I. Summary

This thesis focuses on the concept and measurement of poverty as a multidimensional phenomenon. Poverty, in the classical sense, is generally analyzed from a monetary point of view; however, poverty is more than just a monetary phenomenon which manifests itself in different areas of life. The goal of this research is to construct a novel index of poverty as a multidimensional phenomenon. This research is expected to advance the methodology in the index approach to the multidimensional poverty measurement and inform more broadly poverty reduction and social policies.

Grounded in the understanding that income poverty may not reflect other types of deprivations, this thesis utilizes a novel approach that focuses on the measurement of poverty on the basis of social justice and human rights. Specifically, this thesis aims to develop a poverty index that takes into account access to social security and social services, access to justice, and access to safe working conditions – three very important elements of universal human rights that are missing from existing indexes currently used to measure poverty.

The proposed index will be tested using data from Brazil, Mexico, Turkey and South Africa. These upper-middle-income countries have some similarities in terms of social structure, the sources of inequality as well as socio-economic conditions. The social injustice and deficit of human rights show themselves strongly in these societies. Particularly, these upper-middle-income countries are witness to three very important elements of poverty: i)
Accessibility problems to justice, ii) Accessibility problems to social services and social security, iii) not safe working conditions. Until now, these three dimensions of poverty are never been taken into account in the poverty indexes. Thereby, our research is expected to contribute to a progress in the construction of the multidimensional poverty indexes, which will help to implement efficient and realistic social policies to combat poverty in upper-middle-income countries.

II. Introduction: Research objective and scientific pertinence

This thesis focuses on the concept and measurement of the multidimensional nature of poverty. In the classical sense, poverty is generally considered as be deprived of the sufficient income/earnings to afford a life of good quality and it is measured subject to this monetary vision. However, several researches show that poverty is not just a one-dimensional phenomenon -based on this monetary side- because poverty manifests itself from different sides in life. In recent years, several scientific works are attempted to measure poverty as a multidimensional phenomenon through different quantitative approaches.

In this research, we assume that poverty is a multidimensional phenomenon and we are interested in the measurement of that concept through the poverty index approach. We observed that in existing poverty indexes, some important factors of poverty related to human rights and social justice are not yet considered into computations. Thereby, the goal of of this thesis is to propose and test a novel poverty index which deal with that lacking side -in the poverty measurement literature-. Specifically, we aim to construct a poverty index that takes into account these following three dimensions: accessibility to justice, social services and social security and the safe working conditions.

The principal question that we try to answer is: “How we can improve the poverty index for the measurement of the multidimensional side of poverty?” By assuming that poverty is not a just a monetary phenomenon, our hypothesis is: “A poverty index which have a decomposing nature and takes into account social justice and human rights dimension, can be able to capture more accurately a percentage of poor people in societies –and in function of the poverty severity-.”.
Motivation behind this proposed idea is that in fact the current multi-dimensional poverty indexes contain only these three following dimensions “Health, education and Living Standards”; however we observe that these three areas are not sufficient to capture the multidimensional side of poverty.

Particularly, in our research we focus on the measurement of multidimensional poverty in upper-middle-income countries. The reason is that the basic needs approach or three dimensions of the current multidimensional poverty indexes are not exactly help to find the real percentage of poor people in this category of country. Of course, other type of developing countries are also witness to poverty —particularly least developed countries— but technically in order to test our hypothesis, a relevant and homogeneous sample is crucial. For testing our hypothesis, we will conduct an empirical analysis through data from Brazil, Mexico, Turkey and South Africa. These four countries have some similarities in terms of social structure, the sources of inequality as well as socio-economic conditions; also the social injustice and deficit of human rights show themselves strongly in these societies. Particularly, these upper-middle-income countries are characterized by three very important elements of poverty: i) Accessibility problems to justice, ii) Accessibility problems to social services and social security, iii) not safe working conditions. As we aim to integrate these three dimensions in our proposed poverty index, we believe that these countries are adequate application area to test our hypothesis.

Thereby, this thesis is expected to contribute to a progress in the construction of the multidimensional poverty indexes, which will help to implement efficient and realistic social policies to combat poverty in upper-middle-income countries. In addition, as we aim to construct a poverty index —of a decomposing nature—, several indicators that we will create can also be used in other developing countries for the sub topics of poverty analysis.

