the fact that they have experience receiving money from "wealthy" acquaintances working in cities in Nigeria or abroad.

The group was then sent outside and individuals were brought in one by one to make offers, after which they were kept away from the people who had not yet played. Individual bids were written on pieces of paper with numbers corresponding to the names kept on another sheet. The respondents were then brought in one by one and given a randomly selected bid. For the Dictator Game, all Ultimatum Game participants were brought back together, had the Dictator Game explained to them, and then they came forward and privately presented their offers.

On the first day an open discussion was held after the Dictator and Ultimatum Games were played to find out the motivations for the bids. On the second day all participants were brought together after the Ultimatum and before the Dictator Game and asked to discuss why they played as they did. We were interested to know if this discussion would affect the results of the Dictator Game. We were also curious about how two very different settings, in a private home on the first day and after church on the second day, would affect the

results. As discussed below no significant differences were found in the results of the game in the two days.

3.4 Results and Comparison to Other Experiments

Results for Umuluwe village

Detailed results of the Ultimatum Game played in Nigeria are reported in Table 3.1. The mean offer in the Ultimatum Game was 0.43 (43% of the total amount) and the mode was 50%. The mean and modal offers were the same for both days. The median offer was 0.50 for day one and 0.40 for day two. Out of the grand total of 73 offers, only 1 offer was rejected.

Table 3.1: Results of the Ultimatum Game in Umuluwe, Nigeria

Group	Number of Proposers	Mean Offer	Modes	Median
Day 1 group 1	11	0.36	40% (5 of 11)	0.40
Day 1 group 2	12	0.48	50% (9 of 12)	0.50
Day 1 total	23	0.43	50% (11 of 23)	0.50
Day 2 group3	50	0.43	50% (19 of 50)	0.40
Grand total	73	0.43	50% (30 of 73)	0.40

Results of the Dictator Game are reported in Table 3.2. Somewhat surprisingly, the mean offer in the Dictator Game was only slightly lower at 0.42. The significance of this difference may be affected by the difference in the game amounts of money played in the two games (100 Naira in the Ultimatum Game and 40 Naira in the Dictator Game).

Table 3.2: Results of the Dictator Game in Umuluwe, Nigeria

Group	Number of Players	Mean Offer	Modes	Median	High / Low
Day 1	42	0.44	50% (32 of 42)	0.50	0.75 / 0.00
Day 2	101	0.42	50% (67 of 101)	0.50	1.00 / 0.25
Total	143	0.42	50% (99 of 143)	0.50	1.00 / 0.00

During the open discussion of motives it became apparent that fairness and compassion were the primary motives for sharing. Although the specific recipients of the sharing were not known, there was a general feeling among the participants that whoever got the money would be in need as most of the villagers are very poor. The proposers made the following comments on the first day the game was played (translated from Igbo by Stephen Onyeiwu): "Because of equity and fairness, the other person should have an equal share." "I offered half the amount so there would be no conflict, no exploitation of the other person." "I offered half so the other person would be happy." "I offered half because I felt that the other person might be in need. I am well-off and it is not fair that the other person should get less." "The other person might be poorer, more vulnerable to hunger, and it is not fair to deny someone else." "With a free gift from God is it necessary to share." "Since the money was freely given, I believe I should give freely to someone else. I have an obligation to be generous."

Comments from the respondents on day one were: "I'm poor and old. I have no choice but to accept." "Whatever is given to me I will take." "I will accept if it is more than 1 Naira." "A gift is a gift." "Whatever is given to you, you must accept." The question "If only 5 Naira were offered would you accept

the offer?" evoked the following responses: "What is freely given is freely received", "It doesn't cost anything so I will take it", "Any positive amount is acceptable." Only one person answered "A person who gives only 5 Naira is stingy and I would reject it." Interestingly, this was one of the lowest offers (20%) and the response came from a well-educated person who currently earns a relatively high income in Lagos. One person whose income is low said a 5 Naira offer would not be fair but he would take it.

Comments from proposers on the second day were as follows: "I wanted the other person to be happy." "Since the money is a free gift I have to give to another person." "I believe that the other person is in the same condition as me and I want to be fair." "If the other person is happy (prosperous) I will be happy." "Since it is a gift from God I have to give to the other person." "Since the money was brought by a foreigner (stranger) then why can't I give to my brothers and sisters."

When asked "What if only 5 Naira were offered?" they all said they would take the 5 Naira because it was a gift. The typical response was "I would take it. If someone gives you something why not take it?" For both days, out of a total of 73 offers, only one offer was rejected. An examination of the Dictator and Ultimatum Game offers revealed two outliers, one person offered 100% in both the Ultimatum and Dictator Games, and one player offered 0% in the Dictator Game. The player who offered 100% is a very wealthy businessman and the person who offered 0% is a widow with several young children.

Comparison to Other Studies

Table 3.3 shows Ultimatum Game results from a large sample of experiments undertaken around the world. Initially, the cross-cultural Ultimatum Game experiments used as subjects university students and the results were very similar. Roth and his collaborators (1991) played the Ultimatum Game with students in Pittsburgh (US), Jerusalem (Israel), and Tokyo (Japan), Cameron (1999) provided results of the game played with students in Yogyakarta (Java, Indonesia), while Hoffman et al. (1994) played the game in Tucson (US). The mean offers for Pittsburgh, Tokyo, Yogyakarta, and Tucson experiments were 44% or 45% of the total amount. In the Jerusalem experiment the mean offer was lower, 36%, suggesting that the variation is due to the different perception of what is a reasonable offer in that situation (Roth et al. 1991).

Henrich (2000) played the game with the Machiguenga (slash-and-burn horticulturalists in southeastern Peruvian Amazon) and with a group of graduate students from UCLA (Los Angeles, US). The results for the Machiguenga, a mean of 26% and a very low rate of rejections, raised the question about the "cultural differences" that can influence the results.

The MacArthur Foundation funded and extensive cross-cultural study in fifteen small-scale societies (Henrich et al. 2001).

Table 3.3: Cross-Cultural Ultimatum Game Data

Group	Country	Mean	Modes[b]	Rejection	Rej<20%[d]
Igbo	Nigeria	0.43	0.50	0.013	—
Los Angeles[e]	US	0.48	0.50	0	0/0
Machiguenga[i]	Peru	0.26	0.15/0.25 (72%)	0.048	1/10=0.1
Yogyakarta[f]	Indonesia	0.44	0.40	0.19	9/15=0.6
Tucson[g]	US	0.44	0.50	0.083	—
Pittsburgh[h]	US	0.45	0.50	0.22	0/1
Tokyo[h]	Japan	0.45	0.50	0.24	2/4=0.5
Jerusalem[h]	Israel	0.36	0.50	0.33	5/7=0.71
Hadza (big camp)[i]	Tanzania	0.40	0.50 (28%)	0.19	0.80
Hadza (small camp)[i]	Tanzania	0.27 (38%)	0.20 (8/29)	0.28	0.31
Tsimané[i]	Bolivia	0.37	0.5/0.3/0.25 (65%)	0.00 (0/70)	0.00 (0/5)
Quichua[i]	Ecuador	0.27	0.25 (47%)	0.15 (2/13)	0.50 (1/2)
Torguud[i]	Mongolia	0.35	0.25 (30%)	0.05 (1/20)	0.00 (0/1)
Khazax[i]	Mongolia	0.36	0.25	—	—
Mapuche[i]	Chile	0.34	0.50/0.33 (46%)	0.067 (2/30)	0.2 (2/10)
Au[i]	PNG	0.43	0.3 (33%)	0.27 (8/30)	1.00 (1/1)
Gnau[i]	PNG	0.38	0.40 (32%)	0.40 (10/25)	0.50 (3/6)
Sangu farmers[i]	Tanzania	0.41	0.50 (35%)	0.25 (5/20)	1.00 (1/1)
Sangu herders[i]	Tanzania	0.42	0.50 (40%)	0.05 (1/20)	1.00 (1/1)
Unresettled villagers[i]	Zimbabwe	0.41	0.50 (56%)	0.1 (3/31)	0.33 (2/5)
Resettled villagers[i]	Zimbabwe	0.45	0.50 (70%)	0.07 (12/86)	0.57 (4/7)
Achuar[i]	Ecuador	0.42	0.50 (36%)	0.00 (0/16)	0.00 (0/1)
Ormai[h]	Kenya	0.44	0.50 (54%)	0.04 (2/56)	0.00 (0/0)
Aché[i]	Paraguay	0.51	0.50/0.40 (75%)	0.00 (0/51)	0.00 (0/8)
Lamelara[i]	Indonesia	0.58	0.50 (63%)	0.00 (3/8)	0.00 (4/20)

Notes:
This table uses information from Henrich et al. (2001, Table 1, 74) and Henrich (2000, Table 1, 977)
PNG = Papua New Guinea
[a] Mean offer in the Ultimatum Game as a proportion.
[b] Modal offer(s) in the Ultimatum Game, with the percentage of subjects who made it in paranthesis.

Notes (continued):
[c] The rejection rate (as a proportion) in the Ultimatum Game, with the actual numbers in paranthesis.
[d] The rejection rate (as a proportion) for offers of 20% or less in the Ultimatum Game, with the actual numbers in paranthesis.
[e] The Los Angeles data come from Henrich (2000).
[f] The Yogyakarta data originally come from Cameron (1999).
[g] The Tucson data originally come from Hoffman et al. (1994).
[h] The Pittsburg, Tokyo and Jerusalem data originally come from round 1 games in Roth et al. (1991).
[i] Data from Henrich et al. (2001).

The mean offers range from 26% to 58% with large variation in rejection rates. In experiments in western type societies offers bellow 20% were rejected with a probability between 40% and 60%, while in other societies low offers are rarely rejected. Low rejection rates have been reported for the Machiguenga of Peru (even if 75% of the offers were below 30%), the Tsimané of Bolivia (no rejections), the Torguud of Mongolia (1 out of 20) and the Achuar of Ecuador (no rejections) (Henrich et al. 2001). Another interesting aspect is the rejection of hyper-fair offers (greater than 50%) in cultures of gift-giving and obligation like the Au and Gnau from Papua New Guinea (Henrich et al. 2001).

The results from the rural Igbo experiment are similar to results in Tucson (US), Ormai (Kenya), and Achuar (Ecuador) experiments with respect to mean offers and low rejection rates.

Detailed Analysis of Responses

Over the course of 10 days socio-economic data was collected from a survey of about 300 villagers. From this survey we were able to match a smaller sample

from Ultimatum and Dictator Game participants with information about age, income, gender, and education. Information about the socio-economic characteristics for Umuluwe was obtained from a questionnaire completed by 81 villagers who participated in the Ultimatum and Dictator Games.

Most of the participants (about 74%) in the games are subsistence farmers, and the rest have the following occupations: Trading (6.2%), Tailoring (4.9%), Mechanical/Welding/Bricklaying (4.9%), Teaching (2.5%), Palm-wine Tapping (2.5%), and Others (4.9%) (see Table 3.4).

Table 3.4: Socio-Economic Characteristics of the Game Participants: Occupation

Occupation	Frequency
Farming	60
Mechanical/Welding/Bricklaying	4
Trading	5
Tailoring	4
Teaching	2
Palm-wine Tapping	2
Other	4

Only a little more than one-half of the sample population has an average annual income of more than N4000 (about $40); slightly over one-fifth of the participants has average incomes of between N5000 and N9000 ($50 and $90); about 14% have incomes of between N10,000 and N19,000 ($100 and $190); only 11% have an average income of N20,000 ($200) and above (see Table 3.5).

Table 3.5: Socio-Economic Characteristics of the Game Participants: Income

Annual Income (in Naira)	Frequency
N20,000 & Above	9
N10,000 – N19,000	11
N5,000 – N9,000	18
N1,000 – N4,000	24
N0 – N9,000	19

Table 3.6: Socio-Economic Characteristics of the Game Participants: Age

Age (Years)	Frequency
20 – 30	9
31 – 39	6
40 – 49	19
50 – 59	20
60 and above	27

One-third of the participants are aged 60 and above; about a quarter are between 50 –59 years of age; about 23% are in their forties, and 19% are aged 39 years or below (see Table 3.6).

Table 3.7: Socio-Economic Characteristics of the Game Participants: Education

Education Levels	Frequency
Tertiary	3
Secondary	8
Primary	32
No Education	38

Another interesting piece of information is that 47% of the participants have no formal education; 40% have a primary education, 10% have a secondary education, and only 4% have a post-secondary education (see Table 3.7).

These characteristics were regressed against Ultimatum and Dictator Game bids; the results are reported in tables 3.8 and 3.9 below. The only remotely significant explanatory variable was age. The t value for age was significant at the 80% confidence interval for a two-tailed test giving weak evidence that older villagers tended to offer less in the game. Gender, income, and education were not significantly correlated with the Ultimatum Game offer.

Table 3.8: Linear Regression of Ultimatum Game Offers

Variable	Coefficient	Standard Error	P–value
Gender Dummy	1.920	3.846	.622
Income	7.0E-05	7.1E-05	.329
Age	-.192	.146	.194
Education	-.101	.394	.799
Intercept	51.841	8.282	1.2E-07

Table 3.9 shows the regression results for the Dictator Game. Gender, income, age, and education are not statistically significant. It appears that the ethic of sharing in Igbo society cuts across income, gender, and educational levels.

Table 3.9: Linear Regression of Dictator Game Offers

Variables	Coefficient	Standard Error	P–value
Gender Dummy	2.909	4.129	.483
Income	-2.5E-05	8.7E-05	.777
Age	.078	.139	.577
Education	-.263	.455	.565
Intercept	38.406	7.941	6.0E-06

Gender differences have been reported in Ultimatum Game and Dictator Game experiments in western cultures (Eckel and Grossman, 1998); we calculated the mean offers for both genders in this sample. From their socio-economic characteristics one would expect women to be less altruistic than men for the following reasons: many are widows with no government support, women in Umuluwe have no land ownership rights (an important asset in the village), and women often have the responsibility for providing food for their children and husband. In western cultures, evidence exists that women are more generous than men in charitable giving, intergenerational transfers, and income sharing within households (Andreoni and Vesterlund, 2001; Eckel and Grossman 1998).

Table 3.10: Offers by Gender in the Ultimatum and Dictator Games

	Mean		Median		Mode	
	Female	Male	Female	Male	Female	Male
Ultimatum Game	42	47	40	50	40	50
Dictator Game	41	45	50	50	50	50

Since several studies have shown significant differences between men and women in Ultimatum and Dictator Game offers (Andreoni and Vesterlund, 2001; Eckel and Grossman, 1998) we examined this issue more thoroughly. Using the names in the larger samples for the Dictator (N=143) and Ultimatum (N=73) games, respondents were grouped according to gender (Table 3.10). In the Ultimatum Game the mean, median, and modal offers were all higher for males.

In the Dictator Game the mean offer for men was 45% and for women 41% of the total amount but the median and modes were the same.

Using the larger sample for the Dictator and Ultimatum Games we tested the null hypothesis of no significant difference in mean donations by gender (Table 3.11).

Table 3.11: Statistical Test Results

Test Description	Game	Statistic	P–value
F test of equal variances*	Dictator Game	1.605	< .026
Z test of equal means**	Dictator Game	1.570	< .058
F test of equal variances+	Ultimatum Game	2.708	< .002
Z test of equal means++	Ultimatum Game	1.123	<.131

* Critical value for significance of .95 = 1.365 for one-tailed test
** Critical value for significance of .95 = 1.645 for one-tailed test
+ Critical value for significance of .95 = 1.743 for one-tailed test
++ Critical value for significance of .95 = 1.645 for one-tailed test

The Z-test of equal means could not be rejected for either game so we conclude that the differences in mean donations are not significant. Differences in variances of donations were also examined. The F-test of equal variances was significant at the 95% level for both games. Thus the hypothesis of no difference in variances of donations by males and females was rejected. One male who played both games was a very wealthy individual who gave 100% of his Naira in both games. When we removed this player from the sample the F test of equal variances was rejected for the Ultimatum Game but not for the Dictator Game.

Forsythe et al. (1994) construct a "fairness hypothesis" using an F-test of the hypothesis that the distributions of offers are the same in the Ultimatum and

Dictator Games. They reason that the Ultimatum Game shows both fairness and retaliation while the Dictator Game shows only fairness. If there is no significant difference in offers in the two games, retaliation is not important. Forsythe et al. reject the fairness hypothesis for their sample of U.S. college students. Regression results comparing the Umuluwe Dictator and Ultimatum offers indicate no statistical difference between the mean offers. Thus we fail to reject the fairness hypothesis for the Umuluwe sample. Higher Dictator Game offers have been reported in other cultures; for example, when the games were played with Chaldean emigrants in Detroit there were also higher offers in the Dictator than in the Ultimatum Game. Henrich (2001) attributes this to cultural specific rules of behavior cued by each of these games.

3.5 Discussion

Nigeria, like many other African countries, has experienced economic crises during the past twenty years. The dire situation of Nigerians, particularly those living in isolated rural communities, raises the question of why Umuluwe residents have retained their sense of fairness. One would expect people in very desperate situations to behave more selfishly. The persistence of the spirit of fairness and cooperation in Umuluwe may be explained by a number of factors, including (1) weak market institutions, (2) local institutions promoting fairness and cooperation, (3) a high level of illiteracy which necessitates reliance on oral communication and a great deal of face-to-face social interaction, and (4) the

strong religious philosophy of the community based on Roman Catholicism, reinforcing traditional beliefs of rewards and punishment after death.

Several significant findings came out of the Ultimatum and Dictator Game study in Umuluwe. First, the results conform to those from other cultures showing that the "canonical model" (Henrich et al., 2001) of standard economic theory (individuals are primarily wealth-seeking) is not a good predictor of economic behavior. Secondly, the above results confirm other findings from Ultimatum and Dictator Games played across cultures showing that retaliation is much less common in traditional cultures than in Western societies. Third, offers in both games were uncorrelated with income or educational level. Ultimatum Game offers were negatively correlated with age. Differences in mean offers by males and females are not statistically significant but the variance of offers in both the Ultimatum and Dictator Games of males and females is significantly different. These results confirm other studies finding that individual level economic and demographic variables are not good predictors of behavior either within or across cultures. Fourth, behavior in the Ultimatum and Dictator Games is consistent with Igbo social values. Finally, responses of the villagers to the games seem to indicate that people care about where the money comes from (that are not tainted money through 'juju'). This shows that process counts, as well as end results. The results of this study show patterns of behavior that are not restricted to Igboland. An ethic of fairness and social solidarity prevails in Igbo culture that cuts across individual attributes. This confirms work done to

date showing that differences in economic behavior among cultures are large and are correlated with group norms and values, not individual attributes. Game theoretical results in a variety of societies show that cultural context is a better predictor of human behavior than is the abstract model of rational economic man.

