Gestión en el Tercer Milenio
Vol. 26 - N.º 52 - 2023, pp. 171 - 190
https://doi.org/10.15381/gtm.v26i52.27076

Online ISSN: 1728-2969
Print ISSN: 1560-9081
Facultad de Ciencias Administrativas UNMSM

ORIGINAL ARTICLE

Poverty in Peru: current approaches and the impact of public management

ABSTRACT

The purpose of this paper is, first, to present a historical review of the main approaches that have dealt with poverty in its various manifestations, and then to analyze the Peruvian case in terms of the relationship or correlation between monetary poverty and that which can be measured by the Unsatisfied Basic Needs approach, and public investment, measured by the variable Gross Public Capital Formation, using the correlation coefficient as a central tool, establishing that there is a strong degree of inverse association between the implementation of sustainable public spending and poverty reduction, with results very close to 1. The main lesson that can be drawn is that it is necessary to sustain the implementation of public policies focused on different sectors that provide the best results in terms of poverty reduction rates.

Keywords: Poverty; Public investment; Public spending; Size; Association.

José David Alarcón Huamaní

josedavid.alarcon@unmsm.edu.pe

ORCID: https://orcid.org/0009-0000-7348-3275

Universidad Nacional Mayor de San Marcos, Facultad de Ciencias Administrativas, Lima, Perú.

Submitted: 05/06/2023 - Accepted: 08/01/2023 - Published: 31/12/2023

INTRODUCTION

Poverty in Peru is a condition that, despite characterizing a large part of the population, has not been studied, measured and evaluated for a long time, so much so that the most important studies and evaluations of poverty that use the monetary approach as the main method for estimating the proportion of households considered poor in the country date back to 2007. According to this approach, the members of a household who do not have access to a basic basket of food and non-food items are considered poor, and those who cannot afford a basic food basket are considered extremely poor (Instituto Nacional de Estadística e Informática [INEI], 2019).

One of the most relevant and important consequences of the so-called Peruvian economic miracle has undoubtedly been the reduction of poverty. According to INEI data, poverty was reduced from 42.4% in 2007 to 21.7% in 2017, a reduction of more than 20 percentage points in just ten years, which is very significant. In the case of extreme poverty, it fell from 11.2% to 3.8% in the same period (INEI, 2019).

This paper will review the evolution of the approaches used to address poverty over time and briefly present the multidimensional poverty approach that has been developed based on the work of Alkire and Foster (2008), and then discuss which public policy variables can contribute to alleviating poverty conditions, especially poverty measured under the monetary approach. Given the limited amount of existing information on monetary poverty, comparisons will be made of the degree of association between economic variables and the rate (proportion) of the population living in monetary poverty.

The treatment of poverty, in contrast to the Peruvian case study, has a long history in economic theory. Major economists have included it in their writings to the present day. Villarespe (2002) reviews the history of poverty, appealing to the different conceptualizations that appeared in Europe at the height of the Industrial Revolution. And it is a poverty that is closely linked to the boom that was experienced in the cities, due to the fact that migratory processes were congesting, for lack of a better term, the cities where a process of expansion or economic growth linked to new productive activities began to take place. This had little or nothing to do with the feudal spaces that had dominated the world in the Middle Ages.

Poverty in the Western world of the 16th century and later, until the 19th century, was a concurrence of scarcity in every sense, with the preponderant participation of the Church as an entity that watched over the situation of the poor, providing assistance and appealing to charity to help alleviate the conditions of misery experienced by a large sector of the population.