III. Literature review

Poverty is a crucial social phenomenon which reveals oneself from different ways in a society from of old. For years, different approaches on this issue are adopted in different scientific works. In 1859, the famous French economist Leon Walras mentioned a question of
inequality through the possession of territory and private property in his book “De la propriété intellectuelle » and « L’économie politique et la justice » (1860). One of his remarkable ideas was concerning human freedoms and social justice; also he emphasized different kinds of inequalities. Particularly, his ideas on inequality that a person can face it in society –this does not contain ability or inequality by birth- helps us to understand what it means poverty and how poverty can be emerged in a society.

In 1971, the American philosopher John Rawls published his book “A theory of Justice”. He dealt with two principles of justice: First is “Each person is to have an equal right to the most extensive basic liberty compatible with a similar liberty for others” and the second concerns the idea of fair equality of opportunity for everyone and benefits for the least-advantaged members of society (Rawls, 1971). Also, in same year, the president of Word Bank Robert S. McNamara has declared the importance of the eradication of extreme poverty before the end of the 20th century. In 2000, the United Nations Member States has approved the Millennium Declaration in order to combat poverty. The Word Bank estimates a reduction of a global rate of poverty around 14 percent and 800 millions of poor people in 2015 - comparing to 1990 where the number of poor people was around 1.300 million-. However, the recent numbers on Millennium development goals achievements show that some targets are expected to be met by 2015, whereas some progress are insufficient and for some targets deterioration or no progress have been revealed. We observe that poverty is still an important issue and currently is at the core of several discussions within international institutions. Also, there are a lot of poverty eradication programmes around the word, organized by governments, no-profit organizations, research institutes or international organizations. But, a very important question stands concerning the measurement of poverty. Particularly, before implementing a poverty reduction programme as well as other poverty related social programmes the technical poverty measurement methods are very important.

The literature illustrates the different ways in which poverty manifests itself in society. This includes different theoretical approaches to that phenomenon, and also describes several different methods for its measurement. Mainly, the literature concerns two distinct approaches to poverty concept: Monetary and Non-Monetary. The Word Bank defines (2000) poverty as a deprivation in well-being. In order to afford their lives, individuals require certain resources; thus the
monetary approach measures poverty through notions of income, expenditure and consumption. If an individual or a family lives below a defined threshold – i.e., if they possess insufficient resources to meet their needs or the absolute threshold such as 1 or 2 USD per day, for example – then they are defined as poor. For example, the basic needs approach is one of the famous approach to the measurement of absolute poverty, particularly in developing countries. This approach is introduced by the International Labour Organization’s Word Employment Conference in 1976. On this issue, the scientific works of Paul Streeten (1981) and Frances Stewart (1985) are very important (This measurement is closely related with the poverty line which defines some quantity of income which is needed in order to afford some basic needs).

On the other hand, the relative approach is also closely related to income inequality, as it refers to the economic welfare of an individual in relation to that of others in the same society. The relative threshold can be as median income or the income distribution quintiles of a specific population. But, despite the vast popularity of the monetary approach to poverty measurement; however some critics on this topic are came up in recent years. New poverty measurement approaches through non-monetary vision are emerged. Particulary, the scientific works of Indian economist Amartya Sen have a very important role for the multidimensional nature of poverty concept.

In May 1979, during a conference at the University of Stanford, Sen has mentioned a concept of “Capability” (Commodities and Capabilities, 1987). He has criticised the utility approach used for the study of equality and also the Rawls approach. The reason behind of these critics was related to the idea that these approaches were lacking the notion of capacity of a person to do the basic things. In his book “Development as freedom” (1999), he introduced the capability approach in order to reveal the multidimensional nature of poverty. He dealt with the concepts of inequality, injustice, freedom, democracy as well as quality of life. With the American philosopher Martha Nussbaum they worked together on the quality of life (1993).

Sen’s concept “Capability” (1987) forms the heart of the non-monetary approach to the poverty measurement. By proposing the capability approach, Sen has used some new notions: Substantive freedoms, Functioning, Doings and Beings. He defined Functioning as a sort of combination of doings and beings such as the actions that a person accomplishes and situations
that a person faces it. And in order to realize these functioning, a person needs a real liberty
(substantive freedom) -and in this context the capability forms the real liberty of a person-. Thus,
in contrast to monetary approaches, the no-monetary approaches are based on the notion that
people become poor because they lack certain capabilities; for example they may not have an
adequate education or sufficient access to health care and other social services. David A. Clark
mentions that “Sen acknowledged strong connections with Adam Smith’s (1776) analysis of
necessities and living conditions and Karl Marx’s (1844) concern with human freedom and
emancipation” (The Capability Approach: Its development, Critiques and Recent advances,
2005). With Sen’s works, the poverty phenomenon takes a novel approach.