Annex to Chapter 3

Figure 3.1 Map of Nigeria

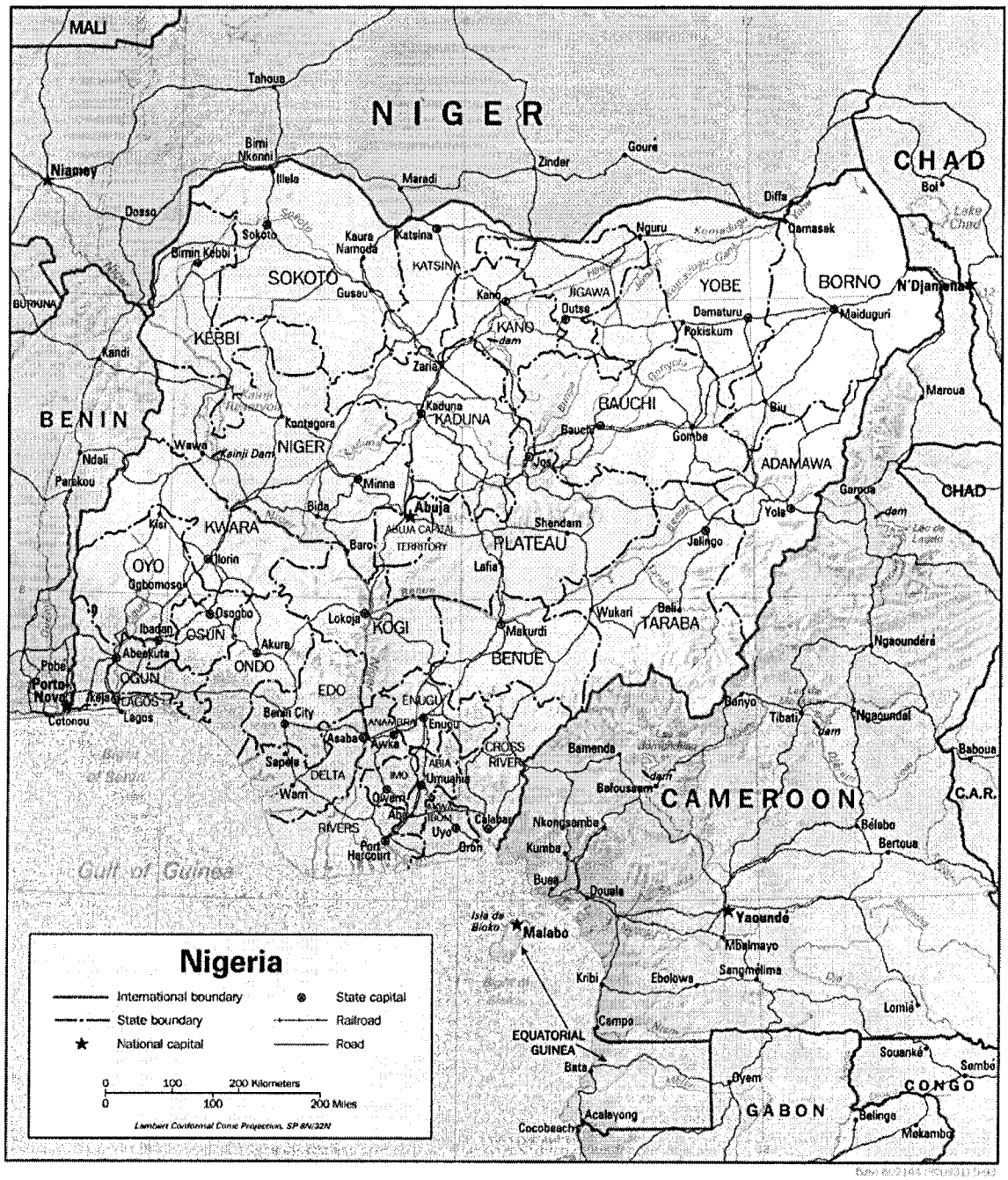
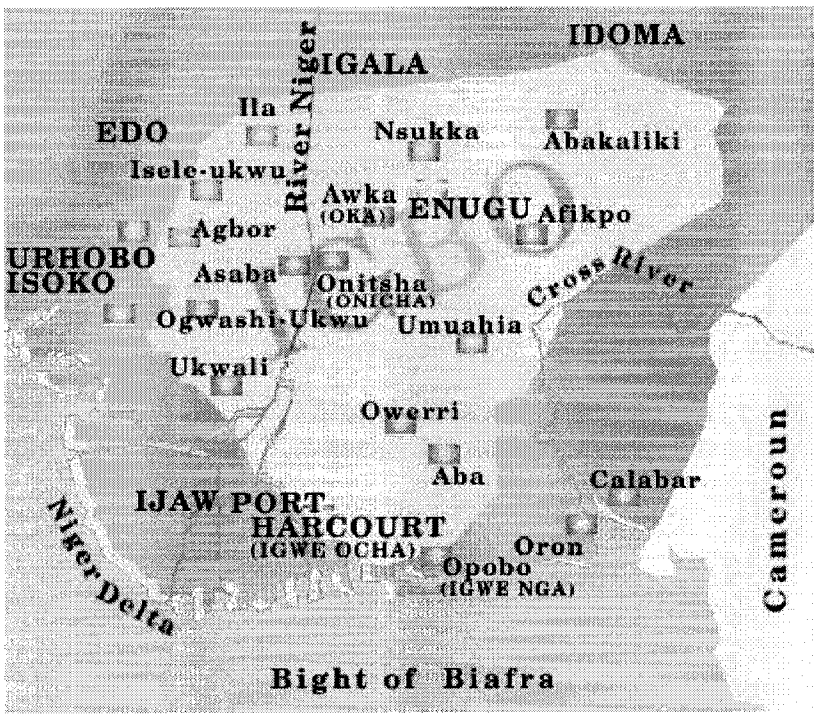


Figure 3.2 Map of Igboland

The following map shows Igboland (igbo.com); Umuluwe village is positioned 20 miles west from Owerri, the capital of Imo State.



CHAPTER 4

INSTITUTIONS, PEASANT ECONOMIES AND ECONOMIC MODERNIZATION

The belief systems of the players and the nature of human learning shape the evolving institutional policies that will be pursued. The rationality assumption of neoclassical economics assumes that the players know what is in their self-interest and act accordingly. Ten millennia of human economic history says that is a wildly erroneous assumption.

Douglass C. North (1997, 236)

4.1 Introduction: The Cultural Context of Economic Behavior

In the previous chapter the importance of cultural beliefs on individual behavior was discussed in the context of the Ultimatum and Dictator games played in Umuluwe, Nigeria. The next chapters will use results from a survey administered in Umuluwe and the satellite village of Obigbo to look at the importance of institutions on the modernization of an African peasant economy. The two villages, one rural and one urban, are closely linked together through family ties, village institutions, and what might be called economic symbiosis. Both the results of the game experiments presented in the previous chapter and

the findings from the survey presented in chapters five and six confirm that preferences are shaped by social customs and the experiences of everyday living. This chapter briefly discusses, as background information, the treatment of institutions in contemporary economic theory.

Once we move beyond the rational actor approach to explaining economic behavior, the role of institutions becomes central. This greatly complicates economic analysis and this is perhaps the main reason why *Homo economicus* has had such a long and prosperous life. Without rational, independent agents economic theory loses the mathematical certainty of general equilibrium welfare economics. With interdependent preferences, Pareto optimality cannot be uniquely defined even if the initial distribution of economic goods and the utility functions of all participants are known (Henderson and Quandt 1980, 297). Institutions can no longer be analyzed solely in terms of their contributions to the efficiency of competitive markets. Not only can inefficient institutions persist, it is not even clear what the terms "efficient" and "inefficient" mean. If choices are not narrowly rational, independent, and consistent, then the outcomes of these decisions may not indicate an economic optimum.

Recent work has examined the role of institutions in shaping economic behavior. As discussed in Chapter Two, work from game theory and behavioral economics has gone beyond the traditional economic conception of human behavior and revealed the importance of cultural differences in determining economic behavior. According to Henrich et al. (2001a, 73) these studies "have

uncovered large, consistent deviations from the predictions of the textbook representation of *Homo economicus*." People care about fairness and reciprocity and they are willing to punish, at substantial costs to themselves, those who deviate from acceptable social norms (Fehr and Gächter 2002, Henrich 2000). Henrich et al. (2001a, 73-74) summarize the results of cross-culture game theory experiments:

> We can summarize our results as follows. First, the canonical model is not supported in any society studied. Second there is considerably more behavioral variability across groups than had been found in previous cross-cultural research, and the canonical model fails in a wider variety of ways than in previous experiments. Third, group-level differences in economic organization and the degree of market integration explain a substantial portion of the behavioral variation across societies: the higher the degree of market organization and the higher the payoffs to cooperation, the greater the level of cooperation in experimental games. Fourth, individual-level economic and demographic variables do not explain behavior either within or across groups. Fifth, behavior in the experiments is generally consistent with economic patterns of everyday life in these societies.

Just as endogenous models of technological change (Arthur 1990) are transforming the way we look at firm behavior, so too are endogenous models of

human behavior beginning to change the way we look at individual decision-making. A number of approaches to explaining the institutional context of economic behavior are being developed. Nelson and Winter (1982) stress the importance of "routines" in shaping economic behavior. Following Veblen, they argue that habits and routines are quite stable over time and are frequently more important in explaining economic behavior than is rational choice. People often decide how to act by merely copying established patterns of action. Henrich (2001b) argues that "biased cultural transmission" is the dominant force in behavioral change. Human behavioral change cannot be explained by the accumulated actions of rational individuals choosing the most efficient solution to an economic problem. Henrich shows that, even after allowing for incomplete information and trial and error processes, individual-level models cannot explain the "S-shaped" pattern of innovation diffusion widely seen in the innovation literature. He argues that this pattern *can* be explained by biased cultural transmission. These new insights into the institutional context of economic behavior have important consequences for economic theory and policy.

Interestingly, most contemporary theories of the role institutions play in economic behavior originate within mainstream economics, not within the school of thought known as institutional economics (i.e. new institutional economics). That school of thought, however, has a long and venerable history and at this point it is worth reviewing the contributions made by its adherents.

4.2 Institutional Economics

Institutional economics has been one of the principal schools of economics for the past 100 years. The first use of the term "institutional economics" is by Walton Hamilton in his manifesto "The Institutional Approach to Economic Theory" (1919). Institutionalism originated and is still largely concentrated in the United States but it can claim roots in the German Historical School and in the British political economy tradition of John Hobson and others. According to Warren Samuels (1987, 864) two paths are distinct in institutional thought, one emerging from Thorstein Veblen and continuing with Clarence Ayres, and the other emerging from John R. Commons. Institutionalists in the Veblen-Ayres tradition tend to be technological optimists and they focus on the progressive role of technology and the constraining role of institutions. Institutionalists in the tradition of Commons see institutions as modes of collective action that may be either positive or negative. The basic institutionalist position is that it is not the market but rather the organizational structure of the larger economy that allocates resources in a capitalist system (Samuels 1987). Institutionalists are concerned with the nature of organization and control in an economy as well as the role of prices in resource allocation; they are skeptical of equilibrium models of a competitive economy, particularly models of constrained maximization.

In Samuels' (1987) opinion the main features of institutional thought are its holism and evolutionism. And the main themes of institutional economics are these:

1. A theory of social change focusing on the influence of social institutions on economic performance and institutional change.
2. A theory of social control and collective choice focusing on the emergence and functioning of institutions as "both cause and consequence of the power structure and societized behavior of individuals and subgroups, and as the mode through which economies are organized and controlled."
3. A theory of the economic role of government.
4. A theory of technology as defining and determining the relative scarcity of all resources, and as a principal force in the evolution of economic structure.
5. The fundamental idea that the real determinant of resource allocation is not the market but the institutional-based power structure of society.
6. An emphasis on the characteristics of "value" that cannot be captured by price. Institutionalists strive to understand the process by which values are changed. This is in contrast to the neoclassical assumption of given values (which are equated with preferences) as outlined by Stigler and Becker (1977) who proposed that "widespread and/or persistent human behavior can be explained by a generalized calculus of utility-maximizing behavior."

A contribution of the early institutionalists relevant to the themes of this dissertation was the search for the psychological basis for economic behavior (Rutherford 2001). Interestingly, early institutionalists such as Thorstein Veblen,

Wesley Mitchell, J.M. Clark and others considered their approach to be more "scientific" than the neoclassical one. Instiutionalism was considered superior because it was more empirical and more in line with the latest findings of other disciplines (Rutherford 1999). As Rutherford (2001, 178) points out, in the years just after World War I institutionalism seemed full of promise. It was more "modern" and "scientific" than neoclassical orthodoxy, which even then was being attacked for its outmoded and unrealistic view of human rationality. J.M. Clark in particular stands out for his insistence that economic behavior should be analyzed as the result of complex interactions between social mores and heterogeneous economic actors (Clark 1918). During the interwar period institutionalism, it could be argued, was posed to become the dominant school of economics in the United States. Institutionalists dominated the National Bűreau of Economic Research and made major contributions to business cycle theory, national income accounting, and in the theory of the firm.

Why did institutionalism decline so rapidly in the US after World War Two? According to Rutherford (2001), a number of overlapping reasons accounted for the decline in the influence of institutional economics. One factor was the increasingly narrow focus of both psychology and evolutionary biology after WWI. And although both disciplines held out great promise for interdisciplinary work including work with economists, psychology came to be dominated by a rather narrow kind of behaviorism (Rutherford 2001) and evolutionary biology became similarly reductionist by focusing on gene-based

theories of behavior. Another factor was the "New Deal" of Franklin Roosevelt, which had the effect of replacing institutional economics with Keynesian economics as the major force for social change and social justice. Finally, neoclassical economics surpassed institutional economics in its empirical focus and statistical rigor. By the 1960s the major figures of the old institutional school – J.M. Clark, Arthur Burns, Joseph Dorfman, Clarence Ayres, Wesley Mitchell – had retired.

In the decades following WWII institutional economics became "almost a prohibited subject within the mainstream of economics" (Rutherford 2001, 186). In the neoclassical heyday of the 1960s and 1970s institutional economics was relegated to the realm of sociology, a field held in particular disdain by most economists. David Colander (1996, 435) gives an "institutional" reason for the decline of institutional economics:

> In the eyes of institutionalists, the neoclassical simple models did not even closely correspond to reality. Institutionalists recoiled at the disparity between the simple model and the observed reality. But most students who shared an institutionalist sensibility either dropped the study of economics or they were weeded out since they were unable to bring themselves to provide the simplistic answers to the complex questions the educational system required of them. Those who were satisfied with simplicity did well on exams and went on to do more complicated

versions of those simplistic models; they became modern neoclassical economists.

In the 1980s and 1990s institutional economics saw a resurgence of interest. Part of this resurgence was due to an increasing appreciation of the insights of Veblen, Commons and others that institutions may generate social benefits and that "inefficient" institutions may survive. Another contributing factor to the recent growth of institutional economics has been the empirical work by neoclassical economists, mentioned earlier, in game theory, behavioral economics and the theory of the firm, showing that cultural institutions matter in economic behavior.

In the past decade "institutionalism" has been most closely associated with "The New Institutional Economics." The most well-known new institutional economist and Nobel Prize winner Douglass North (1990, 5) refers to institutions as the "constraints that human beings impose on themselves." For new institutional economists, given their acceptance of the framework and assumptions of Pareto efficiency, institutions can act only as constraints on human behavior. This new school of economics has been greeted with skepticism by some institutional economists such as Daniel Bromley and Geoffrey Hodgson, who see it as an attempt to give an institutional façade to neoclassical welfare economics.

The common feature of the old institutionalists was the view that human nature is not universal but rather shaped by institutions and culture. Individual preferences are molded by socio-economic conditions (Hodgson, 177). Joseph Stiglitz (1994, 272-273) writes: "...certain aspects of human nature are endogenous to the system...traditional economic theory was clearly wrong in treating individuals as immutable." Stiglitz argues that the abandonment of rational economic man has profound implications for economic policy, especially development policy. Institutions may expand as well as restrict the scope of human opportunities. In characterizing institutions Richard Nelson uses the metaphor of a bridge over a swamp. The bridge may constrain the path we take but it also lets us get over the swamp to a new area. Like a bridge over a swamp, the necessary institutions must be in place before a successful transition to a market economy can occur. Understanding institutions is critical to developing successful environmental policies and for designing policies that will help the world's poorest. Institutions exist which keep the rich wealthy, and others function to keep the poor impoverished. Institutions may restrain one group and liberate another. Understanding the reciprocal nature of institutions leads to an appreciation that economic policy is a matter of balancing competing interests (Bromley 2001).

As mentioned in the preface, the inspiration for this dissertation was the work of Georgescu-Roegen. Although he was somewhat disdainful of contemporary institutional economics he can be considered as an institutional

economist. Georgescu-Roegen used the term "bioeconomics" to describe his view of institutional change and biophysical constraints on economic behavior. In his view (Georgescu-Roegen, 1976, 4), standard economic thinking describes "the economic process as a mechanical analogue consisting of a principle of conservation (transformation) and a maximization rule... a timeless kinematics." Georgescu-Roegen argued further that in the standard model "*Everything is reversible exactly as in mechanics*, where locomotion consists only of a change of place, not of quality. The obvious truth, however, is that the economic system continuously changes *qualitatively*" (Georgescu-Roegen 1979, 321). The bioeconomic approach considers the real, irreversible economic process as governed by the Second Law of thermodynamics (the Entropy Law), "the only natural law which recognizes that even the material universe is subject to an irreversible, qualitative change, to an evolutionary process" (Georgescu-Roegen 1976, 8). And so, with the remark that "what characterizes an economic system is its institutions, not the technology it uses" (Georgescu-Roegen 1976, 105), we find another argument that institutions are subject to an irreversible evolutionary process. The bioeconomic paradigm borrows from physics the concept of *hysteresis* in order to describe the dependence upon past history, meaning that reversing a process we do not end in the situation of origin but in a different one. This is the essence of irreversibility, when reversing a process it does not follow the initial path and it does not return to the initial conditions.

Applying the bioeconomic approach to institutional change, we can think about sequences of revolutions and counter-revolutions that never return to what was previously. According to the type of physical paradigm that is the foundation of the economic approach, the policy mix and recommendations for development strategies will vary. Georgescu-Roegen (1966, 129) is more specific: "we must come to recognize that the game is not the same in physical sciences as in sciences of men; that, contrary to what Pareto and numberless others preached, there is not only one method by which to know the truth." Using the concept of hysteresis and insights from evolutionary biology together with information regarding the local cultural matrix, the complex institutional web can be analyzed and more flexible—adapted to every situation—policy recommendations can be formulated.

Today, the importance of local institutions in economic development is widely recognized by mainstream economists. Stiglitz, Krugman, Soros and many others emphasize the importance of understanding the institutional framework of economic modernization. To appreciate how individuals, communities, and even entire countries respond to economic changes it is necessary to know something about their history, social mores, and institutional context.

4.3 What is an Institution?

The economic concept of *institution* is a very broad one. It can be defined as "collective action in control, liberation and expansion of individual action" (Commons, 1931) or in Veblen's view as habits of thought that are accepted at any particular time (Landreth and Colander, 2002). Kapp (1968) makes a distinction between the "legal forms of organization" called in usual speech "institutions" and the economic concept which is seen as "stabilized forms of behavior, habits of thought and conduct including group habits and behavior patterns which have been developed in, and are taken over from the past and are enduring in the present."

Hamilton (1932) provides a detailed discussion of what institutions encompass in economic thinking. He describes institutions as "a way of thought or action of some prevalence or permanence, which is embedded in the habits of a group or the customs of a people." The conceptual area covered is very wide. According to Hamilton an institution may be "any informal body of usage" (e.g. "the common law, athletics, the higher learning, literary criticism, the moral code") which "lends sanctions, imposes taboos and lords it over some human concern" through "any formal organization" (e.g. "the government, the church, the university, the corporation, the trade union") which "imposes commands, assesses penalties and exercises authority over its members." His definition of institution includes arrangements as diverse as the money economy, education, the chain store, fundamentalism and democracy. An institution is anything that

constitutes standards of conformity "from which an individual may depart only at his peril."

Culture is a mixture of institutions, each of them covering a well-determined area and having a precise function. Social norms coordinate human interaction, education molds such individual potentialities as personality, and marriage is the foundation for family and the associated property rights. Different institutions may combine and interfere giving a particular flavor to human behavior. The state (or other types of social guidance) claims submission and imposes through laws a basic order upon the actions of individuals. Morality adds more distinctions between what is acceptable and what is not.

