LEVELS OF ECONOMIC THOUGHT AMONG A GROUP OF ADULTS FROM THE ASHANINKA AND SHIPIBO-KONIBO INDIGENOUS PEOPLES

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Abstract
This psychological study explores the level of economic thought among 16 adults from the Shipibo-Konibo and Asháninka Amazonian indigenous groups, in Peru. A constructivist-informed qualitative interview based on the Psychogenesis Model of Economic Thought (Denegri, 1995) was used in this study. Following the Piagetian cognitive stages, this interview proposes a three-level model for the psychogenesis of economic thought to account for the process of construction of explanations of the economic world. The results show the participants' particular modes of using formal logic tools to formulate a systematic understanding of economic processes, which possibly compromise their ability to make adaptive economic decisions and may encourage irrational economic behaviors such as thoughtless consumption and over-indebtedness. None of the participants displayed Level III inferential economic thinking, which requires the use of formal logic to understand economic processes in a systematic way. We discuss the implications of these findings for the development and fulfillment of indigenous people’s rights, especially the right to achieve human development that responds to their own complex cultural characteristics.

Keywords: Economic thought, constructivism, Amazonian indigenous adults, Shipibo-Konibo, Asháninka.

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Introduction

Capitalism is both an economic and a subjective mode of production. As an economic system, it has an enormous capacity to generate wealth, although not necessarily to distribute it. This point, initially raised by Karl Marx and Friedrich Engels, has been taken up and discussed in various ways by different authors in the current context of globalization (Marx, 1867/1999; Marx & Engels 1872/2008; Piketty, 2020, 2015, 2014; Stiglitz, 2002, 2012). Regarding subjectivity, Psychology has highlighted how capitalism directs human motivation by promoting individualistic values and identities that are detrimental to subjective well-being and to the common good (Adams et al., 2019; Beattie, 2019; Kasser et al., 2007, Narvaez, 2016; Schwartz, 2007).

The complexity and evolving nature of the socio-political, economic and cultural processes of globalization and of what is commonly referred as neoliberalism make it difficult for individuals to clearly grasp how the economy operates, identify its ideological aspects, and participate in it as rational agents. Understanding the economic system is a highly complex task, and the Peruvian educational system fails to provide people with an adequate comprehension of its mechanisms (Amar et al., 2001; Denegri, Sepúlveda et al., 2018; Gempp et al., 2007; Organisation for Economic Co-operation and Development [OECD], 2017). Human beings begin to construct representations of the social world at an early age, including the economic system, and the process continues throughout their development; usually, children and adolescents have only a partial and idiosyncratic understanding of the economy (Amar et al., 2001; Delahanty, 1989; Delval, 1981, 1987, 1989, 2007, 2013; Delval & Denegri, 2002; Delval & Echeita, G. 1991; Delval et al., 1994; Denegri, Delval et al., 1998; Denegri, Del Valle, González et al., 2014; Diez-Martínez, 2016; Faigenbaum, 2005; Herrera et al., 2011; Navarro &
Peñaranda, 1998; Piaget, 1932/1984; Rodríguez et al., 2008). Although this understanding would be expected to improve with development, studies suggest that economic knowledge among many adults remains rudimentary (Delval, 2013; Denegri, 2007; Denegri, Del Valle, González et al., 2014; Denegri, Sepúlveda et al., 2018). Many parents, important agents of economic socialization, have piecemeal strategies for the financial education of their children. Although they recognize the importance of educating children in the use of money, their daily educational practices on the subject are informal, unsystematic, ineffective, and provide limited information, which hinders a fuller comprehension of the systems in question and delays the development of economic thought (Denegri, Del Valle, Gempp et al., 2006; Denegri, Del Valle, González et al., 2014; Denegri, Palavecinos et al., 2005; Gudmunson & Danes, 2011; Herrera et al., 2011; Jorgensen & Savla, 2010).