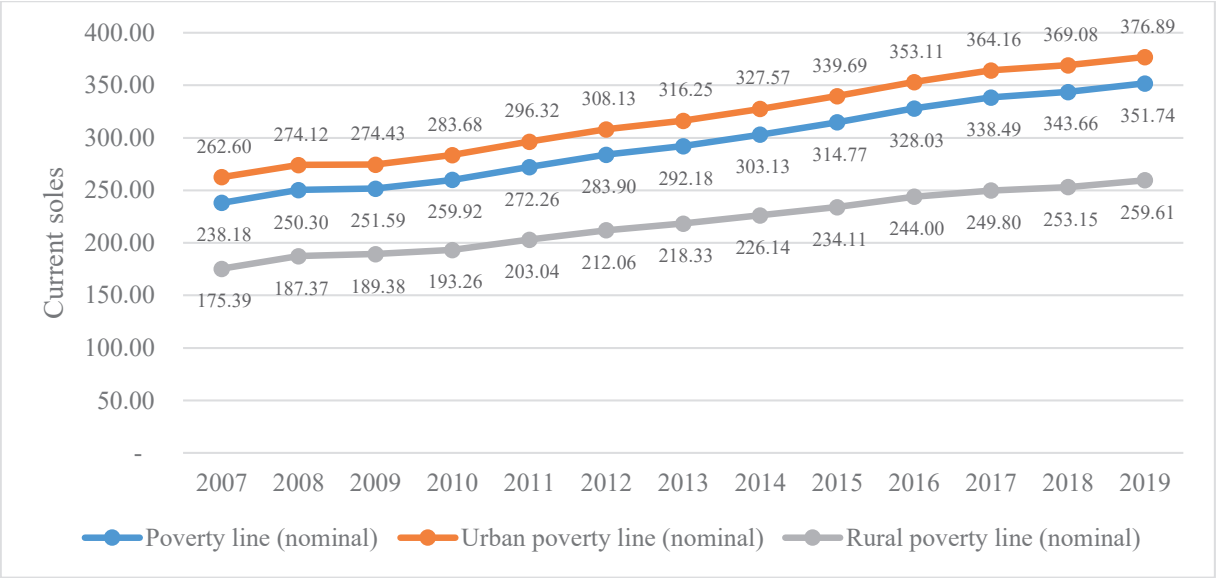
Poverty is not only a phenomenon that can be measured in monetary terms, although this was the most commonly used measure until the beginning of this century. According to official considerations, an individual is in a situation of monetary poverty when they are unable to purchase a basket of goods and food, as mentioned in the introductory part of this document, for which an indicator is used, termed poverty line; that is, the value of the basket of goods and services is used to determine who is poor. The value of this basket of goods and services is shown in Figure 1 below:

As shown in Figure 1, the value of the basic food basket is higher in urban areas compared to the national total and rural areas. In 2019, if a person living in the urban area had an expenditure of more than PEN 377 on goods and services, they were considered non-poor, while in the rural area, if their expenditure was more than PEN 260, he or she was also considered non-poor. The relative aspect of the measurement is important: if it is possible to be non-poor in the countryside, it is also possible to be considered poor in the city, according to official measurements.

This variable nature of the estimation of monetary poverty presents a difficulty in considering precisely who is poor and who is not; that is, the place or geographical location of a person should not be a determining factor in determining whether one is poor today because one is in the city, and if one migrates to the countryside in the near future, one no longer has this condition. If, in the year 2017, a person in an urban area could only have an

Figure 1

Peru Poverty Line: Years 2007-2019



Note. Adapted from INEI, 2020.

expenditure on goods and services for a value of PEN 300, was poor, the same person, the following year, in a rural area, was no longer poor. If they return to the city in 2019, they become poor again.

Consequently, in the face of this type of event, various approaches have emerged that offer a view that goes beyond the standard measurement of the basic basket of goods and food, such as the measurement of multidimensional poverty, which will be presented later. At this point, however, it is useful to review the conceptions of poverty that have shaped its measurement over time. For this, it is necessary to turn to specialists. Perhaps the most recognized theorist on poverty is Sen (1992), in whose paper on concepts and measures of poverty, offered a new review of the conceptualization of what poverty means and represents, citing the most representative authors who have worked on the subject from different angles, starting from a biological approach, which is somewhat close to what we know as the monetary approach, conceived by Seeborn Rowntree, who defined the primary poverty experienced by families as the insufficiency of total resources to meet the basic needs related to the maintenance of simple physical efficiency. The main challenges to this approach were related to the difficulty of selecting interventions that could meet nutritional requirements and needs as well as other non-food components: what is needed by some is not needed by others.

There is also the inequality approach, which views poverty as evidence of the situation of inequality in a society, as indicated by Miller and Roby (1967, cited in Sen, 1992), who argue that the problem of poverty moves away from poverty line measurements to a review or comparison of conditions between the bottom 10% or 20% of the lowest stratum of a society and the rest of it, given the interest in closing gaps between those at the top of the social scale and those above it.