The origin of institutions can be found in human nature and in human social achievements as defined by Kapp (1968), or in "an accidental, an arbitrary or a conscious action" and "run far back into the unknown past and embody the knowledge and ignorance, the hopes and fears, of a people" as defined by Hamilton (1932).

The change of institutions with passing time is an evolutionary process. When a social system develops into another one based on different values and life styles, "one institution gives way to another better adapted to the times" and as a result "in the social process the life of an institution depends upon its capacity for adaptation" (Hamilton, 1932). Increasingly, economists are looking to evolutionary theories in biology for insights into the economic process (van den Bergh and Gowdy 2003, Henrich 2003). Evolution has always been a theme

in institutional economics, dating back to Veblen's 1898 essay "Why is Economics not an Evolutionary Science?" and this is another reason why the analysis of institutions is of increasing importance. An interesting similarity between institutional evolution and biological evolution is the presence of *exaptation* by "the conversion of an institution to a service for which it was never intended" (Hamilton 1932, 86). Veblen (1899) suggested that the evolutionary approach brings together continuity and change while Hodgson (1998) emphasizes the connection between habit, routine and the evolutionary models developed by Nelson and Winter (1982). In Hodgson's view habits and routine are adapting "as agents attempt purposeful improvements" and also can be retained and imitated or fall out of use.

Evolutionary, qualitative change is critically important in the field of development economics. Development economists increasingly recognize that understanding the role of institutions is critical to understanding economic change given the fact that "what characterizes an economic system is its institutions and not the technology it uses" (Georgescu-Roegen 1976, 105).

4.4 Peasant Institutions and Economic Development

Central to this dissertation are the two empirical studies conducted in the villages of Umuluwe and Obigbo, Nigeria. Igboland, Nigeria is essentially a peasant economy currently being absorbed into the modern global market economy. To help understand the role of institutions and cultural constraints in

Igboland it is useful at this point to review some of the literature on peasants and peasant economies.

The simple definition of "peasant" is "someone who lives in the country and works on the land" (Stern 1987). The particulars of what defines a peasant economy have been a matter of intense debate among anthropologists, economists, and others. A widely quoted definition of it is that of Raymond Firth (1951, 87):

> By a peasant economy one means a system of small-scale producers, with a simple technology and equipment often relying primarily for their subsistence on what they themselves produce.

The peasant family can be considered as a self-sufficient unit of production for household consumption and hence the necessity for a farm size adequate to feed the whole - nuclear and/or extended - family. Forster's opinion (1987, 826) is that "such a closed economy usually requires some form of village organization to provide specialized craft services, but the nuclear or extended family provides all of the field labor and most of the supplementary farm services". Georgescu-Roegen (1965, 23) characterized the village community as "the analytical atom" for the domain of peasant sociology, because it is "an indivisible social and economic whole." As discussed in the next chapter, the village of Obigbo may be considered a satellite village 'cloned' from Umuluwe. The history of these two Igbo villages substantiates Georgescu-Roegen's

assertion regarding the "multiplication" of the peasant village "organism" through the process of internal growth and schizogenesis which define the multiplication of all biological organisms. This happens when whole clans or parts of them leave the home village and start a new village elsewhere.

One problem with the definition of peasant is whether the term refers to the individual or the community. Explicit in some definitions of peasant villages is the fact that they have a specific relation to the town and consequently peasants do not exist except in the context of a larger economy including cities (Redfield 1956). It can be argued that the subordination of the peasant to urban rulers is a key element of the peasant economy. This argument, which is valid for European peasant economies, is no longer useful when we try to analyze some of the African peasant societies where things are substantially different.

For European agricultural communities, history shows that the peasant families were impacted by outside economic, political and institutional forces (the Church, the feudal lord, or more recently the State) through, among other, taxes, or tithes or land rent. Returning to our African example, in Igbo villages, even today, the only contribution most of the peasants give is for community funds, not for state funds. European villages were generally subordinated to a landlord, while in the Igbo villages the "political, social and religious life was extremely democratic. Community decisions were made in consultation with every member of the village through established institutions, such as the council of elders, age groups, the council of chiefs, women's associations, and secret

societies" (Nnoromele 1998, 17). Even if we can use the same definition of peasant for European and African populations we have to make a clear distinction between the concept of peasant economy in European and African context.

Economists differ greatly in their views of the nature of peasant economies. On one hand, economists such as Theodore Schultz (1964) analyze the peasant economy using the tools of the standard competitive model. Within the constraints of their knowledge peasants make economic decisions according to maximization principles. Individual behavior is assumed to be unaffected by social institutions. Land, labor and capital are allocated to maximize utility and profit. Policy prescriptions within this framework are aimed at improving knowledge and mobility of productive factors. On the other hand, another Nobel laureate in economics, Gunnar Myrdal (1968), takes the opposite view that markets and prices play a minimal role in peasant societies. According to Myrdal, even if people sometimes calculate the consequences of their actions in terms of costs and returns, these considerations are not the primary determinants of their behavior (Stern 1987, 824). Myrdal, like Georgescu-Roegen, argues that peasant economies cannot be understood without understanding the institutional framework within which individual society operates.

Urban life — with high population densities, exchange of commodities and media — generates a quite homogeneous web of institutions all over the world. On the other hand, each traditional peasant village represents an entity by itself

even if is possible that villages in the same geographical area have similar institutions. In Chapters Four and Five, we will examine data collected in two Nigerian villages, Umuluwe — representative of a remote rural Igbo village — and Obigbo — a more modern suburban village.

4.5 Conclusion

The past century brought an unprecedented development of science and technology calling for a new name for our time: the Information Age. Improved communication and transportation united people on opposite sides of the Earth. Now we are experiencing a general clash between what is called modern and what is still traditional and this is shaping – through adaptation or extinction via cultural transmission – old institutions in new, unexpected ways.

The Igbos (or Ibos) in southeastern Nigeria used to be, before contact with Europeans, a sedentary agricultural population living in independent territorial groups, each of them organized as one or more villages on the basis of patrilineal extended families. As Ottenberg (1970) describes them "Though there was some trade and intermarriage, each group had its own government and was relatively independent of the others [...] There were no large political groupings — no states or kingdoms — to unite these groupings." Today, Umuluwe village, even though it is in a very remote area, has access to electricity (intermittently), cell phones (still in very, very small numbers) and television. Some villagers regularly travel between Umuluwe and the major cities of Port Harcourt and

Lagos. Even in remote Africa modernization is rapidly changing traditional institutions and cultural patterns. The nature of these institutional changes is the subject of the next chapter.

CHAPTER 5

MODERNIZATION AND CHANGE:

THE RESPONSE OF AN IGBO SOCIETY

One must go beyond the standard neo-classical model. The interactions at the level of the migrant family, the social factors at the place of origin and destination of the migrant and the continuing links afterwards, need to be focal points of the research effort. The study of social structure is thus essential for analysis. This contrasts with a focus on individual maximization within finite, pecuniary boundaries. Moreover, analyses derived from behavior in developed countries cannot give an adequate picture of determinants and consequences of migration as they do not emphasize important aspects of life in developing nations.

Karin Steffens (1991, 95)

5.1 Introduction

In spite of the rapid urbanization of the world economy, most of the world's population lives in rural areas. And most of these people live as peasants scratching out a living through subsistence agriculture and petty trading. The grim picture of world poverty is now familiar to everyone. As measured by the Human Poverty Index, more than one-fourth of the population of the developing world lives in poverty. Over twenty percent of the world's population—1.3

billion people—lives on incomes of less than $1 per day, while almost 3 billion earn less than $2 per day. It is estimated that of the 220 million people in Sub-Saharan Africa, over half the population are poverty-stricken (Singh 1999). Per capita incomes in many countries in Sub-Saharan Africa have declined significantly in the last thirty years. Rates of infection of HIV/AIDS are still increasing and are having dramatic effects on family structure, incomes, and social services. Advances in key nutrition indicators are slowing in many countries.

Furthermore, the worldwide disparity between the rich and poor is increasing, perhaps dramatically. In terms of income distribution, the richest 1% of the world's people receives as much as the bottom 57%. Put differently, fewer than 50 million high-income people receive as much income as the bottom 2.7 billion poor. A U.S. citizen in the bottom 10% income category has a higher income than 2/3 of the world's population. In 1988 the ratio between the average income of the world's top 5% and bottom 5% was 78 to 1. Just five years later, in 1993, this ratio increased to 114 to 1 (all these figure are from Milanovic 2002).

Since the 1980s, inequality has increased in most countries. Income inequality has increased not only between regions but also between rural and urban sectors, according to the World Income Inequality Database compiled by the United Nations University's World Institute for Development Economics Research (WIDER). Causes of income inequality include grossly uneven land ownership, different levels of education, and urban bias in economic policies. In

spite of rapid urbanization, most poor people in developing countries still live in the countryside. According to Thakur (2001): "Skewed land ownership perpetuates rural inequality across generations. Furthermore, landlessness encourages ecological vandalism and soil erosion, thereby diminishing agricultural efficiency through lower yields per acre of farmland."

Nigeria has been hit especially hard by these negative trends. The country ranks 136 out of 162 in the Human Development Index (HDI) of the United Nations Development Program. Nigeria, like many other African countries, has experienced recurring economic crises during the past twenty years. The negative effects of national economic downturns have been pronounced in the rural areas. The daily wage of an unskilled worker is now equivalent to the price of a loaf of bread. The average monthly wage is equivalent to what an American can earn in four hours. According to a study undertaken by the Union Bank of Switzerland, the average Nigerian worker must work at least six times longer than an American in order to afford a simple meal. Rising prices have decreased consumption at an annual rate of 7 percent during the past decade and material standards of living are now lower than they were in the 1950s. Private consumption as a percentage of Gross Domestic Product (GDP) fell from 83 percent in 1965 to 70 percent in 1989 (ILO International Labor Organization, Yearbook of Labor Statistics). Seventy percent of Nigeria's population lives below the poverty line. In 1999 the country ranked 187 in terms of Gross National Income per capita. Between 1998-1999 Gross Domestic Product per

capita fell by 1.5% (Figures from World Bank, World Development Report 2000/2001).

Globalization offers great opportunities for developing countries, and Nigeria in particular would seem to have a large role to play in the growth of the global economy. The country is blessed with large reserves of petroleum, respect for education (especially in Igboland), and a world-renowned literary tradition. But Nigeria has been hard-hit by fluctuating primary resource prices. In 1965, GDP per capita was higher in Nigeria (an oil exporter) than in Indonesia (another oil exporter); twenty-five years later, Indonesia had a per capita income three times the Nigerian level (World Bank, 1994). Real commodity prices in the 1990s were 45% lower than those in the 1980s. And it is estimated that developing countries lose about $60 billion annually because of trade barriers set by the world's developed economies (Singh 1999, 7). Nigeria also suffers from a lack of institutions and infrastructure that would enable the country to take advantage of its bountiful natural resources and human capital. As discussed below, Nigeria can be characterized as a *dual economy*, a mixed society where 'traditional-peasant' and 'modern-urban' coexist (Ray 1998).

5.2 Umuluwe and Obigbo, Old and New

The village of Umuluwe is in many ways typical of poor rural communities in Sub-Saharan Africa. Over-population, years of neglect by the central government, the lingering effects of the Biafra war in the late 1960s, and

declining soil fertility have all taken their toll on the ability of the community to be self-sufficient. A few decades ago, as a result of population pressure and the need to seek cash income opportunities, the people of Umuluwe founded, together with other Igbo people, a satellite village named Obigbo, about 100 kilometers (60 miles) away, near the city of Port Harcourt.

The name 'Obigbo' means "the heart of the Igbos." After the discovery of oil in Nigeria in 1958, the migrant Igbos who came to the area founded the Obigbo village (Oneiwyu, personal communication). The area that is now Obigbo was four decades ago a large zone of farmland, cultivated by farmers from distant villages. Following the discovery of several oil wells in the 1960s, the Shell Petroleum Development Company moved into the area and began drilling for oil.

The end of the Nigerian civil war in 1970 brought massive unemployment to the Igbos, which were defeated in the war. This encouraged another wave of immigration to Obigbo. After the war rural Igbos migrated to Obigbo in search of employment opportunities in the newly developing oil industry. Many of them worked as guards, drivers, gardeners, and housekeepers. In addition to the Shell employment, the migrants, most of whom were previously farmers in their old villages, took to farming and petty trading. These migrants did very well economically and word soon spread in the Igbo community that Obigbo was a "gold mine," compared to the poverty that rural villagers had to fight at home. Igbo farmers were attracted to the village by the high fertility of Obigbo

agricultural land, as compared to the less fertile land in much of Igboland.

Obigbo is about 20 miles from Port Harcourt, and it increasingly serves as a residential area for workers in Port Harcourt. Because of the presence of Shell in the area, and the proximity of the village to the city, Obigbo has infrastructural facilities such as pipe borne water, electricity, telephone-lines, and tarred roads, even though these facilities may not function all the time.

The name 'Obigbo' was unwittingly foisted on the village, mainly because of the predominance of the Igbos in the village. Over 90 percent of the residents of Obigbo are from different parts of Igboland, but the village of Umuluwe is most strongly represented. About 30 percent of the residents of Obigbo are from Umuluwe. The population of Obigbo is about 10,000 people. To emphasize the strong presence of Umuluwe natives in Obigbo, it has been estimated that nearly half of the residents of Umuluwe have migrated to Obigbo.

5.3 General Socioeconomic Survey Results for Umuluwe and Obigbo

In May 2001, a team of researchers from the Rensselaer Polytechnic Institute conducted research in both Umuluwe and Obigbo to evaluate the socioeconomic characteristics at the village level and to determine the nature of the relationship between these two villages. Little primary research has been conducted in rural Igboland and these survey results provide a great deal of new information relating to the modernization of traditional Igbo society. The differences in socioeconomic characteristics between Obigbo and Umuluwe may result from

the remoteness of Umuluwe and the proximity of Obigbo to the urban area of Port Harcourt.

Villagers from Umuluwe provided information about the village unit they are part of, their extended family, their age, number of children and their occupation, income, savings, debts, assets, education, taxes, local associations and groups, sources of energy used, expenditures, items purchased and self-provided, their aspirations, and environmental changes in the area. The Obigbo villagers, in addition to this information, answered questions regarding the year and the reason they moved from Umuluwe to Obigbo, if they own a house in Obigbo and if they live there with their family, how often they visit Umuluwe and how much money they send back to Umuluwe, and when they plan to return to Umuluwe.

With the collaboration of local assistants 236 questionnaires were filled in Umuluwe and 84 questionnaires in Obigbo. In order to ensure the consistency of the sample, due to incomplete information, 4 questionnaires were eliminated for Umuluwe and 9 questionnaires for Obigbo. The final sample size was 232 for Umuluwe and 75 for Obigbo and we will call those "total samples" (for details see Annex to Chapter 5). A difference has to be mentioned about the atmosphere in which the information gathering took place in Umuluwe compared to Obigbo. Our research group lived in the Umuluwe village for one week, interacting closely with the people while we had only limited interaction with the villagers in Obigbo.

Age and Gender Survey Results for Umuluwe and Obigbo

An important question in our study was whether there is any evidence of the influence of urban proximity on gender and age structure of the two villages. More specifically, we wanted to see if the opportunity of more and different jobs in the city attracts young people and whether the proportion of males and females differs between the two villages.

Tables 5.1 and 5.2 compare gender structure and age structure between the two villages. Males are the large majority in Obigbo—80% men and 20% women—while in Umuluwe females predominate and the gender ratio is more balanced—41% men and 59% women. Only villagers older than 18 years were interviewed but no upper limit on age was imposed.

Table 5.1: Comparison of Gender Structure for Umuluwe and Obigbo

GENDER STRUCTURE	UMULUWE % of total sample	OBIGBO % of total sample
Males	41%	80%
Females	59%	20%
TOTAL	100%	100%

Analyzing the age and gender structure for the two villages (Table 5.2) we see that for Umuluwe, men age 18 to 49 account for 19% of the sample, while for Obigbo the same age group accounts for 64%. For women the situation is

reversed, a higher percentage of the Umuluwe sample are women age 20 to 70 than for the Obigbo sample, for every age decade considered.

Table 5.2: Comparison of Age Structure for Umuluwe and Obigbo

AGE GROUP (Years)	UMULUWE			OBIGBO		
	% of total sample	% males of total sample	% females of total sample	% of total sample	% males of total sample	% females of total sample
18-29	9%	3%	7%	19%	16%	3%
30-39	15%	7%	8%	28%	27%	1%
40-49	24%	9%	16%	27%	21%	5%
50-59	21%	7%	13%	15%	9%	5%
60-69	19%	9%	11%	5%	1%	4%
70-79	6%	4%	3%	5%	4%	1%
Over 80	5%	3%	1%	1%	1%	0%
TOTAL	100%	41%	59%	100%	80%	20%

Education Survey Results for Umuluwe and Obigbo

The Igbo people are known for their high esteem for education. The survey results for the two villages substantiate this assertion. We discuss the educational process undergone by villagers distinguishing between:

- 'Education' when referring to western type school levels (primary—grade 1 to 6, junior secondary—grade 7 to 9, senior secondary—grade 10 to 11/12, and tertiary—undergraduate level);
- 'Apprenticeship training' when referring to any additional training.

For Umuluwe, the following types of apprenticeship training were reported: trading, tailoring, construction, plumbing, painting, welding,

mechanic, shoe repairing, electrician, driving, nursing, bike repair, teaching, timber, sewing, hairdressing, fashion design, bricks, baking, DJ, business. For the Obigbo village, the fields of apprenticeship training are a bit different due to the closeness to the city (Port Harcourt): trading, welding, tailoring, farming, computer operator, technician, bike repair, technician, refrigeration, furniture, auto mechanic, driving, and carpentry.

Interesting insights regarding educational aspects of education in the two villages are offered by comparing the percentages of total population with different levels of education (Table 5.3). Educational opportunities for both men and women appear to be significantly higher in Obigbo.

Table 5.3: Comparison of the Percentages of Total Population with Different Levels of Education for Umuluwe and Obigbo

EDUCATION GROUP (highest educational level)	UMULUWE			OBIGBO		
	% of males	% of females	% of total sample	% of males	% of females	% of total sample
Tertiary	4%	3%	3%	10%	13%	11%
Senior Secondary	19%	10%	14%	43%	7%	36%
Junior Secondary	6%	4%	5%	0%	0%	0%
Primary	42%	30%	35%	37%	40%	37%
No education	29%	52%	43%	10%	40%	16%
TOTAL	100%	100%	100%	100%	100%	100%

In Umuluwe, for males, 29% have no education, 42% have only primary education, 6% have only junior secondary education, 19% have only senior

secondary education, and only 4% have tertiary education. For women, 52% have no education, 30% have only primary education, 4% have only junior secondary education, 10% have only senior secondary education, and only 3% have tertiary education.

The educational opportunities offered by the proximity to a city can be seen in the absence (0%), in the Obigbo sample, of individuals who declare only a junior secondary level attended while 36% of the sample received a senior secondary education (completed or not) compared to 14% for the Umuluwe sample. In Obigbo, for males, 10% have no education, 37% have only primary education, 43% have only senior secondary education, and only 10% have tertiary education. For women, 40% have no education, 40% have only primary education, 7% have only senior secondary education, and only 13% have tertiary education.

