Money in a digital economy

Santiago Laserna Fernández

José Gabriel Espinoza Yañez

Sharim Ribera Camacho

CERES

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Counterplate
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A. INTRODUCTION

There is a tendency to believe that the Covid-19 pandemic has accelerated a process that was already underway in many parts of the world: the transition to an economy that requires fewer and fewer cash transactions, a cashless economy. Although this is thought to have occurred primarily because of concerns with hygiene and biosecurity, there are many reasons why society is moving toward eliminating cash transactions. The main reason seems to be the practicality and convenience of both buyer and seller.

This document is the result of a research project of the Centro de Estudios de la Realidad Económica y Social (CERES) with the support of the Center for International Private Enterprise (CIPE). Within the framework of its project on "restarting" post-Covid economies, the objective of the project is to analyze the main challenges and opportunities of moving Bolivia towards an economy that does not depend on cash transactions in the form of coins, banknotes and paper checks. This could be achieved through the implementation of digital systems for common financial transactions and payment for goods and services.

There are many challenges currently identified for this transition to gain momentum in Bolivia, one of the main ones being that it is not yet clear whether such a transition is in the interest of the entire population, much less whether it is something we want to move towards in a planned manner. On the other hand, half of the Bolivian population currently does not even have a bank account\(^1\). This paper seeks to look into the feasibility of implementing this type of transactions in Bolivia, identifying their acceptance by consumers and entrepreneurs, determining some impressions that the general population has about them, and considering the main obstacles in terms of institutional and technological infrastructure to identify how much progress should be made and in which elements.

In addition to the main idea stated above, the following two specific objectives are presented.

1. What is the current state of the technological and institutional infrastructure available to make the transition to a cashless economy?
2. To analyze the perception of the average Bolivian citizen with respect to the virtual payment facilities that exist in the country.

B. CASHLESS ECONOMY: ADVANTAGES AND DISADVANTAGES

Kumar and Bansal (2019) conduct an extensive literature review of the most cited and influential articles on the cashless economy and, based on 97 articles, divide their literature review into the following points:

3. Economic growth and development:
   The articles reviewed by the authors on this topic find positive relationships between a high degree of economic development and the use of cashless transaction methods. In many papers it was even possible to identify causality between the adoption of cashless payment methods and the subsequent economic development of a country, noting, however, that this can be evidenced mainly in the long term. Additionally, a reduction of criminal activities that rely heavily on high amounts of cash is inferred in some articles, as well as a reduction of the overall informal economy that can vary between 0.6 to 3.7% of a country's GDP (Rozkrut, 2016). Other benefits found are the reduction of leakage of public funds in social benefit programs. Finally, the issue of viral and bacterial spread was also a concern that would lead to accelerate the transition to a cashless economy, which gained further traction with the outbreak of the

\(^1\) CERES, Multi-Mode Polarization Survey, Citizenship and Datosición SRL, December 2020.
Covid-19 pandemic. Kumar and Bansal argue that the above factors should be elements that should lead a country to want to accelerate the process toward a cashless economy.

4. Cashless economy and demonetization
Whether to stabilize the value of a currency, or to reduce the inflationary process, demonetization is an economic measure used for various reasons by different countries. In this sense, many authors believe that, to achieve a successful cashless economy, it is also necessary to support it with a demonetization process, which is seen by them as a practical tool to reduce the amount of cash in an economy, encouraging people to opt for digital transaction measures. Authors such as Varma (2017) even argue that an economy should have only 20% of GDP in cash, leaving the rest in some form of digital currency. The process towards this percentage should be gradual and accompanied by a demonetization policy. However, there are critics of these observations, such as Kohli and Ramakumar (2016), who see demonetization as an infringement on individual freedom that will need to be coupled by strong cybersecurity laws.

5. Cashless economy and the banking sector
The research that argue that the transition to a cashless economy favors the banking sector tends to underscore the increased profitability of banks that reduce operating costs. The process of receiving, counting and storing cash, as well as returning it to the public through ATMs entails large operational costs that the bank could be reducing with the increase of purely digital transactions. The offer of banking services by electronic means, called "e-banking" in English, has greater operational efficiency, which results in higher revenues and profits, especially in developed nations. However, not all researchers share this idea. Some research focused on countries such as India and Jordan do not find any considerable benefit in the adoption of internet banking (Malhotra and Singh, 2009; AlSmadi and Al-Wabel, 2011) and also have not found that customers themselves perceive these additional offerings as competitive tools for banks (Maiyaki and Mokhtar, 2010). Another observation was that the Central Bank might lose control over monetary issuance (Claudia and De Grauwe 2001; Al-laham and Altarawneh, 2009; Ezuwore-Obodoekwe, et al. 2014). However, as we will see below, some analysts argue that this is not necessarily a negative effect, since they may come to protect the population from inflationary policies arising from the free issuance of currency without any reserves to back it up.