The change of approach occurs when the concept of relative deprivation is taken into account. This term refers to the deprivation experienced by some in relation to others, as indicated by Peter Townsend, who argues that deprivation is relative because it allows "describir situaciones en las cuales las personas poseen cierto atributo deseable, menos que otras, sea ingreso, buenas condiciones de empleo o poder" [describing situations in which people possess a certain desirable attribute less than others, be it income, good working conditions or power] (Townsend, 1979, quoted in Sen,

1992, p. 313), which explains that it should not be overlooked that there are conditions of deprivation and feelings of deprivation, i.e., the individual considers and chooses what they must have to maintain a standard of living similar to that of others, which explains that it should not be overlooked that there are conditions of deprivation and feelings of deprivation, i.e. the individual considers and chooses what he must have to maintain a standard of living similar to that of others, which can guarantee them a level of status, and that one cannot dissociate how they feel about it. Finally, it remains to be determined who are those with whom people tend to associate or compare themselves in order to elaborate a study of poverty under this criterion of relative deprivation, which constitutes an element of some practical difficulty for its universal acceptance or use, if the term can be used.

Poverty, as we have seen, can be understood or examined through different approaches or criteria, and requires a broad treatment in order to be understood in its full dimension. However, it is clear that the study of poverty requires two steps or stages to be fulfilled, namely identification and aggregation, i.e. knowing who is poor and how many are poor. This is based on the multidimensional poverty approach developed in the last decade by Alkire and Foster (2008) with the participation of the Oxford Poverty and Human Development Initiative (OPHI). This approach consists of estimating a Multidimensional Poverty Indicator (MPI) that shows the incidence and intensity of what it means to belong to a deprived household and to be considered poor.

The purpose of this paper is not to provide a detailed demonstration of the estimation of multidimensional poverty or of the theoretical considerations used for its calculation, which can be found in the works of the authors mentioned on the OPHI website. The objective of this paper is to present a historical review of the main approaches that have dealt with poverty in its various manifestations and to determine the impact of public management, understood as the management of public resources to improve people's quality of life.

METHODS

This article presents an overview of some of the most relevant approaches to the concept of poverty, highlighting monetary and multidimensional poverty, presenting the main results of the studies applied to the Peruvian case and showing the differences that exist between the monetary and multidimensional approaches. Subsequently, a brief discussion of these methodologies is presented through a contrast and, finally, the level or degree of association between poverty –monetary and that most similar to multidimensional poverty, that is, that of Unsatisfied Basic Needs (UBN)– and the economic variables that can show the greatest impact or incidence on poverty, such as Gross Domestic Product (GDP) and Gross Capital Formation, using the correlation coefficient as a basic central tool.

RESULTS

Research conducted in Peru on multidimensional poverty shows that there may be people who suffer from this type of poverty but not from monetary poverty, while others who may be monetarily poor are not multidimensional, and some suffer from both conditions. In one case, there may be households where housing conditions are very precarious or where there is no health insurance or school attendance, but a basic food and non-food basket is covered, so they would be considered multidimensionally poor, while in another case, the person may have access to education, insurance, housing conditions (water, sanitation, energy, communication), but no access to the basic food basket. This person is poor according to the monetary approach, while they are not poor according to the deprivation criterion.

What is important, however, is to know that the multidimensional approach is the key to decision making in the field of public management; it allows us to know where the deprivations suffered by households lie, and therefore budgets can be allocated to address those dimensions that represent higher levels of deprivation. The question is: what is needed to direct public spending to the localities, regions and population centers that suffer the greatest deprivation? One assumption that can be made

is that there is still no official measure of multidimensional poverty that is recognized and estimated by the corresponding indicator. However, there is an approach to measuring poverty based on the UBN, which consists in determining the proportion of the population that suffers from one of the following deprivations: housing with inadequate physical characteristics, overcrowded housing, housing without sanitary services, no schooling for children between 6 and 12 years old, and high economic dependency (INEI, 2015). This approach is very similar to the multidimensional poverty approach presented by Alkire and Foster (2008), and it could be argued that it is supported or endorsed by this methodology, but as mentioned above, the corresponding MPI has not yet been published. Despite the lack of an MPI, it is possible to make a comparison between these approaches, which will be discussed below.