Some changes in the gender education should be noticed between Umuluwe and Obigbo. First, in Obigbo the percentage of males with secondary and tertiary education is larger (53% compared to 23% in Umuluwe) while the percentage of males with no education is much smaller (10% compared to 29% in Umuluwe). Second, in Obigbo, the percentage of females with tertiary or primary education is with 10% larger for each while the percentage of females with no education is with 12% smaller compared to Umuluwe. One explanation for these differences could be that females that in Umuluwe would get no education at all in Obigbo may receive at least a primary one. And women who

in Umuluwe could afford only a secondary education could get a tertiary one in Obigbo. For males the situation is more favorable—this being an example of gender inequality of opportunities—in Obigbo most men receive a higher-level education than they would get in Umuluwe. Many people in Obigbo declared that their parents brought them there in order to get a better education.

Children Survey Results for Umuluwe and Obigbo

Another interesting aspect regarding the difference between the traditional village and its modernized 'clone' is the family size. In order to discuss the number of children per family, for monogamous marriages the answer of only one parent was considered and in the case of declared polygamous marriages only the answer of the husband was counted. In Umuluwe, 48% of families have less than 6 children, 15% have 6 children, and 27% have more than 6 children. In Obigbo, a close percentage (43%) of the families have less than 6 children, but much few (9%) have 6 children or more than 6 children (11%).

For Umuluwe village the average was 5 children per family compared to Obigbo where the average was only 3 children per family. The difference is explained by the high number, for Obigbo, of single people or couples without children (even at an older age, in their forties), 37% of Obigbo's respondents have no children, while in Umuluwe the figure is only 10%. The reduced family size in Obigbo is only one aspect of "modernity" introduced by the globalization of Igbo society.

Income Survey Results for Umuluwe and Obigbo

More insights regarding the two Igbo villages are related to the income structure of the village-level samples and to the correlation between gender, age, education and income. Korieh (1996, IV, 1) presents a general African picture:

> African women generally contribute substantially to household economy and often provide most or all of the support for themselves and their children. In some African societies, women are the primary subsistence producers and men in others. The type of and degree of female and male economic interdependence relates to labour organization, the requirements of the productive technology and the pattern of income distribution. Men and women in some cases control their own income. But in many, resources are pulled together.

Table 5.4 compares declared annual income in Umuluwe and Obigbo. It should be noted that information about income was not available in Obigbo for 24% of the sample, compared to only 9% in Umuluwe. This can be explained by the fact that in Obigbo many educated young people were reluctant to declare their income and they did not answer those questions. This behavior may be attributed to the fact that we had little interaction with the people of Obigbo and did not build their trust the way we did in Umuluwe, where we lived for one week and the chief instructed the villagers to cooperate.

Table 5.4: Comparative Situation of the Annual Income for Umuluwe and Obigbo

INCOME GROUP (Naira/year) In May 2001 100 Naira = $1	UMULUWE			OBIGBO		
	% males of total sample	% females of total sample	% of total sample	% males of total sample	% females of total sample	% of total sample
Over 50,000	4%	1%	5%	17%	4%	21%
20,000-49,999	4%	3%	6%	11%	3%	13%
10,000-19,999	10%	5%	15%	11%	1%	12%
5,000-9,999	9%	15%	24%	3%	0%	3%
1,000-4,999	7%	19%	26%	1%	0%	1%
0-999	3%	11%	14%	15%	11%	25%
NA	4%	5%	9%	23%	1%	24%
TOTAL	41%	59%	100%	80%	20%	100%

Of the Obigbo sample, 21% respondents reported an annual income higher than 50,000 Naira compared to only 5% in Umuluwe. For the income group 20,000 – 49,999 Naira/year the difference between the two villages is smaller (7%). The reverse is true for the lowest income groups. In Umuluwe 79% of the sample had an annual income less than 20,000 Naira and 41% of the Obigbo sample fell into this category.

The income group 0-999 Naira per year can be split into two groups: people who do not earn any income (subsistence), and people who have an annual income less than 1,000 Naira (Table 5.5).

Table 5.5: Detailed Analysis of the Income Group 0-999 Naira per year

INCOME GROUP (Naira/year) In May 2001 100 Naira = $1	UMULUWE			OBIGBO		
	% males of total sample	% females of total sample	% of total sample	%males of total sample	% females of total sample	% of total sample
1-999	2%	1%	3%	0%	1%	1%
0	1%	10%	11%	15%	9%	24%
TOTAL	3%	11%	14%	15%	11%	25%

Some points should be made for both villages related to this refined income structure. First, we can discuss separately males' income and females' income due to the fact that in Umuluwe and Obigbo men and women, even when they are married, have almost independent budgets. Second, the differences between the percentages of women in those low-income categories and the percentages of men in the same categories are reversed for Obigbo compared to Umuluwe. For example, the percentage of women with no income is higher than the percentage of men in Umuluwe (10% vs. 1%) and is lower in Obigbo (9% vs. 15%). This can be explained by the fact that 10% of men (actually young men, 20 to 35 years old) are applicants—looking for a job and declaring themselves as non-income individuals.

5.4 African Migration: Umuluwe and Obigbo

Migration from rural areas to suburban or urban areas is a reality in modern Africa and is different from migration in Europe and North America during the 19th and 20th centuries. Development of capitalism in Europe and North America

was associated with a simultaneous migration of peasants towards cities (or to America in the case of Europe) and an increase in agricultural productivity, while in Africa the opposite happened as migration from countryside to better opportunities in the cities was followed by a stagnation in agricultural productivity (Amin 1995, 39).

Obigbo village is a migrants' village (see section 5.2 for details) and the 2001 survey offers further details (see Table 11 in Annex to Chapter 5) about the relation between the new village and one of the homelands, the Umuluwe village (recall that about 30 percent of the residents of Obigbo are from Umuluwe).

Amin (1995, 36) observes: "The swelling of the migratory flow can be seen in the growing contrast between the age pyramid in the emigration zones where the population is growing older, and the host regions were the population never ceases to get younger." And also he emphasizes that young men 18-30 years old represent the main part of this emigration. The results for Umuluwe and Obigbo (Table 5.2) suggest that the "missing generation" of men age 18 to 39 in Umuluwe can be "recovered" as present in Obigbo. A more detailed investigation could also "trace" the people who return at old age, over 60, from Obigbo to their home village of Umuluwe. Most (92%) of the survey respondents in Obigbo said that they plan to return to Umuluwe when they retire. These "flows" of individuals between the two villages at quite specific moments in their life are relevant for the urban-rural migration discussion.

The criterion we use to separate mature migrants (older than 18 years) from respondents that came to Obigbo as migrants' children is the age the respondent had when arriving to Obigbo. For our sample, 20% of the respondents were born in Obigbo, 27% were younger than 18 years, while 53% were older than 18 years.

Migrants live in the urban area alone or with their family. Out of the total Obigbo sample 21% do not live in Obigbo with all the family, which represents 21% of men and 2% of women. The migrant feature is emphasized by the low percentage of respondents who own a residence in Obibgo (only 20% of men and 7% of women).

For a long time, the literature on modern migration in African countries neglected the gender issues; only the migration of men was discussed. Married women can visit their migrant husbands at his urban household and even spend a longer time with him, but some women tend to migrate to urban areas to be independent: young, unmarried women with a low level of education; educated young, unmarried women; and separate, divorced, or widowed women (Aina and Baker 1995, 15). For the Obigbo sample, 73% of women are widows, 20% are married (and living with all the family in Obigbo), and 7% are single.

Considering the strong relation that the Igbo people have with their ancestor's land—in the present case the Obigbo people's attachment to the Umuluwe village—and the much better income opportunities in Obigbo, it is interesting to discuss the frequency of visits to Umuluwe, and also how the

income flow from Obigbo to Umuluwe depends on the socio-economic characteristics of the survey sample.

The ties to Umuluwe are apparently stronger for the male respondents living in Obigbo than for the female respondents. None of the interviewed women visits Umuluwe more often than twice a month, while 5% of the men do. Out of the Obigbo sample, 41% (35% are men and 6% are women) visit Umuluwe once or more often than once a month, 40% (34% are men and 6% are women) visit Umuluwe more rarely, 9% do not visit Umuluwe (7% are men and 2% are women), and for 10% of the sample this information was not available.

Table 5.6: Percentages of Total Amount Sent Annually to Umuluwe Function of Age

AGE GROUP (Years)	OBIGBO → UMULUWE (Naira per person per year)		
	Total age group % of total amount	Males % of total age group	Females % of total age group
18-29	4%	100%	0%
30-39	40%	100%	0%
40-49	34%	100%	0%
50-59	18%	100%	0%
60-69	0%	100%	0%
70-79	4%	100%	0%
Over 80	0%	100%	0%
TOTAL	100%		

The results (Table 5.6) show that only men living and working in Obigbo/Port Harcourt send money back to the extended family in Umuluwe. This situation can be explained by a son's traditional obligation to make

substantial contributions to their fathers (Caldwell and Caldwell 1988) and by women hiding from their husbands the amount of money they send back home.

The highest amount sent to Umuluwe is by men in the age groups 30 to 39 (40% of total amount) and 40 to 49 (34% of total amount). Men younger than 30 years and those 70 to 79 years old contribute each 4% to the total money flow, while men in their 60s and over 80 years old do not contribute at all. Most of the money sent to Umuluwe is by men who have a secondary education and an annual income higher than 50,000 Naira.

5.5 Social Institutions in Umuluwe and Obigbo

Kinship and Land Property

In traditional Igbo society, property is owned by the extended family that holds exclusive rights to the use of land. The extended family is divided into more or less independent units called a house (*ulo*) consisting of a man, his wife or wives and his children. Within the extended family, property is allocated to males in proportions unrelated to the number of wives (Korieh 1996, III, 10). Specific property rights are regulated by custom and there are limits to what individuals can do with their land. Traditionally, when population density was lower than today, communal ownership was the norm and no one man could own or lay exclusive claim to any piece of land. However, when people migrated to a new area they could claim and actually "own" land (Korieh 1996, IV, 7). This land could then be passed on to descendants. It is unclear exactly when individual

holdings became important but oral evidence suggests that this phenomenon is not recent.

According to Korieh (1996, IV, 5) the Igbo have a spiritual and ritual attachment to land "as the only means of maintaining a cosmological balance between themselves, their ancestors and the generation yet unborn." Land in Igbo society is closely linked to ancestor worship and other aspects of religion and rules of behavior. The foundations and principles of Igbo land use must be understood in the context of its moral and religious connotation, and not only its utilitarian value as a means of production (Korieh 1996, IV, 9).

Land is important for defining gender roles since control and use of land fall outside the area of women's domain in Igbo society. When a woman became a bride she was given by his husband's family a plot to grow her crops. This piece of land was different from her husband's land and was hers until she passed away or divorced her husband, in this way leaving his family (Nnoromele, 1998). Ezumah and Di Domenico (1995, 1739) provide more details about women and land use. Women are precluded from inheriting land (land is inherited by the sons or the brothers of a deceased man when sons do not survive their father) as a measure to ensure that family land is not dispersed to their husbands' lineages. As a result women have use rights to land through their husbands, fathers, brothers, and sons; alternative sources of access to land for women include purchase, leasing of land with cash payments or by sharecropping. According to Ezumah and Di Domenico's study (1995, 1739),

women who were separated or widowed have less access to their husbands' land than married women.

A reason for high incidence of widowhood in Igbo population can be traced to the Nigeria-Biafra civil war between 1967 and 1970. This war was devastating to Igboland and it has been estimated that over 1 million Igbos lost their lives as a result of the war and the ethnic cleansing which accompanied it. The war created a large population of widows.

Korieh (1996, IV, 7) offers a conclusive explanation for how activities are split between men and women in Igbo society:

> Men dominated land through their religious and spiritual control of it. The ownership and inheritance system, the religious meaning attached to land ownership and other customary practices place women in a different position... As result of these constraints, we can understand why widows take to trade and other economic activities.

The 2001 survey for Umuluwe and Obigbo villages provides a variety of occupations undergone by villagers but it should be mentioned that men have a richer set of occupations than women. Chapter 6 will discuss in detail the topic of occupations (see Table 6.1), but for the moment it is worth noticing that women are mainly farmers in both Umuluwe and Obigbo, while for men the situation is different. In Umuluwe there is an approximate 50-50 split between farming and other activities as major occupation, but in Obigbo men have mainly occupations

different from farming (fact which is to be expected given the proximity of Port Harcourt).

Family

In 1959 the anthropologist Simon Ottenberg wrote: "The Ibos' simultaneous emphasis on individual actions and community living was possible because of the setup of traditional society" whose basic unit was the patrilineal extended family, an institution different from that of a nuclear family. The cult of ancestors is the traditional belief system in Igbo society as in much of Sub-Saharan Africa and in many other traditional societies. The cornerstone is the succession of generations, with the old "acquiring more powers after death than in this world and with the most frequent use of those powers being to ensure the survival of the family of descent" (Caldwell and Caldwell 1987, 409). The lineage stretches indefinitely from the past to the future, with ancestors retaining their links with the lineage only if certain customs are observed. Their power is feared and the worse thing is their curse, and from here arises the necessity of meeting the filial obligations.

Usually, in traditional villages like Umuluwe, extended families live in groups of compounds. A typical Igbo compound may have from a few individuals to a few hundred (Yakubu 1980) and hosts a man with his wife or wives, unmarried daughters, unmarried sons, and married sons with their families. Also, in the same compound live some other of the man's relatives.

Each husband has its own house while the wife and her children have a different one. Professor Michael Okonkwo, in a series of interviews with S. Nnoromele (June 1996-January 1997) summarizes in her book (1998, 49):

> In traditional Ibo marriage, a wife shares her husband's bed but does not share his house. They, from the beginning, live separate lives, a testimony to the communal rather than individual emphasis of Ibo marriages.

Another particularity of Igbo society is the existence of polygamy. And the presence of more wives in the same family requires the existence of different houses for each of them and her children. Polygamy is considered a sign of high social status as only a wealthy man can afford more wives.

Large families are common as the average number of children for Umuluwe shows and there are many reasons for the high fertility rate. Marriage in traditional Igbo society fulfills the "social obligation of maintaining the life of the community through procreation" (Nnoromele 1998, 44) and does not necessarily indicate a strong emotional bond. Also, the payment of the bridewealth from the husband's family ensures that children belong to the husband's lineage even if they are not the man's biological children (Caldwell and Caldwell 1990) and as a consequence the decision regarding the number of children is also a right of the husband's lineage. According to Caldwell and Caldwell (1988, 24) another reason is the weak relation between fertility decision-making and the cost of children as children rearing is supported not by parents

but very often by uncles, aunts and grandparents as long as "it is an offense against the lineage and against the children's grandparents to distinguish between cousins, even when some are one's own biological children."

Education

The analysis of education in relation to the age structure of the population offers information about the increased influence of a western-type education compared to the traditional-type Igbo education. Traditionally, education in Igboland was more than just imputing knowledge about specific subjects—it was a means of teaching the young about culture, tradition, and expectations about how to behave. Instruction from elders gave continuity and stability to traditional Igbo society. Georgescu-Roegen (1965 (2), 34) refers to the "oral tradition" as being "the most important element of stability in the case of peasant societies." The way Umuluwe people recall the change to formal education is instructive. Before Nigeria became a British colony the traditional Igbo education was the most important type of education children and young people received. They learned the language, culture, and morality from their parents, through the normal process of socialization – there was no formal system of indigenous education prior to colonization.

During the 60 years of British colonial rule over Nigeria, things have changed and we can see the shift from a predominantly traditional education (which was reported by some people older than 70 years, but was considered in

our results as "no education") to an almost complete modern western-type education (see Table 5 in Appendices to Chapter 5 for the following figures). In Umuluwe, males older than 80 years reported modern education at the primary and junior secondary levels and they represent 2% of all males. For women older than 80 years, none of them have had any formal education in Umuluwe. Obigbo is a newer village with mainly younger men and women. The fact that in Umuluwe the percentage of educated males between the ages of 60 and 79 is higher than in Obigbo substantiates our assertion regarding the return of people to their home village when they retire.

Gender discrimination is obvious for women in the age group 60 to 79 years in Umuluwe, and in Obigbo too, as the highest level of education is primary school, while for men it is secondary school in Obigbo and primary school in Umuluwe. In Obigbo compared to Umuluwe, for males in the age group 40 to 59 years, percentages are higher for men having tertiary education or secondary education and less for junior secondary education and primary education. Primary or secondary senior educated women in the same age category, 40 to 59 years old, represent higher percentages in Obigbo compared to Umuluwe. Different from the men's case is that more women in Umuluwe have a tertiary education, possibly explained by the fact that even highly educated women find it more difficult to leave their home village. Finally, regarding young men 18 to 39 years old, it was found that none of them were without any education in either village, while in Umuluwe 3% of the women in this age

category were with no education. A higher percentage of young women have a tertiary education in Obigbo compared to Umuluwe, and this could indicate decreased gender discrimination.

Associations

Another aspect of urbanization is civic participation. Characteristic of the Ibgo culture—as for Yorubas and other ethnic groups in Nigeria (Trager 2001)—is the membership, sometimes compulsory, in gender-based associations at the village level. Even the poorest people contribute to their community groups through levies. What urban proximity brings to the picture is the increasing number of male-associations and the decreasing number of women-associations. Further investigation is necessary to find out if the urban society vs. rural society also diminishes the effectiveness of common action.

Judith Van Allen (1972, 161) wrote about women's traditional autonomy and power in Igbo society before British colonialism:

> As individuals, they [women] participated in village meetings with men. But their real political power was based on the solidarity of women, as expressed in their own political institutions—their "meetings" (*mikiri* or *mitiri*), their market networks, their kinship groups, and their right to use strikes, boycotts and force to effect their decisions.

Our 2001 survey of the Umuluwe and Obigbo villages shows us a picture (even is not detailed enough) of gender-based associations' fabric. Tables 5.7 and 5.8 give a list of women's associations (and the percentage affiliation as our survey reveals) mentioned by our respondents in Umuluwe and Obigbo respectively, while Tables 5.9 and 5.10 give a similar listing for men.

Table 5.7: Participation in Women's Associations in Umuluwe

	UMULUWE WOMEN'S ASSOCIATIONS	PARTICIPATION
1	Christian Mothers Association	65.4%
2	Anunu/Egbe Peace Bond, Women Wing	20.6%
3	Anunu/Egbe Women's Progressive Union	16.2%
4	Ihenwabosi Women Association	8.8%
5	Ihenwabosi Peace Bond	5.9%
6	Umuagwu-Ukwu Youth Association	4.4%
7	Umuluwe Development Union, Women Wing	2.2%
8	Charismatic Group	1.5%
9	Umuluwe Peace Makers Associaton	0.7%
10	Umurehie Women Union	0.7%
11	Umurehie Peace Bond	0.7%
12	Ihenwabosi Development Union	0.7%
13	Christian Women Organization	0.7%
14	Catholic Women Organization	0.7%
15	Guild & Mother Association	0.7%

A brief presentation of the meaning of Igbo words can be helpful for understanding the purpose of women's and men's associations (Steve Onyeiwu, personal communication). Recall that in the Igbo language "Umu" means "the children of" and most Igbo villages have names beginning with "Umu" to indicate that the villagers are the descendants or children of somebody (again, the ancestors cult). For instance, Umurehie means the children or the

descendants of "Rehie." Anunu is the name of a bird; Egbe is the Igbo name for the bird known as "Hawk."