6. Impact on the business sector
Most of the studies on the impact of a cashless economy on the business sector offer positive results. Besides reducing accounting and administrative time and expenses, it opens the door to online and remote commerce, allowing for open hours and greater service coverage, among other advantages. It also allows a business to be stronger in the legal arena, providing greater transparency in its finances and thus be subject to more efficient audits (Shendge et al., 2017). However, a study in Nigeria, Ebeiyamba (2014) and Igbara et al. (2015) found that an economy that does not offer the option of using cash may present a barrier to access for the development of small and informal businesses, which currently rely heavily on the use of cash and whose owners often have little access to adequate digital financial education.

7. The Role of ICT
The articles reviewed by Kumar and Bansal find a strong dependence between the success of a cashless economy and a strong presence of Information and Communication Technologies (ICT), showing that it would be very difficult for a cashless economy to come about without the current ICT tools, and that it is very likely that the development of these tools has given rise to the transition to a cashless economy.

8. Concepts and challenges
The above-mentioned literature review implies that a totally cashless economy is a scenario that would only be possible in the very long term. For this to happen, there are some challenges that must be overcome, such as people's distrust in the digital payment security system, which is still very high. The level of "hacks" and information theft is higher in developing countries, although these cases are found in
all countries, representing a threat to privacy. Another factor is that, in the perception of consumers, digital transactions are considered more expensive and complicated than cash transactions (Jonker, 2005). Finally, there are social and cultural factors that must be respected and prevent a change such as the transition to a cashless economy from happening immediately. Some authors even claim that a totally cash-free society could lead to using payment systems as a weapon (Bendell, 2015) and would result in the elimination of privacy, dissent and freedom (Varma, 2016; Downey, 1996). Varma (2016) states that: a cashless society would be good only if we evolve towards it, not if we are coerced towards it.

Kumar and Bansal conclude their valuable academic contribution to the subject with the following conclusions and recommendations:

During the last 5 years prior to the study (from 2014 to 2019) there was a considerable increase in research on the cashless economy. The results mainly indicate that the transition to a cashless economy would help countries in the fight against corruption and terrorism. It would also help governments in collecting taxes, facilitating financial inclusion and boosting economic growth. However, to get to what they call a cashless society, the following 5 points must be considered:

1. Performing the conversion of small cash payments into digital media (Orr, 2006).
2. The government should incorporate a national infrastructure strategy for digital payments that includes three phases: 1) Strategy to reject the use of cash; 2) Improvements in payment infrastructure; and 3) New solutions such as receipts/invoices and micro-payments (Denecker et al., 2013).
3. Governments should ensure that financial services are easily accessible and affordable and that people use electronic payment instruments.
4. Additional benefits and incentives on electronic transactions should be offered to accelerate the process of transition to a cashless economy.
5. Governments should organize financial education programs to make people aware of the importance of a cashless society.

Kumar and Bansal's work shows that the transition to a cashless economy would not yet be possible in the foreseeable future due precisely to the challenges mentioned above. In support of this assertion, they cite Kupetz (2007) as saying that the success or failure of the migration to a cashless society will be linked primarily to three critical issues related to the pace of consumer acceptance: security, privacy and ease of use. Thus, Kumar and Bansal state that the goal of a cashless economy would be possible only through the collective efforts of governments, banks and the people through technological and infrastructure innovations.

C. THE BOLIVIAN EXPERIENCE

C.1. Payment systems

Payment systems are the set of means and instruments used by agents in an economy to make payments and settle accounts with others. A payment system comprises the institutional, legal and operational framework within which transactions are carried out. With the advance of technology, payment systems also include all the operating procedures and the communications network necessary to share information and settle transactions within the system.