Meanwhile, capitalism encourages, values, and reinforces consumption practices such as buying or investing, and forces people to continually make financial decisions that impact their future (Baumann, 2007; Bodie & Merton, 2003; Denegri, Araneda et al., 2016; Villada et al., 2017). These demands necessitate a degree of proficiency in the workings of the economic and financial systems, and such proficiency is inversely related to behaviors of thoughtless consumption and over-indebtedness (Denegri, 2007; Denegri, Del Valle, González et al., 2014; Herrera et al., 2011; Livingstone & Lunt, 1992; Sullivan et al., 1989). Economic and financial understanding varies according to socioeconomic level; higher levels of understanding have been found in people of medium and high socioeconomic status compared to those of lower status or belonging to minority groups (Ali et al., 2016; Amar et al., 2001; Denegri, 2007; Denegri, Del Valle, González et al., 2014; Denegri, Martínez et al., 2007; Denegri, Sepúlveda et al., 2018; Olsen & Whitman, 2012).
Economic knowledge and indigenous peoples

Undoubtedly, there is a cultural complexity in the behaviors and economic rationalities of Amazonian peoples that economic anthropology has long shown. However, the evaluation of economic thinking conducted in this study, from a psychological point of view, aims to identify the understanding of basic aspects of the functioning of the economic system in which they are already embedded. Historically, indigenous peoples in general and Amazonian peoples in particular have relied on barter mechanisms within an economic system structured—like their civilizational projects as a whole—with principles of diversity, reciprocity and complementarity at its axiological, moral and epistemological base (Varese, 2011). Their traditional activities were agriculture, hunting and fishing, and they exchanged products among themselves or distributed them to those in need within the community, trusting that such generosity would be reciprocated in the future (Behrens, 1992; De la Cruz et al., 2016; Espinosa, 1996; Fabián & Espinosa, 1997; Morin, 1998; Wali & Odland, 2016).

For centuries, however, indigenous peoples have been forced to insert themselves into both the local and global market economy (Rojas, 1994; Santos Granero, 1996; Vasco et al., 2017). The history of the indigenous peoples of the Amazon region has included, since the arrival of the Europeans, the experience of slavery, forced labor and human trafficking, as well as the presence of illegal economies (drug-trafficking, illegal gold and timber exploitation) often accompanied by armed violence (Benavides, 2010; Casement, 1912/2011; Instituto de Investigaciones de Lingüística Aplicada, 2012a, 2012b; Global Witness, 2014). Although the transformation of the indigenous peoples’ modes of production and commercialization can be traced back to the early 16th century (De la Cruz et al., 2016; Espinosa, 2016, 1996; Morin, 1998; Varese, 2011; Wali & Odland, 2016), insertion in the global market has accelerated recently as new needs are generated.
and satisfied by purchasing goods, paying for services, and using cash, all of which has altered many traditional economic activities (Behrens, 1992; Espinosa, 2007, 2012). Market exposure produces mixed effects on well-being and conservation, health, human growth and nutritional status, social capital, renewable natural resources, economic inequality and vulnerability, and different patterns of erosion/retention of traditional indigenous knowledge (Espinosa, 2017a; Godoy, Brokaw et al., 1998; Godoy, Gurven et al., 2004; Godoy, Reyes-García et al., 2005; Wong & Godoy, 2003). While the increased insertion of indigenous peoples into the capitalist system is accompanied by complex changes and reconfigurations of mentalities and practices of both communities and capitalism, it is an uneven articulation. As Uzendoski (2017) has pointed out, regarding contexts such as the Amazon and South American lowlands, with capitalist penetration come brutal devices of power, cultural change and acculturation, loss of languages and cultural practices, violence, and deterritorialization. This is connected to ongoing processes of "accumulation by dispossession", a concept developed by David Harvey (2003) in order to expand Marx's notion of "primitive accumulation" and emphasize that predatory practices are not limited to an original or founding moment in the history of capitalism, but constitute one of the system's ongoing characteristics. In this view, contemporary capitalism requires such predatory practices (dispossessing public and private entities of their wealth) in order to deal with recurring crises. Around the world, in different ways, indigenous peoples suffer the dispossession of their territories and other material and cultural resources (Encalada, 2016; Holden, et al., 2011; Paulino, 2014).