Table 5.8: Participation in Women's Associations in Obigbo

	OBIGBO WOMEN'S ASSOCIATIONS	PARTICIPATION
1	Umuluwe Women Wing Meeting	40.0%
2	Umuluwe Development Town Union	20.0%
3	Christian Mothers	20.0%
4	Umuluwe Progressive Union	13.3%
5	Anunu/Egbe Women's Progressive Union	13.3%
6	Anunu/Egbe Cultural Association	6.7%
7	Umuluwe Women Association-Obigbo Branch	6.7%
8	Trade Union	6.7%
9	Umuezeala Egbe Family Meeting	6.7%
10	Amand Meeting	6.7%

Table 5.9: Participation in Men's Associations in Umuluwe

	UMULUWE MEN'S ASSOCIATIONS	PARTICIPATION
1	Christian Fathers Association	39.6%
2	Anunu/Egbe Bond of Peace	35.4%
3	Umuluwe Development Union	15.6%
4	Ihenwabosi Peace Bond	7.3%
5	Ihenwabosi Progressive Union	7.3%
6	Anunu/Egbe Progressive Union	5.2%
7	Christian Youth Association	2.1%
8	Town Union	2.1%
9	Ihenwabosi Meeting	1.0%
10	Umuluwe Progressive Bond of Peace	1.0%
11	Umuluwe Elders Association	1.0%
12	Umuluwe Youth Association	1.0%
13	Umuluwe Students Union	1.0%
14	Winetapers Association	1.0%
15	Nigerian Union of Teachers	1.0%
16	Ofuobi Movement	1.0%
17	Umuanunu Men Union	1.0%

Table 5.10: Participation in Men's Associations in Obigbo

	OBIGBO MEN'S ASSOCIATIONS	PARTICIPATION
1	Umuluwe Development Town Union	26.7%
2	Umulolo Family Meeting	13.3%
3	Umuluwe Development Union	11.7%
4	Anunu/Egbe Bond of Peace	10.0%
5	Umuluwe Progressive Union	8.3%
6	Ofuobi Movement	6.7%
7	Anunu/Egbe Development Union	5.0%
8	Umuluwe Community Meeting	5.0%
9	Anunu/Egbe Family Meeting	3.3%
10	Umuluwe Youth Association	3.3%
11	Umuluwe Students Development Union	3.3%
12	Obinwanne Youths Association	3.3%
13	Umuezeala/Egbe Organization	3.3%
14	Nzuko Ndi Umuanunu	3.3%
15	Mbano Youth	1.7%
16	Builders Association	1.7%
17	Imo State Drivers Association	1.7%
18	Association of Block Brick and Pillar	1.7%
19	Timber Association	1.7%
20	Pillers Association	1.7%
21	Committee of Friends	1.7%
22	Igbo Community Group	1.7%
23	United Progressive Club	1.7%
24	Mbano Christian Association Obigbo	1.7%
25	Ihenwabosi Family Meeting	1.7%
26	Ihenwabosi Progressive Union	1.7%

As you may remember from Chapter Three, Umuluwe is divided into four small units: 1. Umuanunu (which is often shortened as Anunu); 2. Umuezealaegbe (or simply Egbe); 3. Umurehie and 4. Umuagwu-Ukwu. Each of the four small units is made up of a number of families who trace their origins to a common ancestor. Thus, Anunu/Egbe means an association formed by both Umuanunu and Umuezealaegbe villagers. Ihenwabosi is the name of a large family in Umuezelaegbe.

Often, the objectives of associations can be inferred from their names. For instance, Anunu/Egbe Women's Progressive Union indicates that the association is interested in promoting the progress and welfare of its members. Ofuobi means "one mind" and from its name, it may consist of people who think alike or people who share the same philosophy.

The Christian Mothers Association consists of catholic women. The association organizes church-related events and ceremonies such as Thanksgiving, burial ceremonies for members, collection of church dues, collection of gifts for the parish priests, etc. The association's stated aim is to deepen the religious faith of its members.

For Umuluwe, out of the total sample, 1.7% have no affiliation and for 8.2% of the respondents this information was not available. In Obigbo's case, for 13% of all men the information regarding association(s) affiliation was not available.

In Umuluwe were reported 17 male-associations with many of the people in the village participating in at least 3 of them (Christian Fathers' Association and Anunu/Egbe Bond of Peace have each of them 41% of male-respondents as members, and Umuluwe Development Union has 13% of male-respondents as members) and 15 women-associations with most of the village also participating in 3 of them (Christian Mothers' Association has 70% of female-respondents as members, Anunu Na Egbe Women Union has 19% of female-respondents as members, and Anunu/Egbe Bond of Peace, Women Wing has 18% of female-

respondents as members). For Obigbo, men participate in 24 associations and women in 10 with no majority participation. In Umuluwe 128 female-respondents participate in 15 associations while in Obigbo 14 female-respondents participate in 10 associations. In Umuluwe 88 male-respondents participate in 17 associations while in Obigbo 51 male-respondents participate in 24 associations. Another element brought in by urban life is the very clear delimitation of association types. We delineate four of them: extended family associations, youth associations, professional associations, and last but not least, branches of the Umuluwe associations. This means that even in the urban society the strength of the African family resides in three types of associations while "modernity" brings in the professional community.

5.6 Modernization and Institutions in Igboland

Stiglitz (2000, 63) defines social capital as "institutions and relations that mediate transactions and reduce disputes." Social capital encompasses social-structural resources embodied in institutions, civic communities, families, and the larger society (Tomer 1999, 1050). In the village of Umuluwe modernization has impacted local institutions in a variety of ways. Many of the effects have been negative, such as the destruction of social capital, the destruction of the capacity for local economic development by diminishing of the capabilities of the village, and the weakening of village institutions. Economic reform at the national level has had the effect of disrupting the symbiosis between social capital and the rural economy of

Umuluwe. It has done so by exacerbating poverty and income inequality in the village by the escalation in the cost of living as well as the removal of subsidies on basic necessities such as health, education and fuel. With no significant increase in income, many Umuluwe residents were forced to leave the village in search of better economic opportunities, a process that led to the depopulation of the village and the weakening of community life. More than half of the population of the village now lives outside the village.

The lack of government investment in Umuluwe has forced local villagers to take total responsibility for financing the village primary school, and providing electricity and water. Civic organizations in Umuluwe have had to impose huge levies on the villagers in order to raise money to finance social programs formerly provided by the state. Village rules require that everyone pays village levies, regardless of the ability to pay. Those with low incomes have had to borrow money from their more affluent friends and relatives to meet their village obligations. Some of the indigent villagers have mortgaged their land and other tangible assets in order to pay their levies. As reported in the questionnaires, for the village as a whole, total taxes actually exceed total income—the ratio of total reported taxes to total reported income is 1.6. Taxes exceed income for 96 % of Umuluwe villagers. In fact, payment of these levies has resulted in some villagers having a negative net worth, as their obligations to the village now exceed their income and wealth. What is more, the imposition of

levies has diverted resources that could have been used for the purchase of inputs necessary for the production of agricultural and other village products.

During the course of our field research, many of the villagers complained that their output of staple crops such as yam and cassava has declined. Declining output has generated a vicious cycle of low income, low savings and low investment, thereby exacerbating poverty in the village. Survey data not only indicate a high incidence of poverty, the evidence also points to an increasing feminization of poverty in the village. Poverty is increasingly feminized because Umuluwe culture expects women to be responsible for feeding the household. Given falling output engendered partly by the diversion of resources to the payment of village levies and government-imposed taxes, women in the village are under pressure to meet their traditional obligations.

The erosion of social capital in Umuluwe has been fueled by the lack of access to even rudimentary health care, as well as diminished access to quality education due primarily to the discontinuation of state support. Not a single health facility exists in this village of over 3000 inhabitants, and the villagers have to travel at least 10 miles to the nearest hospital. Villagers were unanimous in identifying education, health and the welfare of their children as their main concern. They also lamented their increasing inability to achieve these goals, pointing essentially to the neglect of the village by the government. Ironically, the globalization process has encouraged state neglect of the impoverished and powerless villages at a time when state support is most critical.

Since the colonial era in developing countries, and in Africa in particular, resources extracted by the state from local communities have often fueled national economic development (Evans 1979). But these communities are often neglected in the development process, and rather experience the "backwash effects" of development (Myrdal 1968); the backwash effects are apparent in Umuluwe. For instance, while the three tiers of government in Nigeria (local, state and federal governments) still require the villagers to pay taxes, little or no social services are provided for the villagers in return. None of the 236 villagers interviewed during the field research acknowledged receiving any form of government assistance during the past decade. Although they expressed their displeasure for being asked to pay taxes without getting anything in return, they also lamented their inability to change the status quo in the village. This further encourages the villagers to abandon the village to seek better living conditions in the urban areas—a phenomenon that destroys the capacity of the village for sustainable development.

The exodus of people from the village undermines village institutions because African villages are typically nurtured and sustained by the villagers themselves. The depopulation of a village unwittingly leads to ineffective enforcement of village norms and values. Greater mobility out of the village also implies that deviant villagers can easily avoid village-imposed sanctions. In a study focusing on the Igbo community as a whole, Onyeiwu and Jones (2003) discuss how the cultural values and norms of the Igbo community were

undermined leading to a "survival of the fittest" attitude that has weakened the moral and ethical values of the Igbo community.

5.7 Conclusions

This chapter discussed the response of one Igbo community in Nigeria to modernization. The emergence of greater employment opportunities in the city compared to rural Igboland prompted members of a traditional village to establish another village nearer to emerging economic opportunities. These two villages exist today in a symbiotic relationship whose success rests on traditional Igbo culture including patterns of marriage, family life, reverence for ancestors, and land tenure institutions. This particular adaptation has also begun to change some basic characteristics of Igbo life such as family size, patterns of land ownership, and participation in civic organizations.

It is hard to say at this point whether the net effects of modernization and the response to it by Umuluwe and Obigbo will be positive or negative. We do know, however, that its continued effects on rural Africa will depend on the particular cultural characteristics of the people affected. Economic policies designed to ease the transition to a modern economy cannot be effective without understanding the cultural context within which economic change takes place. The effects of modernization in Igboland can be most clearly seen in the labor market differences between Umuluwe and Obigbo, and this is the topic of the next chapter.

Annex to Chapter 5

SOCIO-ECONOMIC DATA FOR UMULUWE VILLAGE

Table A.5.1: Gender Structure for Umuluwe

GENDER STRUCTURE	Number of individuals	Percent of total population
Males	96	41%
Females	136	59%
TOTAL	232	100%

Table A.5.2: Age Structure for Umuluwe

Age Group AG (Years)	Total Age Group			MALES				FEMALES			
	Number of people	% of AG	% of TOTAL sample	Number of males	% of AG	% of males	% of TOTAL sample	Number of females	% of AG	% of females	% of TOTAL sample
18-29	22	100%	9%	6	27%	6%	3%	16	73%	12%	7%
30-39	35	100%	15%	16	46%	17%	7%	19	54%	14%	8%
40-49	56	100%	24%	20	36%	21%	9%	36	64%	26%	16%
50-59	48	100%	21%	17	35%	18%	7%	31	65%	23%	13%
60-69	45	100%	19%	20	44%	21%	9%	25	56%	18%	11%
70-79	15	100%	6%	9	60%	9%	4%	6	40%	4%	3%
Over 80	11	100%	5%	8	73%	8%	3%	3	27%	%2	%1
TOTAL	232	—	100%	96	—	100%	41%	136	—	100%	59%

Table A.5.3: Income Structure for Umuluwe

Income Group IG (Naira/year)	Total Income Group			MALES				FEMALES			
	Number of people	% of IG	% of TOTAL sample	Number of males	% of IG	% of males	% of TOTAL sample	Number of females	% of IG	% of females	% of TOTAL sample
Over 50,000	11	100%	5%	9	82%	9%	4%	2	18%	1%	1%
20,000-49,999	15	100%	6%	9	60%	9%	4%	6	40%	4%	3%
10,000-19,999	35	100%	15%	24	69%	25%	10%	11	31%	8%	5%
5,000-9,999	55	100%	24%	20	36%	21%	9%	35	64%	26%	15%
1,000-4,999	61	100%	26%	17	28%	18%	7%	44	72%	32%	19%
0-999	33	100%	14%	7	21%	7%	3%	26	79%	19%	11%
NA	22	100%	9%	10	45%	10%	4%	12	55%	9%	5%
TOTAL	232	—	100%	96	—	100%	41%	136	—	100%	59%

100 Naira = $1 (May 2001)

The income group 0-999 Naira per year can be split into two groups, people who do not earn any income (subsistence) and people who earn less than 1,000 Naira per year:

Income Group IG (Naira/year)	Total Income Group			MALES				FEMALES			
	Number of people	% of IG	% of TOTAL sample	Number of males	% of IG	% of males	% of TOTAL sample	Number of females	% of IG	% of females	% of TOTAL sample
1-999	8	100%	3%	5	63%	5%	2%	3	38%	2%	1%
0	25	100%	11%	2	8%	2%	1%	23	92%	17%	10%
TOTAL	33	—	14%	7	—	7%	3%	128	—	19%	11%

100 Naira = $1 (May 2001)

Table A.5.4: Education Structure for Umuluwe

Education Group EG	Total Education Group			MALES				FEMALES			
	Number of people	% of EG	% of TOTAL sample	Number of males	% of EG	% of males	% of TOTAL sample	Number of females	% of EG	% of females	% of TOTAL sample
Tertiary	8	100%	3%	4	50%	4%	2%	4	50%	3%	2%
Senior Secondary	32	100%	14%	18	56%	19%	8%	14	44%	10%	6%
Junior Secondary	12	100%	5%	6	50%	6%	3%	6	50%	4%	3%
Primary	81	100%	35%	40	49%	42%	17%	41	51%	30%	18%
No education	99	100%	43%	28	28%	29%	12%	71	72%	52%	31%
TOTAL	232	—	100%	96	—	100%	41%	136	—	100%	59%

Note: An individual is included in a certain education group depending of his/hers highest education level

Table A.5.5: Education-Age Structure for Umuluwe

Education Group EG	MALES								FEMALES							
	Age 18-39		Age 40-59		Age 60-79		Age Over 80		Age 18-39		Age 40-59		Age60-79		Age Over 80	
	N	% M	N	% M	N	% M	N	% M	N	% F	N	% F	N	% F	N	% F
Tertiary	2	2%	1	1%	1	1%	0	0%	3	2%	1	1%	0	0%	0	0%
Senior Secondary	8	8%	7	7%	3	3%	0	0%	10	7%	4	3%	0	0%	0	0%
Junior Secondary	0	0%	3	3%	2	2%	1	1%	4	3%	2	1%	0	0%	0	0%
Primary	12	13%	18	19%	9	9%	1	1%	15	11%	25	18%	1	1%	0	0%
No education	0	0%	8	8%	14	15%	6	6%	3	2%	35	26%	30	22%	3	2%

Notation:

N – number of respondents in a certain category

SOCIO-ECONOMIC DATA FOR OBIGBO VILLAGE

Table A.5.6: Gender Structure for Obigbo

GENDER STRUCTURE	Number of individuals	Percent of total population
Males	60	80%
Females	15	20%
TOTAL	75	100%

Table A.5.7: Age Structure for Obigbo

Age Group AG (Years)	Total Age Group			MALES				FEMALES			
	Number of people	% of AG	% of TOTAL sample	Number of males	% of AG	% of males	% of TOTAL sample	Number of females	% of AG	% of females	% of TOTAL sample
18-29	14	100%	19%	12	86%	20%	16%	2	14%	13%	3%
30-39	21	100%	28%	20	95%	33%	27%	1	5%	7%	1%
40-49	20	100%	27%	16	80%	27%	21%	4	20%	27%	5%
50-59	11	100%	15%	7	64%	12%	9%	4	36%	27%	5%
60-69	4	100%	5%	1	25%	2%	1%	3	75%	20%	4%
70-79	4	100%	5%	3	75%	5%	4%	1	25%	7%	1%
Over 80	1	100%	1%	1	100%	2%	1%	0	0%	0%	0%
TOTAL	75	—	100%	60	—	100%	80%	15	—	100%	20%

Table A.5.8: Income Structure for Obigbo

Income Group IG (Naira/year)	Total Income Group			MALES				FEMALES			
	Number of people	% of IG	% of TOTAL sample	Number of males	% of IG	% of males	% of TOTAL sample	Number of females	% of IG	% of females	% of TOTAL sample
Over 50,000	16	100%	21%	13	81%	22%	17%	3	19%	20%	4%
20,000-49,999	10	100%	13%	8	80%	13%	11%	2	20%	13%	3%
10,000-19,999	9	100%	12%	8	89%	13%	11%	1	11%	7%	1%
5,000-9,999	2	100%	3%	2	100%	3%	3%	0	0%	0%	0%
1,000-4,999	1	100%	1%	1	100%	2%	1%	0	0%	0%	0%
0-999	19	100%	25%	11	58%	18%	15%	8	42%	53%	11%
NA	18	100%	24%	17	94%	28%	23%	1	6%	7%	1%
TOTAL	75	—	100%	60	—	100%	80%	15	—	100%	20%

100 Naira = $1 (May 2001)

The income group 0-999 Naira per year can be split into two groups, people who do not earn any income (subsistence) and people who earn less than 1,000 Naira per year:

Income Group IG (Naira/year)	Total Income Group			MALES				FEMALES			
	Number of people	% of IG	% of TOTAL sample	Number of males	% of IG	% of males	% of TOTAL sample	Number of females	% of IG	% of females	% of TOTAL sample
1-999	1	100%	1%	0	0%	0%	0%	1	100%	7%	1%
0	18	100%	24%	11	61%	18%	15%	7	39%	47%	9%
TOTAL	19	—	25%	11	—	18%	15%	128	—	53%	11%

100 Naira = $1 (May 2001)

Table A.5.9: Education Structure for Obigbo

Education Group EG	Total Education Group			MALES				FEMALES			
	Number of people	% of EG	% of TOTAL sample	Number of males	% of EG	% of males	% of TOTAL sample	Number of females	% of EG	% of females	% of TOTAL sample
Tertiary	8	100%	11%	6	75%	10%	8%	2	25%	13%	3%
Senior Secondary	27	100%	36%	26	96%	43%	35%	1	4%	7%	1%
Junior Secondary	0	100%	0%	0		0%	0%	0		0%	0%
Primary	28	100%	37%	22	79%	37%	29%	6	21%	40%	8%
No education	12	100%	16%	6	50%	10%	8%	6	50%	40%	8%
TOTAL	75	—	100%	60	—	100%	80%	15	—	100%	20%

Note: An individual is included in a certain education group depending of his/hers highest education level

Table A.5.10:Education-Age Structure for Obigbo

Education Group EG	MALES								FEMALES							
	Age 18-39		Age 40-59		Age 60-79		Age Over 80		Age 18-39		Age 40-59		Age60-79		Age Over 80	
	N	% M	N	% M	N	% M	N	% M	N	% F	N	% F	N	% F	N	% F
Tertiary	3	5%	2	3%	1	2%	0	0%	2	13%	0	0%	0	0%	0	0%
Senior Secondary	18	30%	8	13%	0	0%	0	0%	0	0%	1	7%	0	0%	0	0%
Junior Secondary	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Primary	11	18%	10	17%	1	2%	0	0%	1	7%	4	27%	1	7%	0	0%
No education	0	0%	3	5%	2	3%	1	2%	0	0%	3	20%	3	20%	0	0%

Notation:

N – number of respondents in a certain category

Table A.5.11:Statistics for Umuluwe and Obigbo

FEATURES	TOTAL		MALES			FEMALES		
	#	%T	#	%T	%M	#	%T	%F
Age at arrival to Obigbo:								
* Born in Obigbo	16	21.3%	15	20.0%	25.0%	1	1.3%	7%
* Age 1-18 years	28	37.3%	23	30.7%	38.3%	5	6.7%	33%
* Age over 18 years	29	38.7%	20	26.7%	33.3%	9	12.0%	60%
* Not Available	2	2.7%	2	2.7%	3.3%	0	0.0%	0%
Visits to Umuluwe:								
* 3 to 4 times a month	3	4.0%	3	4.0%	5.0%	0	0.0%	0%
* twice a month	13	17.3%	10	13.3%	16.7%	3	4.0%	20%
* once a month	15	20.0%	13	17.3%	21.7%	2	2.7%	13%
* 5 to 10 times a year	7	9.3%	6	8.0%	10.0%	1	1.3%	7%
* 4 times a year	6	8.0%	4	5.3%	6.7%	2	2.7%	13%
* 3 times a year	5	6.7%	4	5.3%	6.7%	1	1.3%	7%
* twice a year	6	8.0%	6	8.0%	10.0%	0	0.0%	0%
* once a year	6	8.0%	6	8.0%	10.0%	0	0.0%	0%
* zero visits	7	9.3%	5	6.7%	8.3%	2	2.7%	13%

FEATURES	TOTAL		MALES			FEMALES		
	#	%T	#	%T	%M	#	%T	%F
* Not available	7	9.3%	3	4.0%	5.0%	4	5.3%	27%
Living with All the Family in Obigbo	59	78.7%	47	62.7%	78.3%	12	16.0%	80%
Married	41	54.7%	38	92.7%	63.3%	3	7.3%	20.0%
Widow/Widower	11	14.7%	0	0.0%	0.0%	11	100.0%	73.3%
Single/Divorced	23	30.7%	22	95.7%	36.7%	1	4.3%	6.7%
Owned House (only for Obigbo)	13	17.3%	12	92.3%	20.0%	1	7.7%	6.7%

CHAPTER 6

OCCUPATIONS AND GENDER IN UMULUWE AND OBIGBO

...socio-cultural norms which require women to reconcile their employment interest with family life remain an important obstacle to sex desegregation of occupations and active labor force participation among women. It is interesting, if not perplexing, nevertheless, that the Nigerian woman irrespective of her occupational status in the labor market accepts the socio-cultural norms almost without question.