Among the most important works on multidimensional poverty, one of the pioneers was the one prepared by Vásquez (2012), who led the discussion on poverty considerations based on a multidimensional approach, because it was about what he called the invisibility of the poor; that is, those people who are not considered poor according to the monetary poverty approach, but who are considered poor according to the corresponding multidimensional approach. In his work, he estimated that the number of poor people according to the multidimensional poverty methodology was about 11,930,000 in 2011, compared to 8,330,000 according to the monetary approach. But it is not only a question of approach that should be of concern. A gap in estimating the proportion of poor people renders public policy efforts meaningless, because monetary poverty considerations do not take into account the deprivations that affect the families that suffer them: Even if a family can afford to buy a basket of goods, the fact that it does not have health insurance or that its members are not in school places it in a precarious situation that affects its daily life. As a result of these inequalities, a considerable group of people who require the attention of the State is left unattended, which is reflected in the increasing number of social conflicts, whose other side of the coin is the inefficiency in the expenditure of public resources.

Another research paper relevant to the Peruvian case is that of Castro *et al.* (2012), which deals with poverty under the multidimensional approach, using robust theoretical tools to represent the Peruvian case. While below the poverty line there is always a fixed number or proportion of poor people, in the multidimensional approach a weighted average of deprivations is used to determine the MPI value and an inverse relationship is established: The higher the number of dimensional deprivations, the lower the incidence of poverty (it is more difficult to adhere to the fixed number of deprivations). The authors ask two questions, the first of which is what it means to be poor, which is answered through the multidimensional definition of Alkire and Foster (2008), who define the dimensions of health, education, nutrition, sanitation, income and vulnerability; poverty thresholds and the proportion of people suffering from deprivation. The next question is who the poor are, which requires the use of a poverty line and multidimensional poverty incidence rates. For the Peruvian case, two reference years are considered, 2004 and 2008, estimating that the poverty lines for these years were 48.6% and 36.2%, respectively, estimating as a cut-off rate a value of 2 in terms of multidimensional deprivation, concluding that there is a higher incidence of poverty when the multidimensional approach is considered with respect to the monetary approach, which is similar to that found by Vásquez (2012).

A work of similar importance, although focused on the rural sector, was carried out by Clausen and Trivelli (2019), who identified 9 dimensions (health, education, water and sanitation, housing, energy, social connectivity, citizenship, personal security and livelihood) and a total of 22 indicators, targeting populations with less than 2,000 inhabitants and another group of populations with less than 20,000 inhabitants. What is relevant about this work, analyzing 2018, is that they manage to determine proportions of populations suffering simultaneously from multidimensional and monetary poverty (14.1% of populations with less than 20,000 inhabitants; 19.9% of populations with less than 2,000 inhabitants), while others suffer only from monetary poverty (21.3% of the populations of less than 20,000 inhabitants; 22.8% of the populations of less than 2,000

inhabitants) and those who suffer only from multidimensional poverty (11.4% of the populations of less than 20,000 inhabitants; 15.6% of the populations of less than 2,000 inhabitants).

Finally, a study by Castillo and Huarancca (2022) defines a total of 6 dimensions (health, education, basic services, physical environment, social participation and economic participation) and considers 16 indicators, and establishes that the greatest deprivation is found in the dimension of social participation in terms of precarious employment, with rates that fluctuate between 57% and 70.1% between 2007 and 2020. This work is closer to the findings of Alkire and Foster (2008). When making some kind of comparison with other poverty measures, such as the monetary or UBN approaches, the highest proportion of poor people is found in the multidimensional approach, because the methodology makes it possible to consider that only one deprivation in any dimension is enough for the person (household) to be considered poor. Thus, according to these authors, in 2007 multidimensional poverty was 61.3%, while according to the monetary approach it was 42.4% and according to the UBN criterion it was 30.5% (36.8%, 30.1% and 16.6% respectively in 2020).