Nevertheless, many Amazonian indigenous individuals' familiarity with the market economy, savings, credit, and the logic of banking remains poor even within this changing context. This is due to cultural reasons, a limited experience of economic insertion, and the low quality of their educational experiences
(Ames, 2010, 2020; Benavides et al., 2010; Burga, 2007; Delgado, 2017; Espinosa, 2007, 2017b; Instituto Nacional de Estadística e Informática [INEI], 2018; Ministerio de Cultura, 2015; Ministerio de Educación [MINEDU], 2017, 2018; Olivera & Dietz, 2017; Pérez & Espinoza, 2015). Many claim, for example, to have no "money consciousness" (Delgado, 2017, p. 183). Saving is often viewed negatively, as a selfish behavior contrary to the principles of reciprocity and complementarity that give life its meaning (Demosthenous et al. 2006; Godinho, 2014). Both family members and the general community make demands on individuals with an income (Cohen et al., 2019; Wagland & Taylor, 2015), who feel compelled to share their resources or their credit card information with others (Demosthenous et al. 2006) and must learn to balance the conflict between independence and interdependence. Some, it must be noted, do resist such pressures and manage to keep their income to themselves (Wagland & Taylor, 2015).

Financial literacy directly correlates with student performance in Math and Reading (OECD, 2017), areas where Peru's indigenous students score lowest in the country in students’ national evaluations (MINEDU, 2018, 2019). It is thus to be expected that regarding economic and financial management, Amazonian indigenous peoples exhibit difficulties similar to or greater than those found in other parts of the world (Demosthenous et al., 2006; Gerrans et al., 2009; Godinho, 2014; Wagland & Taylor, 2015). Although attempts have been made to address financial education, such as the JUNTOS program or the Capital Project (Caballero, 2014; Feijoo, 2016; Higinio, 2018; Trivelli et al., 2011), most such programs focus on promoting access to financial services and boosting economic activity, and don't usually provide a clear diagnosis either of the characteristics and needs of the target population, or of their ways of representing money and economic exchange (Feijoo, 2016).
Psychogenesis of economic thought

In Piaget's developmental framework, formal operations typically emerge in a child's cognitive development around the age of 12 to 15 years (Piaget & Inhelder, 1955/1983). This stage is marked by the ability to engage in hypothetical and independent reasoning about concrete situations. These cognitive structures can be illustrated by referring to combinatorial systems and 4-groups. Nevertheless, as Piaget (1972/2008) argued, the pace at which an individual progresses through developmental stages can vary significantly, especially across different cultures. Furthermore, individuals may display differences in the specific areas where they apply formal operations, influenced by their unique aptitudes, interests, their occupational engagements, and professional specializations. In essence, during adolescence or even the early years of adulthood, typically developing individuals have the potential to acquire the fundamental characteristics of formal cognitive structures if their social environment and life experiences provide the necessary cognitive nourishment for such development. However, as individuals move beyond this stage, their personal interests and aptitudes take on a more prominent role than these general characteristics, resulting in increasing disparities between individuals. This divergence is evident across various domains, even those that may initially seem primarily cognitive in nature. In summary, the achievement of the formal thinking stage varies across different domains and is contingent on individual aptitudes and professional specializations, rather than being uniformly acquired at a specific age. Various research studies provide support for this idea (Dulit, 1972; Kuhn, 2009).

Following the Piagetian cognitive stages (Piaget 1972/2008), Denegri proposes a three-level model for the psychogenesis of economic thought to account for the process of construction of explanations of the economic world (Denegri, 2007; Denegri, Sepúlveda et al., 2018). Level I, typical of children between
6 and 9 years old, is characterized by a diffuse and disorganized conception of the economic world, featuring fanciful explanations of reality such as that money is always available at ATMs to withdraw any amount at any time one desires it.

Level I has two sub-stages: Extra-Economic Thought and Primitive Economic Thought. At the Extra-Economic Thought sub-stage, money is believed to come from mythical sources (God); luck or chance (for example, winning the lottery or finding gold); unrealistic sources (the change received in a store); or fantastic sources (such as manufacturing by whoever is in possession of a money machine). A bank's money is believed to be inexhaustible and always available (through ATMs, for example). The connection between work and wages is not yet understood, and neither is the concept of money circulation.

At the Primitive Economic Thought sub-stage, the idea that money comes from mythical or fantastic sources fades out, but difficulties persist in understanding the role of money in economic exchange. The idea that money is manufactured remains, but an incipient notion appears of this as an institutional process; it may be thought, for example, that special permits are needed to set up a money factory, and that persons in a position of authority, such as the President or the Mayor, fix the value of money, ensure that enough is made for all, and have it distributed equitably. An incipient connection between work and wages is made, but without including production processes in the account. It is thought that the greater the amount of work, the higher the wage, regardless of hierarchy, job, or occupation. The bank is conceived as a safe where money is kept to be cared for and distributed, and there is an understanding of the fact that in order for money to be withdrawn from this safe, it must have been deposited first.