Tayo Fashoyin (1991, 163)

6.1 Introduction

This chapter uses data collected in the socio-economic surveys of Umuluwe and Obigbo to compare the occupational characteristics of men and women in the two villages. Information about personal characteristics, household demographics and economic conditions was used in a binary logit model to examine the probability of having a paid occupation in the two villages.

Economic results confirm our conclusions that:

1. There exists a symbiotic relation between the two villages. Demographic indicators such as age structure, gender representation by age and other characteristics are quite balanced when looking at the totals for the two villages, but striking differences are apparent between the two villages.

2. Greater employment opportunities for women exist in Obigbo.
3. There is a strong correlation between education and employment; and education and the likelihood of migration to Obigbo.

The logit model also allows us to pinpoint the magnitude of the effect of various personal factors and institutions on the probability that a person is a paid worker or not.

6.2 The Traditional Labor Market in Igboland

The traditional Igbo labor market consists of three broad categories: agriculture, local manufactures, and trade (Korieh 1996, I, 9). Agriculture was the most important single occupation of the Igbo in pre-colonial times. Both Igbo men and women were farmers (Eluwa 1988, 65). Yam was the staple food and was considered a 'male' crop; its production requires a complex combination of male and female, group and individual tasks (Guyer 1984, 373). Men who were successful in large-scale, quality yam production acquired yam titles (Ezumah and Di Domenico 1995, 1732). Cassava was a women's crop considered inferior to the yam. It was introduced by Europeans into Igboland after 1914, and unlike the yam, has little social or cultural significance (Guyer 1984, 374). Its production and marketing were essentially female activities. Women, beyond assisting men in yam production, had other exclusive 'female' crops beside cassava including cocoyam, maize, pepper, various types of vegetables and legumes. The study by Ezumah and Di Domenico (1995) concludes that today gender participation in

agricultural production is influenced by various factors like location, marital status, participation in non-agricultural activities, and ideologies influencing people's perception of male/female activities.

The gender roles in the provision of food for the household derive from the traditional separation between 'male' and 'female' crops. The husband's responsibility is to provide yams while the wife's responsibility is the provision of cassava (which is used for the preparation of cassava paste or "foo-foo") and other ingredients for food preparation (Ezumah and Di Domenico 1995, 1732).

Ezumah and Di Domenico (1995) provide a description of the different types of farms where work is undertaken by gender. A man's farm is owned by a man and is cultivated with or without the assistance of his wife (wives), while a woman's farm is owned by a woman and is cultivated with or without the assistance of her husband. There are also farms jointly owned and cultivated by a man and his wife (wives). The members of the family, neighbors, friends, in-laws and relations provide the necessary labor.

Local manufactures or crafts in Igboland included metalworking and wood carving as men's work and pottery making, weaving cloth, mats, and baskets were women's work (Nnoromele 1998). The expansion of the commercial economy gave men an advantage in finding manufacturing and non-manufacturing jobs since men were allowed to migrate or relocate while women, for the most part, could not.

Agriculture and local trading are intertwined for women, as they sell the excess produce in the local markets and provide food for the family (Korieh 1996, IV, 2). Ekechi (1989, 183) observed that the adaptation of cassava as a food crop enhanced the economic position of women in society.

Vegetable variety was the basis for the development of Igbo local and regional trade. In traditional pre-colonial Igbo villages, the marketplace was considered as belonging to women's sphere (Nnoromele 1998). Richard Henderson (1972, quoted in Nnoromele 1998, 39) writes:

> Symbolically, the market place was defined as outside the sphere of assertion by males, whether human or animal; any cock that crowed there during trading hours must become the property of women. The connection of men with market trade comes mainly through their individual sponsorship of their wives or daughters as traders.

When the Europeans introduced the modern market economy, women's traditional monopoly over the market was lost. Men became traders in the new imported goods market and also took over the ex-women monopoly of palm oil trade and cassava trade. As long distance trade became more important, men took trade away from what had traditionally been a women's role. First, men controlled the means of transportation—bicycles, cars, and railway, because it was considered "immoral" for a woman to travel alone for long distances. Second, with the growth of the palm oil and cassava markets, women lost their

ability to trade directly with European firms and had to rely instead on African middlemen. Thirdly, the mechanization of palm oil processing played a major role in the marginal position women came to hold in a trade that previously had been their monopoly. Fourth, a growing commercial demand for cassava encouraged the establishment of new cassava plantations. This gave an advantage to men who could leave their families to start new farms while women could not. Gradually men took control of the commercial cassava market even though the crop was traditionally a female responsibility.

As a consequence of these trends, women's dependence on men increased. A contemporary Igbo man complains: "The white man took a relatively functional world and turned it upside down. The society which our ancestors had created worked for us. The new one created by the British simply does not work" (quoted in Nnoromele 1998, 74). Because of education discrepancies between men and women, many women in modern Igbo society are forced to become petty traders.

6.3 Occupations in Umuluwe and Obigbo Villages

The quality of existing socio-economic data for Nigeria is questionable and Kritz and Makinwa-Adebusoye (1999, 422) suggest that scholars may draw incorrect substantive and policy inferences from national-level analyses in Sub-Saharan Africa if they do not take ethnicity into account. Cultural diversity is enormous in Nigeria and this makes it difficult, if not impossible, to meaningfully

aggregate basic data such as family size or family income across ethnic groups. Therefore the present study does not make reference to country level labor market statistics.

Mention should be made about the way the declared occupations in Umuluwe and Obigbo are classified. Two broad categories are considered: paid work and non-paid work. In the category of people with non-paid occupations are farmers, students, job applicants, and also people without a declared occupation. Table 6.1 presents a list of occupations qualifying as paid work or non-paid work, for both the samples for Umuluwe and for Obigbo. These are gender-separated.

Regarding the major occupation of Umuluwe villagers, out of the total sample 66% are farmers and 8% are traders, while teachers, tailors and construction-related workers are 2% each. Carpenters, palm wine tapers, businessmen, civil servants, drivers, pastors, mechanics, daily workers, and retired people contribute 1% respectively. Other occupations represent 7.6% of the sample, and 3.4% of the survey respondents have no declared occupation.

In Obigbo, urban proximity determines an important change in the occupational profile: out of the total sample farmers represent 24%, traders 27%, drivers and job applicants 8% each, businessmen 5%, technicians 4%, carpenters, students and engineering-related workers 3% each, and other occupations account for 13.7%. Only 1.3% of the survey respondents declare having no major occupation.

When we consider the secondary occupation in correlation with the major occupation (Table 6.2) the picture of the economy is sharper. The balance between farming and trade is very important. In both Umuluwe and Obigbo, traders who are primarily farmers constitute the same percentage in the total sample (8%), and also farmers who are primarily traders constitute the same percentage (4%) in the total sample. The switch is obvious when we check the percentages of respondents who declare being only farmers or only traders. In Umuluwe 45% of the respondents are only farmers and 1% of them are only traders. A reversed situation is found in Obigbo where 20% of the respondents are only traders while 13% are only farmers. Moreover, in Umuluwe people having only one occupation—and which is different from farming or trading—account for 4%, while in Obigbo they account for 24%.

In Nigeria, cars are not common assets and because of that drivers are considered as a separate category along with farmers and traders. While in Umuluwe, drivers have as secondary occupation farming (2/3 of them) and trading (1/3), in Obigbo half of the men having that profession do not have any other occupation, and none of them trade in order to supplement their income.

The survey also shows a gender-bias of the labor market in terms of the main occupation. In Umuluwe, female respondents are farmers (70% of farmers), tailors (80% of tailors), teachers (50% of teachers), traders (47% of traders), and they have a 'monopoly' on hairdressing, nursing, cashier and petty artist jobs.

Table 6.1: Major Occupations for Survey Respondents in Umuluwe and Obigbo

MAJOR OCCUPATION	UMULUWE						OBIGBO					
	#	% of total sample	#	% males for each occupation	#	% females for each occupation	#	% of total sample	#	% males for each occupation	#	% females for each occupation
NON-PAID OCCUPATIONS	162	69.8%	47	29.0%	115	71.0%	27	36.0%	16	59.3%	11	40.7%
Farming	153	65.9%	46	30.1%	107	69.9%	18	24.0%	8	44.4%	10	55.6%
Schooling/Student	1	0.4%	0	0.0%	1	100.0%	2	2.7%	2	100.0%	0	0.0%
Applicant	0	0.0%	0		0		6	8.0%	6	100.0%	0	0.0%
None	8	3.4%	1	12.5%	7	87.5%	1	1.3%	0	0.0%	1	100.0%
PAID OCCUPATIONS	70	30.2%	49	70.0%	21	30.0%	48	64.0%	44	91.7%	4	8.3%
Trader	19	8.2%	10	52.6%	9	47.4%	20	26.7%	18	90.0%	2	10.0%
Tailor	5	2.2%	1	20.0%	4	80.0%	1	1.3%	1	100.0%	0	0.0%
Construction-related	5	2.2%	5	100.0%	0	0.0%	1	1.3%	1	100.0%	0	0.0%
Teacher	4	1.7%	1	25.0%	3	75.0%	0	0.0%	0		0	
Carpenter/Furniture	3	1.3%	3	100.0%	0	0.0%	2	2.7%	2	100.0%	0	0.0%
Driver/Transportation	3	1.3%	3	100.0%	0	0.0%	6	8.0%	6	100.0%	0	0.0%
Businessman	2	0.9%	2	100.0%	0	0.0%	4	5.3%	4	100.0%	0	0.0%
Palm wine taper	2	0.9%	2	100.0%	0	0.0%	0	0.0%	0		0	
Civil/Public servant	2	0.9%	2	100.0%	0	0.0%	0	0.0%	0		0	
Pastor	2	0.9%	2	100.0%	0	0.0%	0	0.0%	0		0	
Mechanic	2	0.9%	2	100.0%	0	0.0%	1	1.3%	1	100.0%	0	0.0%
Retired	2	0.9%	2	100.0%	0	0.0%	0	0.0%	0		0	
Unskilled laborer/Daily worker	2	0.9%	1	50.0%	1	50.0%	1	1.3%	1	100.0%	0	0.0%
Hairdresser	1	0.4%	0	0.0%	1	100.0%	0	0.0%	0		0	
Timber dealer	1	0.4%	1	100.0%	0	0.0%	1	1.3%	1	100.0%	0	0.0%

Table 6.1: Major Occupations for Survey Respondents in Umuluwe and Obigbo (continued)

MAJOR OCCUPATION	UMULUWE						OBIGBO					
	#	% of total sample	#	% males for each occupation	#	% females for each occupation	#	% of total sample	#	% males for each occupation	#	% females for each occupation
PAID OCCUPATIONS (continued)												
Bicycle repair	1	0.4%	1	100.0%	0	0.0%	1	1.3%	1	100.0%	0	0.0%
Music DJ	1	0.4%	1	100.0%	0	0.0%	0	0.0%	0		0	
Basket weaver	1	0.4%	1	100.0%	0	0.0%	0	0.0%	0		0	
Macing	1	0.4%	1	100.0%	0	0.0%	0	0.0%	0		0	
Petty artist	1	0.4%	0	0.0%	1	100.0%	0	0.0%	0		0	
Petty contractor	1	0.4%	1	100.0%	0	0.0%	0	0.0%	0		0	
Security guard	1	0.4%	1	100.0%	0	0.0%	0	0.0%	0		0	
Electrician	1	0.4%	1	100.0%	0	0.0%	0	0.0%	0		0	
Chemical operator/Roofing	1	0.4%	1	100.0%	0	0.0%	0	0.0%	0		0	
Technician	1	0.4%	1	100.0%	0	0.0%	3	4.0%	3	100.0%	0	0.0%
Nurse	1	0.4%	0	0.0%	1	100.0%	1	1.3%	0	0.0%	1	100.0%
Journalist	1	0.4%	1	100.0%	0	0.0%	0	0.0%	0		0	
Welder	1	0.4%	1	100.0%	0	0.0%	1	1.3%	1	100.0%	0	0.0%
Self-employed	1	0.4%	1	100.0%	0	0.0%	0	0.0%	0		0	
Cashier	1	0.4%	0	0.0%	1	100.0%	0	0.0%	0		0	
Engineering-related profession	0	0.0%	0		0		2	2.7%	2	100.0%	0	0.0%
Accountant	0	0.0%	0		0		1	1.3%	1	100.0%	0	0.0%
Secretary	0	0.0%	0		0		1	1.3%	0	0.0%	1	100.0%
Sign writer	0	0.0%	0		0		1	1.3%	1	100.0%	0	0.0%
TOTAL	232	100.0%	96	41.4%	136	58.6%	75	100.0%	60	80.0%	15	20.0%

Table 6.2 Secondary Occupation for Survey Respondents in Umuluwe and Obigbo

SECONDARY OCCUPATION	UMULUWE						OBIGBO					
	#	% of total sample	#	% males for each occupation	#	% females for each occupation	#	% of total sample	#	% males for each occupation	#	% females for each occupation
When Major Occup.-FARMING, Sec. Occup.:	153	65.9%	46	30.1%	107	69.9%	18	24.0%	8	44.4%	10	55.6%
Trading	19	8.2%	0	0.0%	19	100.0%	6	8.0%	1	16.7%	5	83.3%
Other than trading	29	12.5%	18	62.1%	11	37.9%	2	2.7%	2	100.0%	0	0.0%
None	105	45.3%	28	26.7%	77	73.3%	10	13.3%	5	50.0%	5	50.0%
When Major Occup.-TRADING, Sec. Occup.:	19	8.2%	10	52.6%	9	47.4%	21	28.0%	19	90.5%	2	9.5%
Farming	10	4.3%	4	40.0%	6	60.0%	3	4.0%	1	33.3%	2	66.7%
Other than farming	6	2.6%	4	66.7%	2	33.3%	3	4.0%	3	100.0%	0	0.0%
None	3	1.3%	2	66.7%	1	33.3%	15	20.0%	15	100.0%	0	0.0%
When Major Occup.-DRIVING, Sec. Occup.:	3	1.3%	3	100.0%	0	0.0%	6	8.0%	6	100.0%	0	0.0%
Farming	2	0.9%	2	100.0%	0	0.0%	1	1.3%	1	100.0%	0	0.0%
Trading	1	0.4%	1	100.0%	0	0.0%	0	0.0%				
Other than farming or trading	0	0.0%					2	2.7%	2	100.0%	0	0.0%
None	0	0.0%					3	4.0%	3	100.0%	0	0.0%
When Major Occup.-OTHER, Sec. Occup.:	49	21.1%	36	73.5%	13	26.5%	29	38.7%	27	93.1%	3	10.3%
Farming	28	12.1%	19	67.9%	9	32.1%	2	2.7%	2	100.0%	0	0.0%
Trading	2	0.9%	0	0.0%	2	100.0%	0	0.0%				
Other than farming or trading	8	3.4%	8	100.0%	0	0.0%	9	12.0%	8	88.9%	1	11.1%
None	10	4.3%	8	80.0%	2	20.0%	18	24.0%	17	94.4%	1	5.6%
Not Available	1	0.4%	1	100.0%	0	0.0%	0	0.0%				
No major or secondary occupation	8	3.4%	1	12.5%	7	87.5%	1	1.3%	0	0.0%	1	100.0%
TOTAL	232	100.0%	96	41.4%	136	58.6%	75	100.0%	60	80.0%	15	20.0%

In Obigbo, women work as farmers (55% of farmers), traders (10% of traders), and have a 'monopoly' in the occupations of nursing and secretarial work.

The preceding paragraphs offer only a superficial glimpse into the labor market of our two Igbo villages. A more thorough image can be obtained by analyzing the influence of a set of carefully chosen variables on the probability that a person would be a paid worker or not.

The model introduced in the next section was estimated using three types of explanatory variables: personal characteristics, household demographics, and economic conditions in the village of residence. Personal characteristics considered are: gender (represented using a dummy variable), age and age squared, the level of education (described using four dummy variables to represent the highest educational achievement: some primary education, completed primary education, some secondary education, and some tertiary education), and marital status (using also a dummy variable for married or singles). Household demographics include the number of very young children living in the household (less than 6 years old, the age they start attending primary school), the number of young children likely to attend primary school (6 to 12 years old), and the number of children age 13 to 15 years old who can work for a payment in order to help their mother and still live in the maternal household. The economic conditions in the traditional village vs. the suburban village are captured using a dummy variable to differentiate between the villagers of Umuluwe and those of Obigbo in the complete sample. The term

'complete sample' stands for the reunion of the two separate samples for Umuluwe and Obigbo (relevant because of their symbiotic relationship).

The previous discussion, regarding the traditional roles of men and women in Igbo society and about the types of occupations they share or not, suggests that gender is an explanatory variable of interest. In some modern societies age is related to employed life in a very clear way, men and women each have their own age thresholds for retirement. But in a society like the Igbo, the border between paid work and non-paid work, between self-employed and retired, is blurred. People work as long as they are able and also pursue any occupation accessible to them, and this is the reason for imposing only a lower limit for age in our samples (18 years) and no upper limit for either males or females. Our survey shows that most of the men and women in their old age are still farmers or traders.

The level of education is an interesting variable because it allows us to check if the male-oriented bias is important for the type of occupation (paid or non-paid) women have compared to men. Also, the marital status can be relevant for this Igbo labor market analysis in the context of the social mores in Igbo society governing the freedom of movement for women compared to men (recall the discussion about migration in chapter 5).

Given the traditional roles of mothers (caretakers) and fathers (receivers of benefits from children but with no customary obligation attached to it) in child rearing, the number of children younger than 16 years still living in the family

compound can affect differently the likelihood of a paid occupation for their parents. And also children have different effects for different age groups.

To present the results of our study on paid work vs. non-paid work, we will proceed first to a brief analysis of our samples for Umuluwe, for Obigbo, and for Umuluwe and Obigbo together (see the Annex to this chapter). In Umuluwe, 51.0% of men and 15.4% of women perform paid work, while in Obigbo the percentages are 73.3% for men and 26.7% for women.