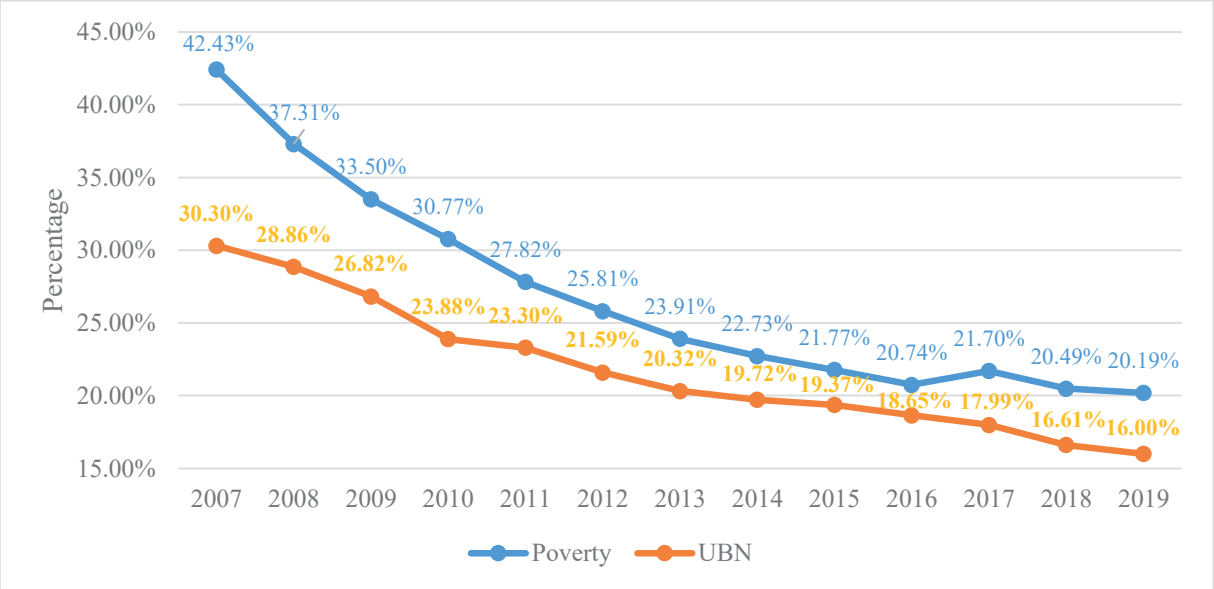
Looking at the figures related to the study of the relationship between poverty and public investment (gross public investment), it can be seen that, in principle, monetary poverty has experienced a decreasing trend in recent years, which can be seen in the last decade, when it went from a level of 27.8% of the population in 2011 to a value of 20.2% in 2019, before the outbreak of the COVID-19 pandemic. It can also be seen that the proportion of the population considered poor is lower under the UBN approach than under the monetary approach (Figure 2).

The decreasing trend in the proportion of the national population living in monetary poverty is evident, although it does not show a significant magnitude: over the reference period, this indicator decreased at an average annual rate of 0.9% (the monetary poverty rate over the period was 22.8%). In this sense, it is important to consider where the highest incidence of poverty occurs and what has happened to it over time.

One element that may help to have a better picture of the evolution of poverty in urban and rural areas, although the results show a barely noticeable difference: in urban areas the decrease in poverty occurred at an average

Figure 2

Percentage of Peru's total population living in monetary poverty



Note. Adapted from INEI, undated.

annual rate of 5.9%, while in rural areas it was 4.9%, between 2007 and 2019, i.e. there was a greater dynamism in the city compared to the countryside. This, while still positive, should serve to guide efforts in terms of public spending and investment: considering that rural areas are those where there is a higher prevalence of poverty, these should have the highest rates of poverty reduction compared to urban areas, but the opposite occurred.

Analyzing the relationships between the variables already mentioned, a first look is taken at the relationship between Gross Domestic Product (GDP) and the proportion of the population living in poverty, which shows that there is a high degree of association between poverty and real GDP, with a correlation coefficient value of -0.95; that is, when one of them increases, the other shows a trend in the opposite direction. Notwithstanding the importance of GDP growth in the fight against poverty, it is important for public policy purposes to know which GDP components influence the variation in monetary poverty rates (Figure 3).