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4 We are not unaware of the negative associations that the term primitive has with respect to indigenous peoples, but it is the term used by the author and in psychology it means primordial, that is, that it appears first in the course of development.
Level II, called Subordinate Economic Thought, corresponds to ages 10 to 14 and includes an idea of profit. There is an initial understanding of the fiduciary nature of money; money is understood as a global medium of exchange, but in an isolated way and without articulating the different subsystems of the cycle of origin and circulation, and over-attributing control functions to the State. Banks are conceptualized as the institutions in charge of bringing money into circulation, granting loans, and receiving deposits. The concept of interest is incorporated into the ideas of loans and savings as part of banking operations, but without establishing relationships between these procedures or understanding their real-world application. The relationships between issuance, monetary circulation, and complex production processes that incorporate intermediaries are not properly understood, and neither are State-provided sources of financing. At this level, people display a global conceptualization of society as governed by laws that are necessary for its functioning and oriented to the common good, and which must be rigidly applied by the State. They have limited appreciation of individual or collective initiative for the achievement of social change and do not articulate any ideological interpretation of the economic shifts or cycles. Level II is a transitional level that can share characteristics with Levels I and III.

Level III, called Inferential Economic Thought, corresponds to late adolescence and adulthood. At this level, people make use of formal logic to formulate a systemic conceptualization of the economic world and are finally able to understand the multi-determined nature of economic cycles. The ability to hypothesize and establish relationships between processes, systems and cycles begins to emerge, and people are able to identify the variables that operate in social and economic change. An ideological assessment of economic shifts, cycles, and policies also appears at this stage, and the role of the State, including its sub-
subsidiary function and the function of taxes in its financing, comes into clearer focus. There is a high valuation of individual and social initiative as a means to achieve social change and as a factor of citizen influence on economic policies. In other words, at level III, formal thinking tools (Piaget, 1972/2008) are used to engage in hypothetical-deductive reasoning when encountering economic situations and to develop responses that establish complex relationships between systems or deduce consequences from economic events or actions.

Research has shown that only a small percentage of adolescents and adults in the general population reach Level III; most fail to fully understand the systemic nature of the economy, credit, and indebtedness, and to analyze different alternatives for saving and investing (Delval, 2013; Denegri, 2007; Denegri, Araneda et al., 2016; Denegri, Del Valle, González et al., 2014; Denegri, Sepúlveda et al., 2018).

Based on this, the main objective of this study was to explore the level of economic thought among a sample of indigenous adults from the Shipibo-Konibo and Ashaninka peoples living in the city of Pucallpa, in the Peruvian Amazon basin.

**Method**

**Participants**

Sixteen adults between the ages of 26 and 65 (M = 45) participated in this study, 5 women and 11 men, 13 of them Shipibo-Konibo and 3 Ashaninka. Their mother tongue is Shipibo and Ashaninka, respectively, although they could all speak Spanish. The Ashaninka people are the largest indigenous group in the Peruvian Amazon region, with a population living in indigenous communities estimated at almost 117,955 (Ministerio de Cultura, 2023). The Ashaninka language belongs to the Arawak linguistic family. The Shipibo-Konibo are the third-
largest Amazonian indigenous group, with a population living in indigenous communities estimated at around 32,964 members (Ministerio de Cultura, 2023). Their language belongs to the Pano family.

The study participants have lived and worked in the city of Pucallpa for varied time spans, ranging between 11 and 50 years. They work as teachers, social communicators, and leaders of indigenous organizations, and all are or have been public employees. They also work sporadic jobs as moto-rickshaw drivers, entertainers at children's parties, farmers, or small merchants. Most have at least some college or technical higher education, although one participant reports having only primary schooling and being self-taught. They all have savings accounts (but no checking accounts), mainly use the National Bank (although some use private banking too), and are familiar with the use of money and with common commercial transactions. Only three participants knew the difference between a checking and a savings account, and only two reported having a credit card. None have bank savings, but all claim to have some dedicated method to safe-keep money in their homes, either in a bag, a backpack, or a box. Nevertheless, they indicate that sometimes part of that money may be lost because relatives take it without consent. Most participants have debts in stores, with friends, with moneylenders, or in the financial system, perceive their economic situation as problematic, and find it difficult to cover monthly expenses. Even with no stable income, all participants support a nuclear or extended family. All describe their indigenous countrymen as "wasteful".