In the total sample, the males and females have almost the same average age (47.7 vs. 47.5 years). In the Umuluwe sample, on average, adult men are 5 years older than adult women (52.4 vs. 47.4 years) while in the Obigbo sample the situation is reversed (48.7 years for women and 40.2 years for men). Women—in the total sample—who have a paid occupation, are on average younger than men (36.5 vs. 42.6 years), and the same can be said for women who have a non-paid occupation (49.7 vs. 55.3 years). But when we look at the separate samples for Umuluwe and Obigbo, a different picture arises. In Obigbo (the suburban village), women performing a paid work are mainly (50%) in the age group 30-41 years, while in Umuluwe (the traditional village) they are a decade younger (47.6% are 20-30 years old). For men, in Obigbo the situation is almost the same as for women (47.7% in the age group 31-40 years), while in Umuluwe they are 25% in the 31-40 years age group and 28.6% in the 41-50 years age group.

Females in the full sample have lower levels of education compared to males. About 60.9% (23.1%) of women (men) reported no formal education or have not completed their primary education, while 21.2% (38.5%) of women (men) completed primary schooling. Of those reporting to perform a non-paid work, 70.6% (42.9%) of women (men) had less than six years of education. About 13.9% (32.1%) of women (men) have some secondary education and 4.0% (6.4%) of women (men) have some tertiary education. On average, women who perform a paid work have a higher level of schooling than men (9.2 vs. 7.5 years in Umuluwe and 10.3 vs. 8.9 years in Obigbo).

An interesting insight about suburban life compared to that in the traditional village regards the marital status of our respondents. The percentage of single women is more than double in Obigbo (6.7%) compared to Umuluwe (2.9%), while for men it is more than triple (36.7% vs. 11.5%).

6.4 The Model

To analyze an individual's decision to participate in the labor market we use a binary choice model, specifically a binary logit model, to assess the probability for an individual to be a paid worker or not. Consider (Ichino 2001, 5) a sample of individuals indexed by $i = \{1, 2, 3, \ldots N\}$. A binary variable is observed for each individual such that:

$$Y=\begin{cases}1\,with\ probability\ \Pr(Y=1)=P\\0\,with\ probability\ \Pr(Y=0)=1-P\end{cases} \tag{6.1}$$

A set of independent variables in a vector X explains the response such that:

$$Y_i=X_i\beta+\varepsilon_i \tag{6.2}$$

where β is a column vector of parameters to be estimated, ε_i is the stochastic error term, and Y_i is the dependent variable.

Following this framework, in our paid work choice analysis, the dependent variable becomes:

$$Y_i=\begin{cases}1 & if\ individual\ 'i'\ has\ a\ paid\ occupation\\0 & if\ individual\ 'i'\ has\ a\ non-paid\ occupation\end{cases} \tag{6.3}$$

In this case, the probability that an individual will be a paid worker can be given by:

$$P(Y_i=1)=\log it(X\beta)=\frac{e^{X_i\beta}}{1+e^{X_i\beta}} \tag{6.4}$$

and the probability that an individual will be a non-paid worker can be given by:

$$P(Y_i=0)=1-\log it(X\beta)=\frac{1}{1+e^{X_i\beta}} \tag{6.5}$$

Note that an error term is not included in the calculations because the value of the dependent variable for each observation is obtained through a probabilistic mechanism representing the probability given by the logit equation (Kennedy, 1998).

Following Maddala (1993), the marginal effect of a particular independent variable $\mathbf{X}_i$ on the probability of the occurrence of the response P(Y=1) is calculated by:

$$\frac{\partial P(Y=1)}{\partial X_i}=\frac{e^{X_i\beta}}{\left[1+e^{X_i\beta}\right]^2}\beta_k \tag{6.6}$$

The marginal effects represent the incremental change in the predicted probability caused by a unitary change in the independent variable considered. We use the marginal effects to examine the variability of an individual's socio-economic characteristics on the probability of paid work.

In order to perform the binary logit regression analyses of the data, the 'Limdep' software package was used. The results and analyses of the various models tested for this study are presented in the following sections.

There are no universally accepted goodness-of-fit tests for limited dependent variable regressions due to the fact that the variance of the dependent variable depends on its rate of incidence (the number of events classified as either 1 or 0 in our case). Therefore, three different tests are used, pseudo-R^2, McFadden R^2, and Estrella R^2. The theoretical range for pseudo-R^2 is zero to one. The models predict well when goodness-of-fit measures have values close to or above 0.20, which is an acceptable value for logit estimates (McMillen, 1989).

Pseudo-R^2

One goodness-of-fit measure that Limdep provides is based on the McKelvey-Zavoina (1975) formula:

$$pseudo - R^2 = \frac{SS_{\text{Regression}}}{SS_{\text{Errors}} + SS_{\text{Regression}}} = \frac{\sum_{i=1}^{n} (\hat{y}_i^* - \bar{\hat{y}}_i^*)^2}{(n * 3.29) + \sum_{i=1}^{n} (\hat{y}_i^* - \bar{\hat{y}}_i^*)^2} \tag{6.7}$$

where SS is the sum of squares, n is the sample size, $\hat{y}_i^*$ is the linear predictor of case i, 3.29 is the variance of the logistic probability density function.

McFadden R^2

A second goodness-of-fit measure is the McFadden (1979, 307) pseudo R^2, given by:

$$McFadden\ pseudo - R^2 = 1 - \left[\frac{\ln L_A}{\ln L_0}\right] \tag{6.8}$$

where $\ln L_A$ is the Log-likelihood of the alternative model, and $\ln L_0$ is the Log-likelihood of the zero model. The log likelihood is the log of the probability that the observed values of the dependent variable can be predicted from the observed independent variables and can vary from zero to minus infinity (Garson, 2001).

Estrella R^2

The last goodness-of-fit measure we use is the Estrella R^2, calculated

$$Estrella\ pseudo - R^2 = 1 - \left[\frac{\ln L_A}{\ln L_0}\right]^{-\frac{2\ln L_0}{n}} \tag{6.9}$$

where $\ln L_A$ is the Log-likelihood of the alternative model, and $\ln L_0$ is the Log-likelihood of the zero model and n is the sample size.

The model described above provides the basis for an analysis, described in the following section, of paid work choice in two cases:

1. Male vs. Female villagers in both Umuluwe and Obigbo, and
2. Umuluwe vs. Obigbo residents.

6.5 Empirical Results

The results of the study take the following format. First, we examine the paid work differences between men and women for the entire sample (Models 1-4; Table 6.3). Second, we examine the paid work differences between the respondents in the two villages (Models 6-10; Table 6.4). Before continuing with the estimated logit models it should be noted that the pseudo-R^2 measures suggest that the regressions have a reasonable fit (close or above 0.20).

Due to traditional roles that men and women play in the Igbo society, it follows that the factors affecting paid working decisions will differ for women and men. As shown in Table 6.3, the following factors were found to be significant in explaining whether a woman (Model#1) was a paid worker or not: age, age-squared, completed primary education, some secondary education, some tertiary education, children six to twelve, and children thirteen to fifteen. Age had a positive coefficient, indicating that as a woman's age increases so does the probability of her doing paid work. However, the effect of age is minor, as indicated by the marginal effect of 0.002. The result indicates that a one-unit increase in age results in a 0.2% increase in the probability that a woman is a paid worker. Age-squared has a negative coefficient indicating that as age increases the probability that a woman is a paid worker decreases. This result should be expected as young women (ages 20 to 40) represent approximately 70% of the

female sample. Basically, age-squared exaggerates the marginal differences of paid work opportunities between the age groups.

For men (Model#2), significant factors in explaining the type of work, paid or non-paid, they perform were: age squared, completed primary education, some secondary education, and some tertiary education. Similar to women's model, age-squared has a negative coefficient. The marginal effects for completed primary education and secondary education are significantly higher than for women (0.245 vs. 0.015 and 0.369 vs. 0.080) while for the tertiary education variable, the marginal effect for men is lower than for women (0.281 vs. 0.330). These results tell us that a completed primary education or some secondary education increases the probability that a man is a paid worker more than for a woman (with 24.5% vs. 1.5% for completed primary education and with 36.9% vs. 8% for some secondary education), while some tertiary education increases the probability of being a paid worker with 33% for women and only with 28% for men. As long as in Igbo society women are mainly wives and mothers, the decision to pursue a paid activity is slightly influenced by their level of education (of course stronger for those with some secondary education than for those with only primary education completed). But when a woman in Umuluwe or Obigbo has some tertiary education, this is a stronger incentive to have a job (paid-work). Why the effect of tertiary education is stronger for women than for men has to do with the types of jobs that are available for each gender (gender segregated job market) in our villages. As mentioned previously,

married women live in their husband's village and are less tempted than men to migrate to search for a job, even if they have a higher level of education. In Umuluwe, the women with tertiary education are mainly teachers, while in Obigbo they have many different other occupations.

The number of children is not significant for the probability that a man is a paid worker because the cost of raising children is not supported as much by parents as by the extended family (uncles, aunts, and grandparents). And moreover, providing food for children is also not a man's responsibility but a woman's.

The reason for analyzing the total sample (men and women), with both Umuluwe and Obigbo villages considered as one unit, is to obtain more insights about the probability that a member of Umuluwe's extended families, living on ancestors' land or as a migrant in Obigbo, is a paid worker or not (models #3 and #4). Model #3 considers the same variables as models #1 and #2 plus a dummy variable for gender. In this case, gender, age-squared, completed primary education, some secondary education, and some tertiary education are the significant variables. Given the strongly gender separated labor market in both villages, in model #4 were eliminated the gender dummy (very high significant) and the status dummy (not significant, 80% of the sample are married individuals), in order to see if any other variables become significant or if the significance of other variables would be changed. And the answer is 'yes,' the dummy showing to which village-sample the individual belongs becomes

significant, and also the significance of completed primary education variable is increased. The village dummy has a negative coefficient showing that being an Umuluwe villager decreases the probability of having paid work. Also, the marginal effect for this variable is –0.189, meaning that living in Umuluwe compared to Obigbo decreases (by 18.9%) the probability of paid work.

The second type of investigation (Table 6.4) discusses the two village-samples and again the total sample. This analysis addresses the differences—from the labor market decision point of view—between the traditional village Umuluwe and the suburban village Obigbo. The difference between models #5 and #6 (for not gender-separated Umuluwe sample), #7 and #8 (for not gender-separated Obigbo sample), and #9 and #10 (for total not gender-separated Umuluwe & Obigbo sample), is that #6, #8, and #10 do not use the gender dummy variable (which is highly significant for the Umuluwe and total samples but not for the Obigbo sample) in order to see if its influence is concealing the weaker influence of other variables. The gender dummy is not significant for the Obigbo sample probably because the ratio of men to women is 4:1, while for the Umuluwe sample is 1:1.4 and for the total sample is about 1:1. Also, another difference for the Obigbo sample is the significance of the dummy variable showing if the person has very young children (0 to 5 years old).

For the Umuluwe sample, in model #5, the probability for a villager to work for pay depends significantly (and with a positive coefficient) on the following variables: gender, completed primary education, some secondary

education, and some tertiary education. The strongest marginal effect is that of tertiary education, its achievement by an Umuluwe villager determines an increase with 73% of the probability to have a job (paid work, employed or self-employed). When the gender variable is dropped (model #6), the significance of completed primary education variable is enhanced, while the status dummy becomes significant and with a negative coefficient. Its marginal effect of 0.269 suggests that marriage for a person in Umuluwe decreases (by 26.9%) the probability of paid work.

Compared to the Umuluwe sample, for the Obigbo sample some differences should be mentioned regarding the significant variables. When the gender dummy is considered (model #7), it is not significant, as we have previously mentioned. Age and age squared are significant, while completed primary education, some secondary education, and some tertiary education are significant but at a lower level than for Umuluwe (probably because in Obigbo are people who declared themselves as 'applicants' for a job but not working at the moment of the survey). Differently from Umuluwe, the status dummy is significant at a higher level, has a positive coefficient, and has a strong marginal effect (0.723). Being married in Obigbo means an increased probability to have a job and not only a subsistence activity, maybe because the land belonging to the extended family is in Umuluwe.

Table 6.3: Probability of a Female or Male to do Paid Work in Umuluwe and Obigbo

INDEPENDENT VARIABLE	Model#1 (F)		Model#2 (M)		Model#3 (T)		Model#4 (T)	
	Coef.	*SE*	*Coef.*	*SE*	*Coef.*	*SE*	*Coef.*	*SE*
Constant	-8.317	3.940	-2.564	2.186	-4.539	1.738	-4.333	1.622
	(0.035)		(0.241)		(0.009)		(0.008)	
	[-0.038]		[-0.619]		[0.960]		[-0.940]	
Umuluwe/Obigbo villager	-1.446	1.118	-0.475	0.437	-0.389	0.408	-0.826	0.334
	(0.196)		(0.277)		(0.341)		(0.013)	
	[0.013]		[-0.113]		[-0.085]		[-0.189]	
Gender	--	--	--	--	1.775	0.347	--	--
	--		--		(0.000)		--	
	--		--		[0.361]		--	
Age	0.332	0.192	0.120	0.094	0.118	0.072	0.142	0.067
	(0.084)		(0.202)		(0.104)		(0.033)	
	[0.002]		[0.029]		[0.025]		[0.308]	
Age-squared	-0.004	0.002	-0.001	0.0009	-0.002	0.0007	-0.002	0.0007
	(0.077)		(0.092)		(0.036)		(0.024)	
	[-0.00002]		[-0.0004]		[-0.0003]		[-0.337]	
Some primary education	-19	8360	1.258	1.579	-0.431	1.111	-0.695	1.099
	(0.998)		(0.426)		(0.698)		(0.527)	
	[-0.066]		[0.245]		[-0.084]		[-0.132]	
Completed primary education	1.78	0.927	1.292	0.551	1.391	0.446	1.949	0.425
	(0.054)		(0.019)		(0.002)		(0.000)	
	[0.015]		[0.294]		[0.312]		[0.440]	
Some secondary education	3.468	1.047	1.725	0.614	2.168	0.494	2.741	0.466
	(0.001)		(0.005)		(0.000)		(0.000)	
	[0.080]		[0.369]		[0.489]		[0.595]	
Some tertiary education	4.889	1.574	1.463	0.869	2.666	0.748	3.007	0.709
	(0.002)		(0.092)		(0.000)		(0.000)	
	[0.330]		[0.281]		[0.570]		[0.605]	
Married	0.978	1.039	0.142	0.700	0.389	0.496	--	--
	(0.347)		(0.839)		(0.432)		--	
	[0.003]		[0.035]		[0.078]		--	

Table 6.3: Probability of a Female or Male to do Paid Work in Umuluwe and Obigbo (continued)

INDEPENDENT VARIABLE	Model#1 (F)		Model#2 (M)		Model#3 (T)		Model#4 (T)	
	Coef.	*SE*	*Coef.*	*SE*	*Coef.*	*SE*	*Coef.*	*SE*
Children 0-5 years old	-0.369	0.369	0.017	0.275	-0.048	0.208	0.057	0.188
	(0.318)		(0.950)		(0.817)		(0.763)	
	[-0.002]		[0.004]		[-0.010]		[0.123]	
Children 6-12 years old	0.095	0.312	0.022	0.200	0.068	0.161	0.050	0.150
	(0.760)		(0.912)		(0.675)		(0.740)	
	[0.0004]		[0.005]		[0.014]		[0.108]	
Children 13-15 years old	-1.156	0.619	0.029	0.345	-0.203	0.276	-0.235	0.272
	(0.062)		(0.933)		(0.462)		(0.386)	
	[-0.005]		[0.007]		[-0.043]		[-0.511]	
Pseudo-R^2	0.401		0.184		0.343		0.272	
Estrella R^2	0.369		0.240		0.429		0.345	
McFadden R^2	0.401		0.183		0.343		0.272	
N	151		156		307		307	

NOTE: F stands for a female sample for both Umuluwe and Obigbo together

M stands for a male sample for both Umuluwe and Obigbo together

T stands for the total sample of both Umuluwe and Obigbo together

P-values are reported (in parentheses) below coefficient estimates

Marginal effects are reported [in brackets] below P-values

Table 6.4: Probability of a Person to do Paid Work: Umuluwe and Obigbo

INDEPENDENT VARIABLE	Model#5 (U)		Model#6 (U)		Model#7 (O)		Model#8 (O)		Model#9 (T)		Model#10 (T)	
	Coef.	*SE*	*Coef.*	*SE*	*Coef.*	*SE*	*Coef.*	*SE*	*Coef.*	*SE*	*Coef.*	*SE*
Constant	-3.129	2.007	-4.363	1.882	-9.539	4.976	-9.476	4.916	-4.882	1.710	-5.074	1.61
	(0.119)		(0.020)		(0.055)		(0.054)		(0.004)		(0.002)	
	[-0.521]		[-0.780]		[-2.355]		[-2.339]		[-1.027]		[-1.096]	
Gender	1.827	0.423	--	--	0.089	1.044	--	--	1.873	0.335	--	--
	(0.000)		--		(0.932)		--		(0.000)		--	
	[0.327]		--		[0.022]		--		[0.377]		--	
Age	0.058	0.080	0.122	0.076	0.383	0.217	0.382	0.216	0.125	0.073	0.153	0.06
	(0.466)		(0.108)		(0.077)		(0.077)		(0.086)		(0.027)	
	[0.0097]		[0.0219]		[0.094]		[0.094]		[0.026]		[0.033]	
Age-squared	-0.0009	0.0008	-0.001	0.000	-0.005	0.002	-0.005	0.002	-0.0016	0.0007	-0.002	0.00
	(0.267)		(0.117)		(0.035)		(0.036)		(0.028)		(0.017)	
	[-0.0001]		[-0.0002]		[-0.0012]		[-0.001]		[-0.0003]		[-0.0004]	
Some primary education	-0.333	1.163	-0.470	1.135	-18	2649	-18	26498	-0.481	1.116	-0.749	1.09
	(0.775)		(0.679)		(0.999)		(0.999)		(0.666)		(0.495)	
	[0.0509]		[-0.075]		[-0.634]		[-0.635]		[-0.091]		[-0.139]	
Completed primary	1.441	0.513	2.062	0.492	3.258	1.702	3.312	1.586	1.402	0.445	2.066	0.42
	(0.005)		(0.000)		(0.056)		(0.037)		(0.002)		(0.000)	
	[0.278]		[0.427]		[0.631]		[0.637]		[0.314]		[0.463]	
Some secondary	2.208	0.566	2.808	0.539	4.121	1.731	4.174	1.614	2.175	0.493	0.860	0.46
	(0.000)		(0.000)		(0.017)		(0.010)		(0.000)		(0.000)	
	[0.466]		[0.596]		[0.725]		[0.730]		[0.489]		[0.613]	
Some tertiary education	3.932	1.210	4.356	1.177	3.007	1.762	3.049	1.698	2.710	0.745	3.185	0.70
	(0.001)		(0.000)		(0.088)		(0.073)		(0.000)		(0.000)	
	[0.733]		[0.746]		[0.473]		[0.476]		[0.576]		[0.623]	
Married	-0.531	0.683	-1.193	0.658	3.655	1.735	3.712	1.598	0.2346	0.4702	-0.161	0.41
	(0.437)		(0.070)		(0.035)		(0.020)		(0.618)		(0.700)	
	[-0.0998]		[-0.269]		[0.723]		[0.729]		[0.047]		[-0.035]	

Table 6.4: Probability of a Person to do Paid Work: Umuluwe and Obigbo (continued)

INDEPENDENT VARIABLE	Model#5 (U)		Model#6 (U)		Model#7 (O)		Model#8 (O)		Model#9 (T)		Model#10 (T)	
	Coef.	*SE*	*Coef.*	*SE*	*Coef.*	*SE*	*Coef.*	*SE*	*Coef.*	*SE*	*Coef.*	*SE*
Children 0-5 years old	0.125	0.237	0.311	0.226	-1.468	0.689	-1.481	0.672	-0.066	0.206	0.006	0.192
	(0.596)		(0.169)		(0.033)		(0.027)		(0.749)		(0.977)	
	[0.0208]		[0.055]		[-0.363]		[-0.366]		[-0.014]		[0.0012]	
Children 6-12 years old	-0.046	0.190	-0.025	0.178	-0.150	0.399	-0.156	0.391	0.097	0.157	0.108	0.146
	(0.808)		(0.889)		(0.707)		(0.690)		(0.536)		(0.457)	
	[-0.0077]		[-0.0045]		[-0.037]		[-0.039]		[0.020]		[0.023]	
Children 13-15 years old	0.023	0.312	0.052	0.311	-1.103	0.852	-1.106	0.850	-0.244	0.272	-0.335	0.267
	(0.940)		(0.868)		(0.195)		(0.193)		(0.371)		(0.210)	
	[0.0039]		[0.0092]		[-0.272]		[-0.273]		[-0.051]		[-0.072]	
Pseudo-R^2	0.327		0.256		0.410		0.410		0.341		0.257	
Estrella R^2	0.385		0.304		0.498		0.498		0.427		0.327	
McFadden R^2	0.327		0.256		0.410		0.410		0.341		0.257	
N	232		232		75		75		307		307	

NOTE: U stands for the total Umuluwe sample

O stands for the total Obigbo sample

T stands for the total sample of both Umuluwe and Obigbo together

P-values are reported (in parentheses) below coefficient estimates

Marginal effects are reported [in brackets] below P-values

The negative coefficient for the dummy showing if the person has children younger than 5 years, is probably also related to the absence of an extended family in Obigbo to help with raising the children, which reduces the probability of having a paid activity for the parents. Not using the gender dummy (model #8) does not make much difference for the Obigbo sample, because of the high ratio of males to females (4:1); it enhances slightly the significance of the dummy for completed primary education.