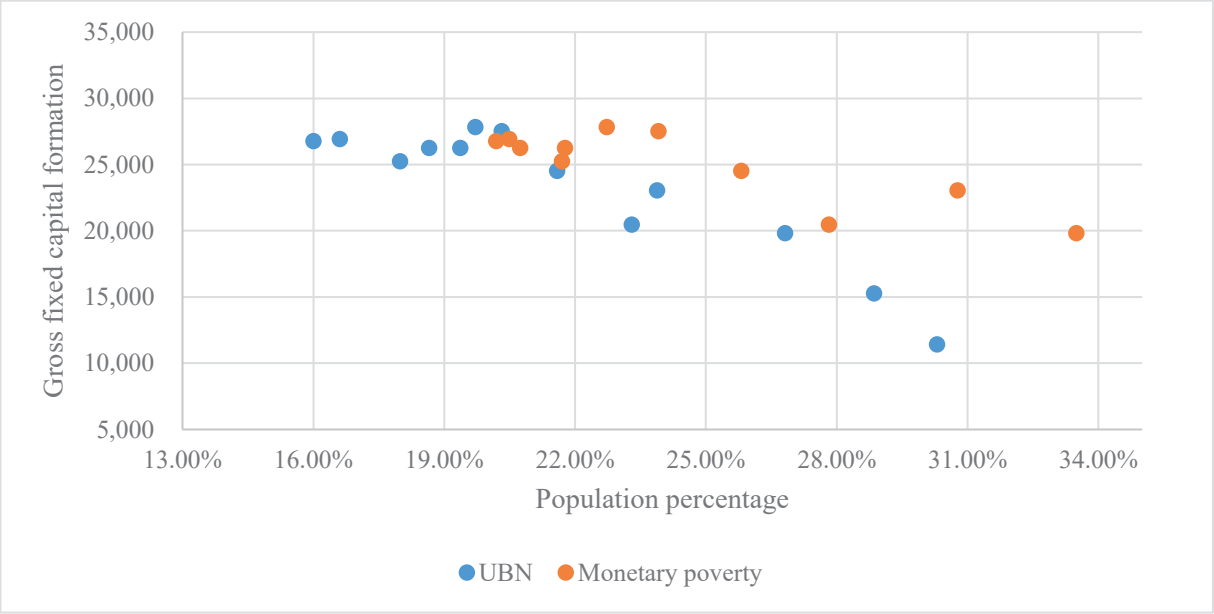
Figure 3 shows the inverse relationship between monetary poverty rates, UBN and the level of gross fixed capital formation, where it can be seen that in the country, at the aggregate level, the proportion of the population living in poverty according to the monetary approach and the UBN-related approach decreases when the level of public spending on gross fixed capital formation increases, reaching a correlation of -0.95 with monetary poverty and -0.92 with UBN, in real terms. Thus, the relationship between public spending on durable goods and poverty reduction is demonstrated.

DISCUSSION

Declining trends in monetary and UBN poverty may be due to actions taken as a result of the implementation of public policies, monetary and/or fiscal policies, as well as interactions in the markets for goods and services, i.e. the participation of the private sector. At this point, it should be noted that it is important to distinguish the channels through which product growth occurs and then how this variation affects the poverty rate. García and Céspedes (2011) provide several references to the complex relationship (as defined by the authors) between growth and poverty. For the Peruvian case, the study of the relationship between

Figure 3

Correlation between monetary poverty, UBN and gross capital formation (2007-2019)



Note. Adapted from INEI, undated.

poverty, economic growth and inequality is established. The trends in poverty reduction over time are presented, as well as the increase in real per capita expenditure and per capita GDP growth for the period between 2001 and 2010. Using the poverty-growth elasticity indicator with aggregate data, it is shown that for each percentage point of GDP growth, poverty was reduced by a similar proportion.

In the context of international experience, Mendoza and García (2006) present empirical evidence on the relationship between poverty and growth for the Asian continent. The data presented by Hafiz Pasha show a high degree of correlation between poverty (change) and increases in real per capita income, noting that "cuando el ingreso per cápita sube 8 por ciento en términos reales, la tasa de pobreza en estos países disminuye en un 12 por ciento" [an 8 percent increase in real per capita income reduces the poverty rate in these countries by 12 percent] (Pasha, 2002, quoted in Mendoza y García, 2006, p. 11).