**Instruments**

A sociodemographic data sheet was used to collect affiliation data and information about participants' economic habits, such as sources of income, savings and credit management, current financial situation, and level of indebtedness.
In addition, a semi-structured qualitative interview based on the original interview by Denegri (1995), which follows the Piagetian clinical method, was used. This interview consisted of a series of common economic reasoning questions and problems, with necessary adaptations to ensure participant comprehension (such as using examples of everyday economic activities familiar to the participants). After each question was answered, follow-up questions and counterexamples were presented, and participants were asked for clarifications to explore the robustness of their responses, clarify their ideas, and facilitate their subsequent interpretation. We selected interview areas that relate directly to central aspects of the development of economic thought: Sources of Monetary Minting (SMM), Notion of Counterfeiting (NC), Control of Monetary Issuance (CMI), Variation of Prices and Value of Money (VP and VM), Value of Money in the Foreign Exchange Market (MFEM), Inflation Concept (IC) and Alternatives to Cash (AC). Some examples of interview questions are: Where does money come from? (SMM); Could anyone make money? (NC); Who decides how much money should be made? (CMI); Is Peru's money worth in another country? (MFEM); How are prices determined? (VP and VM); What is inflation? (IC); Can we buy things with something other than bills and coins? (AC). Familiarity with Money Use and Management (FMUM) was added to explore the participants' degree of familiarity with monetary transactions. For example, one FMUM question was: When you earn money, how do you decide what to spend it on? Use of Financial Resources (UFR) was also added to deepen the comprehension about financial resources' use. For example, one UFR question was: Why should I return more money than the banks lend me?

Procedure

Initially, an indigenous leader with whom the researchers already had a friendly and working relationship introduced the researchers to the participants. This was very important because for historical reasons of exploitation and
rights violations, members of Amazonian indigenous peoples are understandably suspicious of non-indigenous people and often refuse to participate in research. Next, participants’ informed consent was requested orally and in writing following the guidelines developed for doing psychological research with Amazonian indigenous peoples (Frisancho et. al., 2015). The interviews lasted approximately one hour each and were conducted by the authors of this article, in Spanish, in a city hotel. Finally, participants' responses during the interview were coded and analyzed according to the Psychogenesis Model of Economic Thought (Denegri, 1995, 2007). Once the interviews were completed and the results were constructed, a feedback process took place in the city of Pucallpa, with the participation of the study participants, indigenous educators, and other Amazonian indigenous leaders.

Results

Table 1 shows the number of individuals who gave answers at each level in each of the main areas of the interview.

<table>
<thead>
<tr>
<th>Level</th>
<th>SMM</th>
<th>NC</th>
<th>CMI</th>
<th>VPyV</th>
<th>MFEM</th>
<th>IC</th>
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<tr>
<td>I</td>
<td>2</td>
<td>8</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>4</td>
<td>3</td>
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<tr>
<td>II</td>
<td>14</td>
<td>8</td>
<td>11</td>
<td>10</td>
<td>16</td>
<td>11</td>
<td>11</td>
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<td>III</td>
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No level III economic thinking responses were found in any of the areas explored. Typically, interviewees offered Level II responses (Subordinate Economic Thinking), which are expected from adolescents 10 to 14 years of age (Denegri, 2007). Although concepts of profit and productive relationships are available at this level and reflection on economic phenomena becomes more
structured than at Level I, difficulties to articulate such explanations in a systematic way remain salient.

**Familiarity with the use of money**

All participants understand that money is useful as a means of exchange, to purchase goods and services, and to meet food, health and educational needs, all of which are considered priorities. Very few participants plan their expenses. Those who do prioritize food-related expenditures, and only money that is left over is used for other purposes. P4 once tried to plan his expenses by distributing cash money into envelopes, but the method could not be sustained. Referring to indigenous Amazonians in general, he explains:

**P4:** As I told you, we don't have that habit of planning, when we have money we instantly think about spending, what priorities to cover, but I think it would be a good habit to plan, which we don't.

In addition to the satisfaction of needs, money is associated with identity and feelings. Having money is essential to feel energetic and happy, and the inability to spend and acquire those results from a lack of money causes sadness. For instance:

**P10:** Well, if I don't have money I can't make my plans, money is something that helps you achieve your dreams and goals, if you don't have money then you are nothing.