In conclusion, while there is currently no universal consensus on the definition or the
measurement of poverty, the non-monetary approach may be considered especially essential to
reveal the multidimensional nature of poverty. In this light, this research aims to contribute to the
improvement of the measurement of poverty by using a non-monetary approach.

IV. Methodology

This thesis covers the concept of poverty as a multidimensional phenomenon. In general,
particularly in public a poverty is perceived as a financial deprivation such as lack of sufficient
income to afford some quality of life. On the one hand, economic science shows that the earning
shortfall diminishes the capability of a person to buy some commodities, but on the other hand
this fact does not reach to explain broadly poverty which manifests from different sides in life. On
this issue, several examples can be shown; for instance the fact that a chief of family earns a high
or a sufficient income - to conduct a pleasant life- does not mean necessarily that other members
of this family have a capability to realize the functionnements that they want to accomplish in their
life. In some families, girls did not allowed to go to school or in some countries the route to
school is not safety -then this diminish the scholl enrollment rate- or womens don’t have a liberty
to take their own decision. A women can decide by her own to not work but if this is decided by
others; or if a family chief decides to not pay the health fees of some members of family or if a
person can not have an access to go to justice for search his/her own rights; in these cases how the
monetary vision can handle with these social facts to measure poverty? Intuitively we can
observe that taking only an income level as a poverty indicator is not very realistic. In addition, in recent years, several scientific works have showed that measuring poverty subject to the income level does not reflect exactly a poverty (Sen (1987), Alkire and Foster (2011)). For these reasons, in our thesis we focus on the multidimensional nature of poverty and we aim to contribute for the improvement of the poverty measurement.

In literature on multidimensional poverty, there are three broad classes of measures (Deutsch and Silber, 2005): The fuzzy set approach, the information theory approach, and the axiomatic approach to poverty measures. All measures determine some people in a population as poor and also can show the intensity of their poverty (Quantitative approaches to multidimensional poverty measurement, 2008). In this thesis, we aim to construct a novel index of poverty which is considered as a multidimensional phenomenon. Particularly, the advantage of an index is its broad capacity to capture and use information in different dimensions.

Sen worked on this topic together with the political philosopher Martha Nussbaum (2000), and their ideas led to the creation of the Human Development index (Human Development Report, 1990) and Human Poverty Index –HPI-(Human Development Report, 1997). These indexes with the multidimensional poverty index –MPI- (Oxford Poverty & Human Development Initiative & UNDP, 2010), include items of the non-monetary poverty concept. Currently, HPI and MPI take into consideration these three dimensions: Education, Health and Living standards. Besides in the literature; the poverty headcount, poverty gap, and severity of poverty are other popular indices and all of them belong to the family of Foster-Greer-Thorbecke (FGT) poverty measures (Foster et al., 1984).

The one of the most popular index “Human development index” (HDI) (The Human Development Report, 1990) has three dimensions and four indicators: For health dimension, “the life expectancy at birth”; for education dimension, “mean years of schooling”, “expected years at schooling”; and for living standards dimension, “the gross national income per capita”. The other very popular poverty index “Multidimensional poverty index” (MPI) (The Human Development Report, 2010) has three dimensions and 10 indicators which are: For health dimension, “nutrition” and “child mortality”; for education dimension, “the years of schooling” and
“children enrolled”; for the living standard dimension, “cooking fuel”, “toilet”, “water”, “electricity”, “floor” and “assets” are taken into account as indicators.

Concerning the health dimension, nutrition can be an important indicator but this can not show the accessibility situation of individuals to health systems. According to the universal human rights, everyone has right to benefit from public health system. In this case we estimate that indicators related to social security is crucial on this issue. Moreover, in our current word the health fees can raise easily and can be very expensive especially for some treatments of some health problems. In this case, even a sufficient money can not be sufficient and the gross national income per capita can not help to identify this dimension. Thus, the access to social security and insurance systems are very important keys for the measurement of poverty from the health dimension.