In addition, the functioning of the State system makes it possible to determine the type of expenditure that can be made in each region of the country. Therefore, in addition to the data and information presented, is there sufficient evidence on the impact of public spending on poverty reduction? Several studies have shown that the benefits of spending on poverty, whether monetary or multidimensional, have been very limited. Quiroz Vera (2020) shows that for every 1% increase in public investment between 2000 and 2018, there was a 0.571% reduction in poverty. Likewise, it is recommended that public managers focus on the social sectors most in need when determining the direction of spending. Along the same lines is the work of Quispe Mamani *et al.* (2021), who argue that public investment in the region of Puno, between 2004 and 2019, was more effective in reducing poverty in education than in the sanitation sectors: 1% investment in education achieved a poverty reduction probability of 8.75%, while if it had been made in sanitation, the probability of reduction would be 2.59%. The question posed at the beginning is relevant because, although it is clear that there is a high degree of association between public spending or investment and poverty reduction, this does not imply a causal relationship, so it is necessary to establish a regression model to measure the relationship between these variables.

Continuing with a regional perspective, Graus (2016) presents research focused on regions in Northern Peru (Tumbes, Piura, Lambayeque, La Libertad, Amazonas, Cajamarca and Áncash), showing that public investment has had a positive impact on poverty reduction, as a 1% increase in spending reduced multidimensional poverty by 0.38% between 2008 and 2015. Similarly, in the Ancash region, Aguedo and Romero (2018) discuss the incidence of public spending on basic services and show that there is an inverse relationship, as found in other studies mentioned in this paper. They also manage to show that investments in education and health reduce illiteracy and infant mortality rates, as indicators of improving the quality of these services.

From this point, it is good to stop and analyze what happens in the Peruvian case: What is the degree of association between production and poverty, what is the estimated component of GDP, according to its demand components, that is most related to the evolution of the incidence of poverty? Indicators of public expenditure are relevant not only because of their magnitude, but also because of their orientation, that is, what they are spent on. The public debate in recent years has focused on the low spending capacity of local authorities, i.e. they do not use one hundred percent of the funds that are part of the budgets allocated to activities and projects in the regions or localities located in each department. Studies and research indicate that there is a return on the use of public funds, regardless of the amount. What is important is to know what is spent where and on what. In these respects, the contribution of research suggests that there is great scope for directing resources to social projects, programs and activities; that is, the focus of investment and/or public spending generates more benefits for society when it goes to sectors such as health and education rather than to others such as sanitation or housing.

Thus, in the case of an Andean region such as Apurimac, the poverty level based on the Unsatisfied Basic Needs approach has fluctuated

between 32% and 12% between 2008 and 2018, and there are amounts of public spending in health and education (social sectors), transportation and agriculture. Using the correlation coefficient, it is determined that there is a greater association between spending on education and poverty -0.95, and spending on health, -0.93 than spending on transportation, -0.41.

These results show that there may be a stronger relationship between social variables and poverty, which opens a space for further work in search of more evidence to maintain or support the allocation of budgetary resources in favor of the population most in need.

CONCLUSIONS

Poverty, whether monetary or multidimensional, is a condition that affects a large part of the population; therefore, commitment is required not only from the public sector but from society as a whole to improve the quality of life of those who suffer from it. It is not only a question of how much money one has or is able to spend, but there are a number of deprivations that do not allow those who suffer from them to live a dignified and adequate life.

The discussion about which approach is more useful for measuring poverty is irrelevant when the impact of public management in terms of spending shows a high, strong, inverse relationship between poverty and public investment, measured in terms of gross capital formation.

Given that the indicators show a strong inverse relationship, close to unity, it would seem that all that is needed is for the state to maintain or increase the amount of investment and poverty would be alleviated and it would only be a matter of time before poverty would be eradicated. This is not as simple as it seems.

In order to reduce levels of deprivation, it is necessary not only to increase income, but also to focus on where and how the greatest impact will be felt, since in the case of a particular region, it will be in health and education. Consequently, this type of measurement, although simple and widely used, should serve as an important source of information to continue working on determining what will be the discretionary spending, in the sense of seeking the greatest impact that will provide the greatest benefit to the quality of life of the population.