**P16:** Well for me money is a.... it is a support, something that in this western world makes you happy.

It is interesting to note that participants express a desire to acquire goods not because of their quality or because they satisfy a real material need, but because possessing them makes them happy. This is an example of the complex
intersection between capitalism and subjectivity that indigenous peoples experience. Of course, acquiring things out of pure desire or taste is a common and ancient human practice. However, now these exchanges are mediated by money, credit, and the transformation of the traditional productive structure and the hierarchy of needs that the capitalist system creates. Participant 13 puts it starkly:

P13: If I want a TV... Sony or Panasonic cost between two thousand and three thousand soles, but if I go to another market I can afford, I find a TV that suits me, because we Shipibos don’t like HD, those sorts of things…. we are already happy with a cable antenna, we are not so much for the quality but just for having things, it doesn't matter if the TV looks blurry, but it is ours, we own it and there it is.

This relationship that participants establish between money and happiness evinces the transformations in the subjectivity of indigenous peoples that result from their insertion into the capitalist system (Delgado, 2017; Espinosa, 2009, 2012; Ribeiro, 1986), underscoring the way in which resources and economic decisions influence satisfaction and well-being and articulate the formation of collective and individual identities (Castellanos et al., 2016; Denegri, 2007). In connection with this, it bears remembering that changes in materialistic aspirations and an orientation toward materialistic goals are associated with decreases in well-being over time (Dittmar et al., 2014; Kasser, 2016; Kasser et. al. 2014).

Monetary issuance

Participants’ representations of monetary issuance are linked to concrete yet fanciful elements of the process. They attribute the power to issue money to the State, indicating that the Central Reserve Bank (BCR) is the sole institution in charge of setting up a money “factory” (Level II response). However, they justify their answers by legal restrictions (it is prohibited - Level II answer) or
material constraints (*we do not have the resources to produce banknotes equal to those of the State* - Level I answer) impeding manufacture. In other words, although the majority of participants maintain that not anyone can manufacture money, only the Central Reserve Bank, thus approximating an idea of institutionalized issuance (Level III), their understanding of the process is incomplete and the justifications they offer correspond to Levels I and II. These responses reveal a rather simplistic and undeveloped representation of the monetary issuance process. For example, P1 states:

**P1:** Can anyone set up a money factory? No. Only the State through the Central Reserve Bank. Why not? Because money is made on a special paper and not just anyone has it. I don't know where they buy it from, where they bring it from, or who makes it. **What if one person managed to get that kind of job?** I don't think so, because you are not an authorized person. Also, each money has its code, I think. So ... with what code would you create it?

The exception is participant 9, who is convinced that, unlike Peruvians who would be persecuted by law, Americans do have the resources to make money at home:

**P9:** Not us, just the gringos. They do have the machines, the paper has the letterhead, everything, they simply put it in and the money comes out. **The gringos, the people of the United States?** Yes, in the United States people can make their own money, I have found out that they can get the machines. Here in Pucallpa we cannot.

Confronted with the possibility that private people can create banknotes, all participants are aware that it is not possible and that any such banknote would be counterfeit. However, P3 affirms that if the banknote produced is of
good quality and is exactly the same as the one made by the bank, it could be used without problems to buy and cover needs. He says:

P3: Would that money have value, could I buy with that money? Yes, because you have complete materials, yes. Would that be good or bad? Good. Why? because that person has had the good idea of making money for... I don’t know, to pay for his needs, even for others.

The idea that money should be “manufactured” for the entire population, and that this would be beneficial, is present in the majority of participants. Participant 4 states it clearly:

P4: That is what I do not understand. If they make money, why don’t they make it for all Peruvians? Why do they manufacture for a few? Those things I do not understand.

Determination of market prices and the exchange rate

Among participants, the prevailing belief about how prices are determined is that authorities set them for products (Level II), although a third affirm that prices are established by traders, arbitrarily, in order to obtain higher profits (Level I). For example, when faced with the questions How are prices established? Who establishes them? they answer:

P12: The Minister of Economy.

P13: The big companies maybe, or the State.

P15: Well, the price is decided by the entrepreneurs.

Regarding the exchange rate, all participants understand that the value of different national currencies also differs, and that one country’s currency cannot be used in another. They attribute a higher exchange value to the dollar
and believe that each country establishes how much a dollar will cost (P6) in local currency. They share the idea that, when exchanging between currencies (Peruvian Nuevos Soles to US dollars, for example), the rate is one to one, one sol for one dollar, and that any variation is due to a decision by the authorities (Level II).