On the other hand, concerning education dimension we admit that the expected years at schooling is an important indicator but the life conditions are never certain in the reality. In other words, it can be happen that the income of a household can dramatically diminish suddenly and the family can not afford no more school fees of their child/children. In this kind of case, the accessibility to social services is very important and can be very useful during the difficult period of family. Even for adults, the number of schooling years or the income level can not precisely reflect the working conditions of an individual. - according to the universal human rights, individuals have to work under safe conditions--; also for children the child labour is another important issue which needs to be taken into account for a poverty measurement.

Thus we can observe that in the current indexes, some important dimensions of poverty do not exist: Particularly the social justice and some important factors of human rights did not yet taken into account in computations. Regarding to the review, the principal hypothesis for this thesis is: The proposed index can show more precisely and with less error the poverty rate. Now the question is how we can put them into index?

Sen mentions (Poverty: An ordinal approach to measurement, 1976) that “In the measurement of poverty two distinct problems must be faced: i) identifying poor among the total population, and
ii) constructing an index of poverty using the available information on the poor”. The measurement of poverty generally involve three steps (Maasoumi and Lugo, 2008): First step concerns choose an adequate indicator which will represent individual’s life conditions. At the second stage, a poverty line is needed to be determined; the poverty line aims to show the lower part of the distribution according the attributes of the study. Then, this threshold allows to classify individuals as poor or non-poor. And at final stage, we need a functional to aggregate individuals.

In our case, firstly in function of the different dimensions which will be taken into account in index, the indicators for each dimension will be defined. Then, a poverty line for each dimension will be identified. At third stage, a functional will be selected to aggregate individuals. As our index will concern several composants in function of each dimension, a weight will be assigned for each composant of the index. The advantage of this index is that it will be possible to gather information separately on each single dimension of that poverty index. In other words, this index will be able to give an information at percentage level on poor individuals in terms of each dimension i.e. how many person in percentage are living under the social justice poverty line? We will propose a poverty index which takes into account these following dimensions: family/living conditions, employment conditions, social security and justice. Another point that we propose in this thesis that an indicator function will be added in a functional in order to separate adults and child. For children the family conditions, education, child labour and health conditions will be taken into account as different dimensions in index. Moreover, the sensitivity parameter to designate the severity and poverty gap will be placed in that index.

At the final stage of that research, the proposed poverty index will be tested. For this empirical analysis, we will use data from Brazil, Mexico, South Africa and Turkey. These countries are classified as upper-middle-income countries by Word Bank. The reason that these countries are chosen are as follows: Firstly, even poverty is a common issue for all developing countries, it is more accurate to focus on a group of countries for the analysis because at the end for the comparison of results -even the country conditions would not be exactly the same- it is better to work on countries which have some similarities in socio-economic contexts. Currently, Word Bank classifies in three sub groups the developing countries; among them we choosed to focus
on upper-middle-income countries.


V. Expected results, publications and Time Schedule

In line with the aim of this research, contributions are expected: i) the creation of the new poverty measurement index and ii) new methodological approach for that. Secondly, this thesis will make it possible to compare poverty results and identify patterns in poverty measurement based on empirical data from Brazil, Mexico, Turkey and South Africa – four countries that are distinct in terms of culture, but which share similar socio-economic situations. Thirdly, the poverty index developed within the framework of this thesis can contribute to the development of a standardized poverty measurement questionnaire for developing countries.
Several papers are expected to be published as a result of this research, namely: “Why, the current poverty indexes are not sufficient to measure poverty?”, “A New Approach to Poverty Measurement: Social justice-based Poverty Index”; “The Important Roles of Equal Access to Social Security and Social Services in Reducing Poverty”; “The Role of Universal Human Rights in Combating the Vicious Circle of Poverty”; “Working Conditions and Poverty” and “A Comparative Study on the Measurement of Poverty in Brazil, Mexico, Turkey and South Africa”.

VI. Time schedule

This thesis is expected to be completed within a minimum of four years. The first year of this thesis will be spent on in-depth research into poverty concept and its measurement (with national practices on poverty measurement techniques in upper-middle-income countries), including an analysis of the existing literature. At the second year, research will be spent to the development of a poverty index and its approach.

The next phase will consist of the test of the proposed poverty index. This will be realized by using Brazil, Mexico, Turkey and South Africa. This phase requires data mining, creation of indicators, testing poverty index process.

In the final phase, results will be interpreted and a conclusion will be shown.

VII. Bibliography


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