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Traditional Wealth, Modern Goods, and Demographic Behavior in Rural Senegal

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Summary. — The study investigates the relationships of demographic indicators (fertility, mortality, marriage, education) with modern and traditional wealth in rural Senegal. Data were based on rural households interviewed in the 2011 DHS survey. An Absolute Wealth Index was computed from a list of 15 modern goods. A Traditional Wealth Index was computed from data on land and livestock per capita. Modern wealth was always associated with modern demographic behavior (lower fertility, lower mortality, higher age at marriage, higher level of education), whereas traditional wealth was not associated with fertility and mortality, and was negatively associated with marriage and education.

Key words — household wealth, inequalities, modernization, demographic behavior, Senegal, Africa

1. INTRODUCTION

Economic development and modernization are associated with profound changes in attitudes, behavior, and preferences in a variety of fields of human activity, and with new social stratifications. In modern societies, social status is more and more associated with income and wealth. Economic development and modernization are also associated with changes in demographic behavior, such as fertility, mortality, marriage, migration, and modern education. As a result, demographic parameters vary by socioeconomic status, since social groups evolve at various points in time and at different speeds.

Many studies on the relationships of demographic indicators with economic development and modernization focus on modern education, firstly because modern education is a key component of change in attitudes, behaviors, and preferences, and secondly because it is easy to measure and widely available in demographic and economic surveys. The relationship of demographic indicators with income and wealth is also more and more investigated, as more data become available. Proper measurement of income is complex, especially in transitional societies, because of the great diversity in sources of income. Income measurement is usually restricted to economic surveys which typically do not include demographic indicators. On the contrary, wealth is easier to capture in surveys, so that demographic differentials by wealth are frequently studied. For instance, the Demographic and Health Surveys (DHS), the main provider of demographic indicators in developing countries, routinely compute a "Wealth Index" based on goods and amenities owned by households. This wealth index allows defining five categories of socioeconomic status based on the quintiles of its distribution in the population (Rutstein & Johnson, 2004). Demographic indicators can then be tabulated by these categories to reveal the associated differentials. Other alternatives to the DHS wealth quintiles exist, in particular absolute wealth indexes, a direct measure of wealth, which produce similar pertinent demographic differentials, and have the advantage of being replicable in time and space (Garenne & Hohmann, 2003; Hohmann & Garenne, 2010, 2011).

Wealth indexes used in developing countries are primarily based on modern goods and amenities owned by households. However, wealth can also be seen in a traditional perspective, since inequalities do exist in traditional societies, as they do in modern and transitional societies. Little research has been conducted on the relationships between traditional wealth and demographic outcomes, and their contrast with relationships between modern wealth and demographic outcomes. This paper aims at filling this gap by taking the example of Senegal, a country located in West Africa. The society in Senegal is transitional, partly modern and partly traditional, which provides a nice opportunity for such comparative study of the contrasting effects of modern and traditional wealth. This empirical study is based on a recent DHS survey, which included a large body of information on traditional wealth, which was not the case in earlier surveys conducted in Senegal. The first part of this paper discusses the differences between modern and traditional wealth. The second part presents data and results: inequalities according to modern and traditional wealth, and their relationships with mortality, fertility, marriage, and education. This study is part of a larger program aiming at investigating factors of demographic change in Africa using DHS surveys (Garenne & Gakusi, 2004, 2006; Garenne, 2008, 2012, 2014). This work follows numerous attempts at measuring wealth and poverty in developing countries with special focus on rural areas, and at relating such indicators to a great variety of outcomes (Adams, Evans, Mohammed, & Farnsworth, 1997; Booysen, van der Berg, Burger, von Maltitz, & du Rand, 2008; Castro, Hakansson, & Brokensha, 1981; Edward & Sumner, 2014; Hargreaves *et al.*, 2007; Rigg, 2006; Sahn & Stifel, 2000; Tache & Sjaastad, 2010). However, to our knowledge no other published work addressed systematically the issue of the divergent correlations of modern and traditional wealth with demographic indicators.

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2. TRADITIONAL WEALTH *VERSUS* MODERN GOODS AND AMENITIES

Household wealth can be defined as the total of goods and amenities, either material or symbolic, either marketable or not, possessed by a household and shared by household members. Household wealth is very different in pre-modern (traditional) societies, in transitional societies, and in modern societies. Not only the goods defining wealth are not the same in traditional and modern societies, but both their market value and their symbolic value differ markedly. A large body of economic anthropology literature has explored traditional wealth, household wealth, and social stratification in a historical context (Castro *et al.*, 1981; Davis & Moore, 1945; Godelier, 1966; Haller, 1970; Mack, 1951; Netting, 1982; Smith, 1987; Schneider, 1974; Yanagisako, 1979).