P6: The sol and the dollar are different. Why is there a difference between sol and dollar? The difference between the sol and the dollar is because each country establishes its money value. So in another currency the sol costs less and the dollar will be a little more.

P9: And how is the exchange made? Well, in dollars, because the dollar is worldwide. And who decides, for example, for a dollar how many soles they give us? Well, the World Bank. The World Bank? Well, that's what we know, I don't know if it will be like that, but… because it goes up, up, according to the economy.

P8: If I wanted to exchange a dollar for soles to use it here, would they give me the same? They would not give you the full amount, they give you 90 cents.

Concept of Inflation

Inflation is understood as the simple rise in prices (a Level II idea). Reasons or causes for this are not provided. No interviewee was able to provide a complete concept of inflation, and all recognized their lack of knowledge about the subject. Their answers to this question ranged from the rise in prices (P12), the rise in the exchange rate (P2), something that affects the economy, which inflates it (P1), to I don't know (P3).
Alternative means of payment, credit cards, and interest

Regarding means of payment other than cash, 12 of the 16 participants refer only to barter as an alternative means of payment (Level II), saying for example that they can pay with chicken, with fish (P5) and pointing out that it is an ancestral form of exchange that we do in the communities (P8). They claim that such modes of exchange are lost in the city but survive in the communities, because in the city people become stingy (P9). The remaining four participants stated that only bills and coins can be used for purchases, a Level I response.

Only two interviewees mentioned the use of cards as means of payment, but they could not give an account of how they work. Several reported having used their credit card to withdraw cash from an ATM, and although they know that they must pay back a little more later (P8), they cannot say precisely how much the interest will be. Their perception of the credit system is mostly negative. Credit cards are seen as a vehicle for theft because banks always win, they are not there to serve but to earn money (P6).

In general, participants conflate credit cards with debit cards and are not clear about the use of either, also mixing up cards issued by banks with those offered by stores. Participant 2, for example, affirms that with a credit card does not allow you to withdraw cash from an ATM but you can withdraw appliances, something like that, while participant 8 explains that with credit cards they called me to buy appliances with easy payment terms. For P8 the difference between savings and checking accounts is that in the savings account I have the savings for an emergency, and the checking account is where they deposit my salary, while for P4 in a savings account you can deposit as much as you want, whenever you want, whereas in a checking account only a fixed amount can be deposited on a monthly basis. Participant 13 confuses credit card with debit card, and says the following:
P13 Do you know how a credit card works? In the credit card I have an amount of money, two thousand soles that is on my card. Like your salary or what? Like my salary, they already deposit it, there are my two thousand soles. What I have the idea is that it is like a savings that I had there, if I have any need I go and take out a small amount, with what I can cover the expenses.

It is important to point out that, in general, participants do not fully understand how interest works; some believe it is a mistake by banks or companies, or a direct consequence of not paying for what they consumed. Participant 1 recounts his experience:

P1: More or less the previous debt, how much was it approximately? 8 thousand soles, I had that loan to finish my house. And how much did you return? I think something like 12 thousand. And why did you have to pay more? Because some months the bank does not take it out and the next month it is taken out with a surcharge. Is it like a bank error, because one month does not deduct a surcharge and the other does? Yes. We have to approach the same bank to tell them not to forget, so as not to harm us.

Discussion

This research sought to explore the level of economic thinking of a group of Amazonian indigenous adults who live and work in the city of Pucallpa, in the Ucayali region of Peru. Most of the participants reached Level II reasoning of Denegri’s (2007) Model of Economic Thought and, to a lesser extent, some showed Level I responses. Both levels correspond to childhood and adolescence stages of development. Previous studies have shown that a significant number of
adolescents achieve only a partial understanding of the economic system (Denegri, 1995; Denegri, Martínez et al., 2007; Jahoda, 1981; Jahoda & Woerdenbagch, 1982). In this study, these results are repeated with adults.

None of the participants displayed Level III inferential economic thinking, which requires the use of formal logic to understand economic processes in a systematic way. So, they may face difficulties to adequately navigate complex economic systems, as has been found to occur with a different population (Ali et al., 2016; Amar et al., 2001; Denegri, 2007; Denegri, Del Valle, González et al., 2014; Denegri, Martínez et al., 2007; Denegri, Sepúlveda et al., 2018; Olsen & Whitman, 2012).