REFERENCES

Aguedo, L. and Romero, L. (2018). *La inversión pública en servicios básicos y su influencia en la reducción de la pobreza en la región Áncash, periodo 2001-2017.* [Tesis para optar por el título de economista, Universidad Nacional Santiago Antúnez de Mayolo]. http://repositorio.unasam.edu.pe/handle/UNASAM/3402

Alkire, S. and Foster, J. (2008). Recuento y medición multidimensional de la pobreza. *OPHI Working Paper 7*, University of Oxford. https://www.ophi.org.uk/wp-content/uploads/ophi-wp7-es.pdf

Castillo, L. and Huarancca, M. (2022). Perú: Historia de dos pobrezas*. BCRP Working Paper series 6*, Banco Central de Reserva del Perú. https://www.bcrp.gob.pe/docs/Publicaciones/Documentos-de-Trabajo/2022/documento-de-trabajo-006-2022.pdf

Castro, J. F., Baca, J. and Ocampo, J. P. (2012). (Re) Counting the poor in Peru: A multidimensional approach. *Latin American Journal of Economics*, *49*(1), 37–65. https://www.scielo.cl/pdf/laje/v49n1/art02.pdf

Clausen, J. and Trivelli, C. (2019). Explorando la pobreza multidimensional rural: Una propuesta comprehensiva y sensible al contexto peruano. *IEP Documento de Trabajo 264*, Instituto de Estudios Peruanos. http://repositorio.iep.org.pe/handle/IEP/1166

García, J. M. and Céspedes, N. (2011). Pobreza y crecimiento económico: tendencias durante la década del 2000. *BCRP Working Paper series 21*, Banco Central de Reserva del Perú. https://www.bcrp.gob.pe/docs/Publicaciones/Documentos-de-Trabajo/2011/Documento-de-Trabajo-21-2011.pdf

Graus, A. (2016). *La incidencia de la inversión pública en la pobreza multidimensional de la macro región norte en el Perú periodo 2008-2015* [Tesis para optar al título de Economista, Universidad Nacional de Trujillo]. http://dspace.unitru.edu.pe/handle/UNITRU/8651

Instituto Nacional de Estadística e Informática (INEI). (2015). *Perú: Perfil de la Pobreza por dominios geográficos, 2004-2014* [Archivo PDF]. INEI. https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1306/index.html

Instituto Nacional de Estadística e Informática (INEI). (2019). *Evolución de la pobreza monetaria 2007-2018* [Archivo PDF]. INEI. https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1646/libro.pdf

Instituto Nacional de Estadística e Informática (INEI). (2020). *Evolución de la pobreza monetaria 2008-2019* [Archivo PDF]. INEI. https://www.inei.gob.pe/media/cifras_de_pobreza/informe_pobreza2019.pdf

Instituto Nacional de Estadística e Informática. (undated). *Series Nacionales*. INEI. https://webapp.inei.gob.pe:8443/sirtod-series/

Mendoza, W. and García, J. M. (2006). Perú 2001-2005: crecimiento económico y pobreza. *PUCP Documento de Trabajo 250*, Pontificia Universidad Católica del Perú. http://repositorio.pucp.edu.pe/index/handle/123456789/46890

Quiroz Vera, E. (2020). El gasto en la inversión pública y su impacto en la reducción de la pobreza monetaria en el Perú. Periodo 2000-2018. *Revista IECOS*, *12*(1), 68-68. https://doi.org/10.21754/iecos.v21i1.1072

Quispe Mamani, J. C., Quispe Mamani, F., Guevara Mamani, M., Arce Coaquira, R. R., Yapuchura Saico, C. R. and Catachura Vilca, A. (2021). Inversión pública y pobreza monetaria en las familias de la Región de Puno - Perú (2004 - 2019). *Journal of the Academy*, (4), 124–140. https://doi.org/10.47058/joa4.7

Sen, A. K. (1992). Sobre Conceptos y medidas de Pobreza. *Revista Comercio Exterior*, *42*(4), 310-322. http://revistas.bancomext.gob.mx/rce/magazines/257/2/RCE2.pdf

Vásquez, E. (2012). El Perú de los pobres no visibles para el Estado: La inclusión social pendiente a julio de 2012. *UP Documento de Discusión, Centro de Investigación de La Universidad del Pacífico*. http://hdl.handle.net/11354/383

Villarespe, V. (2002). *Pobreza: teoría e historia*. Universidad Nacional Autónoma de México, (Instituto de Investigaciones Económicas). http://ru.iiec.unam.mx/1947/1/PobrezaTeoriaHistoria.pdf

Conflicts of interest

The author has no conflicts of interest to declare.

Author contributions

José David Alarcón Huamaní (lead author): conceptualization, formal analysis, research, methodology, project management, software, supervision, data visualization, writing (original draft, review, and editing).