In pre-modern agricultural societies, traditional wealth is associated not only with the possession of goods, most of them without market value, but more importantly with prestige, power, and social status. The acquisition of these goods is done through a long process of accumulation, for which the stability and cohesion of the family are keys to success. Most goods are not acquired by money exchange, but simply by the product of family labor. This is why the first indicator of household wealth is the size of the household and to a lesser extent that of the extended family within which many exchanges occur. The size of a household determines firstly the manpower to produce traditional goods and services, and in particular the number of adults who are the main producers. In addition, the number of women in their reproductive ages is also fundamental, since it determines the size of the next generation. The second indicator of household wealth is agricultural land, which determines the food production necessary to feed the household. The third indicator is livestock. In Senegal, this is above all cattle (Pélissier, 1966). The size of the herd is important for several reasons: a source of milk, occasionally a source of meat, a natural fertilizer for the fields, a living capital which can be used in extreme circumstances such as severe food shortages, and above all a source of prestige. Other farm animals are also important: sheep, goats, and poultry are used mainly for food, as well as pigs among non-Muslim families; horses and camels are used mainly for transportation and for agricultural work. Access to materials found in nature also plays a role in defining wealth, in particular trees (for wood, fruits, fodder, and as fertilizer), and a variety of grass, straw, and related materials used for construction, feeding animals, wickerwork, or other purposes (Pélissier, 1966). Locally made agricultural tools are also part of the household equipment, and can be counted as traditional wealth. Other objects can be considered part of the household wealth, in particular clothes and jewels. Traditional housing is less characteristic of wealth, since most families live in similar conditions of traditional huts built by the family. All these traditional goods can be inherited from generation to generation, or can be exchanged during complex transactions typical of traditional societies, usually without money exchange. Likewise, spouses and children are also part of these complex exchanges between traditional families. Note that more traditional goods are not necessarily associated with more comfort or more food, since traditional societies tend to share their resources among family members. It is common to find a lower food consumption per capita in larger families (Deaton & Paxson, 1998; Lanjouw & Ravallion, 1995). In addition, more traditional households tend to be more conservative, and therefore less likely to have modern attitudes and to desire modern goods and services.

On the contrary, modern wealth must be acquired with money, and necessitates integration in a modern economy characterized by market exchanges. Modern wealth focuses on manufactured goods, amenities, and modern services. First investments of families in modern goods are often related with housing and comfort, and the quality of housing is a major indicator of household modern wealth. A second category of modern wealth is house equipment, which includes running water, sanitation, electricity and modern fuels (gas, petrol, etc.), and goes from furniture, chinaware, and glassware to various electrical equipment (radio, television, refrigerator, washing machine, telephone, computer, etc.). A third category includes modern means of transportation, such as bicycle, motorcycle, car, truck, boats etc., and in rural areas, modern agricultural tools for farmers (plow, seeder, tractor, etc.). Lastly, and sometimes forgotten in surveys, are modern services such as a bank account, and access to internet. All these modern goods require cash money to be acquired, and are desired to satisfy modern needs.

Note that the border between modern and traditional wealth is not always perfectly delineated. In particular, in transitional societies, which are partly modern and partly traditional, some traditional goods can be converted into modern goods. For instance, instead of growing staple food in their fields, farmers may grow cash crops in order to obtain the money needed for acquiring modern goods. This is certainly the case with peanuts and cotton in rural Senegal, as well as with livestock (cattle, sheep, goats, pigs, and poultry) which can be sold instead of being consumed locally. Conversely, some modern goods may be acquired not only for satisfying modern needs, saving time, increasing productivity, convenience and the like, but simply for prestige.

3. DATA AND METHODS

(a) *Overview on Senegal*

The society in Senegal is transitional, in between a traditional agricultural society as it was two centuries ago and a modern society, rapidly urbanizing and more and more integrated into the world economy. Gross Domestic Product per capita, expressed in Purchasing Parity Power (GDP-PPP) is still low, estimated at 1,456 $ in 2008, about 21 times less than in the USA (31,178 $) (Maddison, 2010). Income was increasing steadily since 1994, after a long period of economic recession lasting about 30 years. The country is about 55% rural according to the preliminary results of the 2013 census (18% in USA), and the majority of provinces (9/14) are primarily rural, with 3/4th or more of the population living in rural areas (Senegal, 2014). The country conducted several DHS surveys over the years, among which the recent 2011 survey included data on traditional wealth. According to this survey, rural Senegal is at an early stage of the fertility transition, with a Total Fertility Rate (TFR) of 6.0 children per woman (2.05 in USA), although declining since a peak of about 8.0 children per woman in 1980. Mortality decline is more advanced, with an under-five death rate in rural areas of 102 per 1,000 live births at the 2011 survey (7.9 per 1,000 in USA), a marked change since the corresponding high value of 250 per 1,000 at the 1986 DHS survey. Marriage is still very early in rural areas, with a median age of 17.7 years for women (26.0 years in USA). Level of education is still low in rural areas, with 71.6% of women with no education at all, and only 10.1% with primary level (primary level is virtually complete in USA) (Senegal: ANSD and ICF, 2012).