When the whole sample—Umuluwe and Obigbo together as one unit—is considered (models #9 and #10), status dummy and children 0-5 years old dummy are not significant. The significant variables in model #9 are: gender, age, age-squared, completed primary education, some secondary education, and some tertiary education. When in model #10 the gender dummy is dropped, the significance is enhanced for the age, age-squared, and completed primary education variables.

6.6 Conclusions

The modernization and commercialization of traditional economic activities in Igboland has led to profound changes in Igbo traditions. On the one hand, the tradition of the extended family has allowed the communities of Umuluwe and Obigbo to form a symbiotic relationship that has helped maintain cultural traditions. On the other hand, labor market responses to market forces have led to the breakdown of traditional gender roles. For example, traditionally women

held significant economic power over the palm oil and cassava trades. Commercialization of these crops transferred this power to men. Also, cultural traditions made it difficult for women to compete with men in long-distance trade in agricultural and commercial goods.

The relationship between gender and the type of occupation (paid vs. not-paid work) was examined in detail using the survey data for Umuluwe and Obigbo villages. The survey of occupations (both paid and not-paid occupations) shows for both villages a gender-bias with respect to the main occupation. The discussion of secondary occupation in relation with the primary (major) occupation clarifies the picture of modern Igbo labor market.

A binary logit model was used to examine (1) paid work differences between males and females in both Umuluwe and Obigbo and (2) paid work differences between the two villages. The probability that an individual is a paid worker or not is assessed using as independent variables personal characteristics, household demographics, and the economic conditions in the village of residence.

The results are consistent with the cultural and institutional pattern in Igbo society. Igbo women are mainly wives and mothers and the level of education, except for tertiary education (undergraduate), has a reduced weight in woman's decision to pursue a paid occupation than for a man. The mother (not the father) and the extended family have the main role in fostering Igbo children and as a result the number of children is not significant for a men's

decision to be a paid worker. The migration phenomenon (men leave temporarily the ancestors' village and the wife/wives and children are left behind) and the custom of land belonging to the extended family (in the ancestors' village) are emphasized by the increased probability in Obigbo (for the surveyed people which originate from Umuluwe) compared to Umuluwe (ancestors' village) that a married man is not a subsistence farmer but a paid worker.

Annex to Chapter 6

Table A.6.1: Labor Market Statistics for Umuluwe and Obigbo

FEATURES	UMULUWE (232 observations)								OBIGBO (75 observations)								UMULUWE+OBIGBO (307 observations)							
	TOTAL		MALES			FEMALES			TOTAL		MALES			FEMALES			TOTAL		MALES			FEMALES		
	#	%T	#	%T	%M	#	%T	%F	#	%T	#	%T	%M	#	%T	%F	#	%T	#	%T	%M	#	%T	%F
Sample Size (% of total sample)	232	100%	96	41.4%	100%	136	58.6%	100%	75	100%	60	80.0%	100%	15	20.0%	100%	307	100%	156	50.8%	100%	151	49.2%	100%
Non-paid work	162	69.8%	47	29.0%	49.0%	115	71.0%	84.6%	27	36.0%	16	59.3%	26.7%	11	40.7%	73.3%	189	61.6%	63	33.3%	40.4%	126	66.7%	83.4%
Paid work	70	30.2%	49	70.0%	51.0%	21	30.0%	15.4%	48	64.0%	44	91.7%	73.3%	4	8.3%	26.7%	118	38.4%	93	78.8%	59.6%	25	21.2%	16.6%
Married	215	92.7%	85	39.5%	88.5%	130	60.5%	95.6%	41	54.7%	38	92.7%	63.3%	3	7.3%	20.0%	256	83.4%	123	48.0%	78.8%	133	52.0%	88.1%
Widow/Widower	2	0.9%	0	0.0%	0.0%	2	100.0%	1.5%	11	14.7%	0	0.0%	0.0%	11	100.0%	73.3%	13	4.2%	0	0.0%	0.0%	13	100.0%	8.6%
Single/Divorced	15	6.5%	11	73.3%	11.5%	4	26.7%	2.9%	23	30.7%	22	95.7%	36.7%	1	4.3%	6.7%	38	12.4%	33	86.8%	21.2%	5	13.2%	3.3%
AGE GROUPS: Paid work Subsample	70	100%	49	70.0%	100%	21	30.0%	100%	48	100%	44	91.7%	100%	4	8.3%	100%	118	100%	93	78.8%	100%	25	21.2%	100%
* 20-30 years	18	25.7%	8	44.4%	16.3%	10	55.6%	47.6%	11	22.9%	10	90.9%	22.7%	1	9.1%	25.0%	29	24.6%	18	62.1%	19.4%	11	37.9%	44.0%
* 31-40 years	16	22.9%	12	75.0%	25.0%	4	25.0%	19.0%	23	47.9%	21	91.3%	47.7%	2	8.7%	50.0%	39	33.1%	33	84.6%	35.5%	6	15.4%	24.0%
* 41-50 years	20	28.6%	14	70.0%	28.6%	6	30.0%	28.6%	9	18.8%	8	88.9%	18.2%	1	11.1%	25.0%	29	24.6%	22	75.9%	23.7%	7	24.1%	28.0%
* 51-60 years	8	11.4%	7	87.0%	14.3%	1	13.0%	4.8%	4	8.3%	4	100%	9.1%	0	0.0%	0.0%	12	10.2%	11	91.7%	11.8%	1	8.3%	4.0%
* Over 60 years	8	11.4%	8	100%	16.3%	0	0.0%	0.0%	1	2.1%	1	100%	2.3%	0	0.0%	0.0%	9	7.6%	9	100%	9.7%	0	0.0%	0.0%
EDUCATION-# of years:ALL	232	100%	96	41.4%	100%	136	58.6%	100%	75	100%	60	80.0%	100%	15	20.0%	100%	307	100%	156	50.8%	100%	151	49.2%	100%
* None	99	42.7%	28	28.3%	29.2%	71	71.7%	52.2%	12	16.0%	6	50.0%	10.0%	6	50.0%	40.0%	111	36.2%	34	30.6%	21.8%	77	69.4%	51.0%
* Some Primary	16	6.9%	2	12.5%	2.1%	14	87.5%	10.3%	1	1.3%	0	0.0%	0.0%	1	100.0%	6.7%	17	5.5%	2	11.8%	1.3%	15	88.2%	9.9%
* Completed Primary	65	28.0%	38	58.5%	39.6%	27	41.5%	19.9%	27	36.0%	22	81.5%	36.7%	5	18.5%	33.3%	92	30.0%	60	65.2%	38.5%	32	34.8%	21.2%
* Some Secondary	44	19.0%	24	54.5%	25.0%	20	45.5%	14.7%	27	36.0%	26	96.3%	43.3%	1	3.7%	6.7%	71	23.1%	50	70.4%	32.1%	21	29.6%	13.9%
* Some Tertiary	8	3.4%	4	50.0%	4.2%	4	50.0%	2.9%	8	10.7%	6	75.0%	10.0%	2	25.0%	13.3%	16	5.2%	10	62.5%	6.4%	6	37.5%	4.0%

Table A.6.1: Labor Market Statistics for Umuluwe and Obigbo (continued)

FEATURES	UMULUWE (232 observations)								OBIGBO (75 observations)								UMULUWE+OBIGBO (307 observations)							
	TOTAL		MALES			FEMALES			TOTAL		MALES			FEMALES			TOTAL		MALES			FEMALES		
	#	%T	#	%T	%M	#	%T	%F	#	%T	#	%T	%M	#	%T	%F	#	%T	#	%T	%M	#	%T	%F
EDUCATION-# years: Non-paid work	162	100%	47	29.0%	100%	115	71.0%	100%	27	100%	16	59.3%	100%	11	40.7%	100%	189	100%	63	33.3%	100%	126	66.7%	100%
* None	91	56.2%	22	24.2%	46.8%	69	75.8%	60.0%	9	33.3%	4	44.4%	25.0%	5	55.6%	45.5%	100	52.9%	26	26.0%	41.3%	74	74.0%	58.7%
* Some Primary	15	9.3%	1	6.7%	2.1%	14	93.3%	12.2%	1	3.7%	0	0.0%	0.0%	1	100.0%	9.1%	16	8.5%	1	6.3%	1.6%	15	93.8%	11.9%
* Completed Primary	37	22.8%	16	43.2%	34.0%	21	56.8%	18.3%	10	37.0%	5	50.0%	31.3%	5	50.0%	45.5%	47		21	44.7%		26	55.3%	
* Some Secondary	18	11.1%	8	44.4%	17.0%	10	55.6%	8.7%	4	14.8%	4	100%	25.0%	0	0.0%	0.0%	22	11.6%	12	54.5%	19.0%	10	45.5%	7.9%
* Some Tertiary	1	0.6%	0	0.0%	0.0%	1	100%	0.9%	5	18.5%	5	100%	31.3%	0	0.0%	0.0%	6	3.2%	5	83.3%	7.9%	1	16.7%	0.8%
EDUCATION-# years: Paid work	70	100%	49	70.0%	100%	21	30.0%	100%	48	100%	44	91.7%	100%	4	8.3%	100%	118	100%	93	78.8%	100%	25	21.2%	100%
* None	8	11.4%	6	75.0%	12.2%	2	25.0%	9.5%	3	6.3%	2	66.7%	4.5%	1	33.3%	25.0%	11	9.3%	8	72.7%	8.6%	3	27.3%	12.0%
* Some Primary	1	1.4%	1	100.0%	2.0%	0	0.0%	0.0%	0	0.0%	0		0.0%	0		0.0%	1	0.8%	1	100.0%	1.1%	0	0.0%	0.0%
* Completed Primary	28	40.0%	22	78.6%	44.9%	6	21.4%	28.6%	17	35.4%	17	100.0%	38.6%	0	0.0%	0.0%	45	38.1%	39	86.7%	41.9%	6	13.3%	24.0%
* Some Secondary	26	37.1%	16	61.5%	32.7%	10	38.5%	47.6%	23	47.9%	22	95.7%	50.0%	1	4.3%	25.0%	49	41.5%	38	77.6%	40.9%	11	22.4%	44.0%
* Some Tertiary	7	10.0%	4	57.1%	8.2%	3	42.9%	14.3%	5	10.4%	3	60.0%	6.8%	2	40.0%	50.0%	12	10.2%	7	58.3%	7.5%	5	41.7%	20.0%

Table A.6.2: Labor Market Averages for Umuluwe and Obigbo

FEATURES	UMULUWE (232 observations)			OBIGBO (75 observations)			UMULUWE+OBIGBO (307 observations)		
	TOTAL	MALES	FEMALES	TOTAL	MALES	FEMALES	TOTAL	MALES	FEMALES
Average AGE: ALL	49.44	52.39	47.37	41.87	40.15	48.73	47.59	47.68	47.50
Average Age: Non-paid work	52.09	58.79	49.35	48.30	44.88	53.27	51.54	55.25	49.69
Average Age: Paid work	43.33	46.24	36.52	38.25	38.43	36.25	41.26	42.55	36.48
Average EDUCATION # of years: ALL	4.46	5.75	3.54	7.81	8.53	4.93	5.28	6.82	3.68
* Non-paid work	2.91	3.89	2.50	5.59	7.38	3	3.29	4.78	2.55
* Paid work	8.04	7.53	9.24	9.06	8.95	10.25	8.46	8.20	9.40

CHAPTER 7

SUMMARY AND CONCLUDING COMMENTS

Two broad trends are reshaping economics and leading to new approaches in economic theory and policy. First is the new realism in describing economic behavior, partly in response to difficulties within the New Welfare Economics. The second trend is the new realism in economic policy and the recognition of the importance of institutions and cultural context.

Information gathered during a research visit to Nigeria in 2001 presented a unique opportunity to explore some of the more modern ideas in economic theory. New approaches regarding economic behavior that move away from the abstraction of *Homo economicus* toward more realistic representations of the economic actors are discussed in chapters 2 and 3. The concept of endogenous preferences is correlated to economic behavior using the game theoretic approach. Empirical results are presented for two behavioral games, Ultimatum Game and Dictator Game, played in the Igbo village Umuluwe.

The link between institutions/cultural matrix and economic behavior is discussed in chapter 4. Chapter 5 analyzes two symbiotic villages and presents a snapshot of institutions and economic change in Igboland. Chapter 6 tackles the cultural responses to modernization using primary socio-economic data collected in Umuluwe and Obigbo in a labor market decision-making study.

Economic Behavior and Economic Institutions

Throughout the twentieth century there was a steady narrowing of the subject matter of economics. The classical economists' broad concern with social welfare was reduced to Pareto Optimality, and then to Pareto efficiency. The strong Pareto efficiency principle is seldom used in real policy situations; as a consequence the applied work in economics and policy recommendations are based on the notion of a potential Pareto improvement and on the compensation principle that compares two states of the economy in terms of potential Pareto improvements. The conditions under which such comparisons can be made are the seeds of the current revolution in welfare economics with mainstream neoclassical economics moving beyond the assumptions of economic man and exogenous preferences. Advances in theoretical and empirical work in behavioral economics, experimental economics, and game theory create an increasingly consistent framework that takes into consideration the social and institutional matrix. The general conclusion is that economic behavior is strongly influenced by cultural conditioning through endogenous preferences. Contemporary welfare economics is increasingly interdisciplinary and influenced by psychology, sociology and anthropology and incorporates such notions as interpersonal comparisons of utility, endogenous preferences, and the role of institutions in economic behavior.

Humans are social beings and their preferences and behavior are shaped by social interaction and by economic institutions. Ultimatum Game, Dictator Game, and other behavioral games have shown that cultural specificities are better predictors of economic behavior than individual characteristics. In many traditional societies fairness as opposed to retaliation influences economic behavior, with a non-cooperative behavior inducing a cooperative response.

The Ultimatum Game reveals both fairness and retaliation while the Dictator Game reveals only fairness. Chapter 3 discusses the study of both Ultimatum and Dictator Games played in a traditional Igbo village (Umuluwe) in Southeastern Nigeria. The results show that the Umuluwe villagers exhibit a strong sense of fairness that is difficult to understand, given their situation of extreme poverty, without taking into consideration the cultural norms and the local institutional framework. This is in concordance with the results of other studies pointing that individual level economic and demographic variables are not good predictors of behavior and that economic behavior differs largely among cultures according to group norms and values, not to individual attributes. Also, the details the participants provide regarding the reason why they played the games the way they did seem to indicate that people care if the money they can win are 'tainted' by an unfair practice (like 'juju' magic in their case).

Once we accept that economic actors are more than simply rational actors, in order to explain economic behavior the role of institutions becomes central.

Chapter 4 discusses how work from game theory and behavioral economics has revealed the importance of cultural differences in determining economic behavior. If the models of human behavior assume endogenous preferences, the way we look at individual decision-making changes. Different institutions may combine and interfere influencing the human behavior. The importance of local institutions in economic development is widely recognized and leading economists like Stiglitz, Krugman, Soros and many others emphasize the importance of understanding the local history, social mores, and institutional framework for the success of economic modernization.

Rural—Suburban Symbiosis: Umuluwe and Obigbo Villages in Nigeria

The particularities of urban-style living — high population densities, pipe borne water, telecommunication, etc.— makes life and the institutional matrix in cities, bigger or smaller, very similar all over the world. Differently, each traditional peasant village represents an entity by itself even if in the same geographical area more villages can have similar institutions but even in remote African villages modernization is rapidly changing traditional institutions and cultural patterns. Chapters 5 and 6 discuss the results of a survey conducted in two closely-knit Igbo villages in Nigeria. Nigeria can be characterized as a mixed society where 'traditional-peasant' and 'modern-urban' cultures coexist. One village (Umuluwe) represents the more traditional peasant village and the other (Obigbo) represents the more modern suburban village. An interesting aspect of

these two villages is that Obigbo was established by migrant residents of Umuluwe to take advantage of economic opportunities near the city of Port Harcourt 120 kilometers to the south. In some sense the two villages might be considered a unified whole with each one playing its own particular role in the lives of residents who maintain close ties to both villages. The interdependencies between Umuluwe and Obigbo captured in our survey shed light on the impact of modernization, and the response to it, in a traditional African society.

On one hand, modernization forced a change of gender roles, of age and income structure and has had a profound effect on social institutions in Umuluwe and Obigbo. On the other hand, the symbiotic relationship between the old and new villages helped the Igbo society to adapt to modernization within the framework of its traditional culture (based on the patrilineal polygamous extended family, an institution very different from that of a nuclear, monogamous family). One could argue that the communal nature of Igbo marriages and family life made it easier to adapt to modernization through the dual village strategy. The large extended family compound where members come and go and adjust family duties accordingly is more adaptable than is the western style nuclear family.

The Igbo labor market was analyzed using the results of the socio-economic survey of Umuluwe and Obigbo. The occupational categories were discussed discriminating between paid work and non-paid work, and between the major occupation and secondary occupations. A binary logit model was used

to study the variables that influence the probability of a villager from Umuluwe or Obigbo to choose a paid occupation or a non-paid one. The institutional framework specific to the Igbo society; migration—the traditional roles played by men and women; the system of extended family—is affecting the decisions regarding the occupation type (paid work or non-paid work) differently for men and women.

The last twenty years have seen a "sea change" in microeconomic theory. The building blocks of the new welfare economics were "equilibrium, greed and rationality." The new microeconomics is being built on the foundations of social interactions, institution design, and the coevolution of institutions and preferences (Bowles 2004). This dissertation is only a beginning in understanding the role of real human actors in the world's economic systems. But it is a first step in entering the vibrating and exciting field of contemporary microeconomics.

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