It has been argued (Dulit, 1972; Hallpike, 1979; 1998) that the typical environment for most ordinary individuals does not inherently necessitate full formal functioning. This suggests that cognitive development requires intricate stimulation from complex societies, as their challenges can only be effectively addressed through more conceptually advanced methods. Following this line of thought, and considering that Amazonian indigenous peoples have little historical familiarity with the use of money, are not yet fully integrated into banking processes and have little to no knowledge about the banking system (Correa & Roopnaraine, 2014), it is plausible to think that this lack of experience has worked against the development of their economic thinking. Further studies would be needed to confirm whether it is exclusively related to difficulties with formal thinking, a lack of information about financial systems, or a combination of both.

Given the enormous challenges that Amazonian indigenous peoples face to fulfill their rights in the context of capitalist globalization and to achieve human development that responds to their own complex cultural characteristics,
these results are worrisome in the extreme. In Peru, approximately 70% of Amazonian indigenous peoples’ territories are occupied by extractive activities, and this is without taking into account forest concessions or illegal activities such as drug trafficking (Red Amazónica de Información Socioambiental Georeferenciada, 2020). In many of these cases, indigenous people's right to a prior consultation processes, provided for in international treaties, have not been fulfilled; in others, engaging in extractive activities forever alters the life and productive structure of the communities.

Indigenous leaders and communities have to negotiate and make decisions that affect their future in this challenging context. When the individuals who must carry out these processes do not have all the tools they need to fully understand the operations of the system, their disadvantage relative to the interests of big capital can become insurmountable. In this way, the processes of accumulation by dispossession are fostered and the rights of indigenous people are trampled. It is important to note that, with one exception, all participants have gone through higher education, be it at a technical or university level, and are therefore part of a privileged sector within the country's indigenous population. As of 2019, only 24.8% of Peruvians aged 15 to 29 whose mother tongue is an indigenous language were able to obtain some level of higher education (university or technical). For those whose mother tongue is Spanish, the percentage is 40.3% (INEI, 2020). As previously noted, most participants in this study are teachers who play important leadership roles and fight for the rights of indigenous peoples. Yet even for this sample, the results obtained reveal significant educational deficiencies concerning the functioning of the economy and financial processes.
Designing and implementing educational programs for economic and financial literacy, tailored to the particular needs of indigenous peoples, is thus of paramount importance. There is evidence that such programs promote attitudinal changes and reflective consumption, making people less impulsive as buyers and consumers (Denegri, Araneda et al., 2016; Denegri, Del Valle, González et al., 2014). These programs would have to be implemented both as part of basic education and in capacity-building processes for indigenous leaders. In this vein, the study conducted by Correa and Roopnararine (2014) in six indigenous communities on the Juntos Program (conditional transfer program) evidenced, based on a set of practical difficulties such as the use of the ATM, "the urgent need to promote financial education initiatives in indigenous communities" (p.51). Correa and Roopnararine point out that extending financial education efforts with cultural relevance to indigenous areas is key both to train mothers in the use of banking services and to support families' savings efforts. Of course, financial education must be part of a comprehensive education program that seeks to fulfill the rights of indigenous peoples, although this fulfillment of rights is crossed by very complex cultural and political processes. No educational program by itself would be capable of changing the unequal power relationships between the indigenous peoples and the dominant national and international groups who sustain the capitalist dynamics and the State policies associated with them. Therefore, financial education undoubtedly has a political component that crosses but exceeds education itself.

Furthermore, a correct understanding of how an economic system functions is a necessary precondition to positioning oneself before it, but it is not sufficient. Designing and implementing political education programs for indigenous and non-indigenous people is equally necessary in order to enhance critical thinking and facilitate the analysis of controversial issues, such as capitalism and
other economic and subjective modes of production. In terms of human development, it is necessary to develop capabilities so that indigenous peoples can exercise their right to choose and build the lives they want and value.

Finally, we must acknowledge the limitations of this study. While we have identified the need for financial education, this study does not capture more deeply the economic thinking of indigenous people and does not account for the social relationships that shape indigenous peoples’ economic behavior and logic, which would be central for any financial education program to take place. In addition, for future studies it is important to expand and better balance the sample to include other indigenous peoples.

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Recibido 02/07/2023
Aprovado 07/11/2023