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2 According to the Bank for International Settlements (BIS), payment systems are the set of instruments, banking procedures and interbank funds transfer systems that ensure the circulation of money.
Like any system that involves transactions with money, the payment system faces a series of risks, which are generally summarized into liquidity risks, credit risks and systemic risks.

In a modern economy, monetary policy objectives are achieved through actions that affect this system. Monetary authorities control liquidity and short-term interest rates through their ability to influence the supply and demand for funds in the money market. In this sense, the execution of monetary policy actively uses the money and interbank markets in such a way that the Central Bank can predict, with the smallest possible margin of error, the evolution of liquidity.

This is necessary because payment systems use substantial resources, so poor system design and management potentially generate excessive costs that are often passed on to users. This imposes constraints that force the authorities to make a choice about system design, in which functionality must be balanced with system security. It is precisely this choice that conditions the move (or not) to a cashless economy.

High levels of security can avoid systemic risk; however, they can also generate conditions that are difficult, slow or costly to comply with, preventing the development of new payment channels. On the other hand, as an economy grows and diversifies, the demands of the players and users also change, so it is necessary for payment system operators to review their choices as financial markets and the local economy develop. The latter is even more relevant as technological and economic advances improve the number of solutions available.

In this context, one of the main reasons why regulations are usually not adjusted is the inertia of policies related to using cash as the main means of a payment system.

It is clear that the legitimacy of consumer and business preferences for cash must be recognized, so government policy orientation cannot seek to override those preferences in order to move towards a cashless economy as an end in itself. This, even if electronic payments were to present substantial advantages over cash, as we could enter a situation in which financial exclusion deepens even further.

However, prohibitions on retailers to adopt payment policies that better suit their needs as they and technology evolve, forcing them to continue to accept cash, is not the right way to address this problem. The prevailing approach to payment systems points to policies that allow:

2. Eliminate counterproductive regulations that exacerbate financial exclusion problems and hinder efforts to increase the inclusion of traditionally excluded consumers.
3. Increase users' access to a wider range of higher quality financial products.

The transition to a cashless economy is the result of a voluntary and dynamic adaptive response of businesses and consumers to a changing environment of preferences and the search for efficiency and cost reduction in the day-to-day management of operations. Clearly, as communication technologies have integrated with payment methods, the costs of electronic payment methods have fallen considerably, offering net benefits to

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3 Liquidity risk refers to the probability that payment will not be made on time because the debtor does not have sufficient liquid resources. On the other hand, credit risk arises when an agent within the payment system fails to meet its settlement obligations due to insolvency. In both cases, the negative effect on the creditor's liquidity may force it to resort to credit, either through the liquidity windows offered by the monetary authorities or through credit in the interbank market, which is often costly. Systemic risk occurs when the liquidity or solvency problems of one or more agents within the system cause other participants in the system to default on their obligations. This is the main risk that central banks attack, because it can jeopardize the stability of the financial system.
consumers, not only in the form of lower prices, but also a faster, more convenient and, more recently, safer and more hygienic shopping experience.

On the other hand, restrictive regulations presume that migrations or inclusions of new payment systems may lead to potential market failures requiring government intervention. However, to the extent that electronic means of payment push the use of cash down, the relative costs of accepting cash compared to other means of payment will continue to rise, imposing an increasing burden on businesses and the economy as a whole if the imposition of cash as the main object of the payment system continues.

However, it is true that in a migration process such as this, there will be side effects for some consumers (mainly in terms of increased financial exclusion), but these can best be mitigated by adopting policies that promote greater competition and access to electronic payments and services rather than trying to prop up the existing legacy payment system. While the costs of the transition to a cashless economy are not evenly distributed throughout the economy, the benefits of policies with a broad rather than restrictive approach can increase financial access to traditionally excluded groups (rural populations, older adults, lower income sectors, etc.).

An example of a similar migration has been seen with checks, which went from being one of the most popular and widely used consumer payment methods to being the least used. Despite their widespread acceptance, checks were a slow, risky and costly means of payment to process, so many vendors phased out the use and acceptance of checks. Evidently, for those users whose preferences demanded the use of checks, the transition to a new form of payment may have been costly, but the advance of new technologies and payment methods eventually reduced the relative costs and displaced checks without regulatory pressures pushing the transition in a particular direction.

This shows that, in general, the choice and preference of companies and consumers are, in the end, the principle that determines the evolution of payment systems.
C.2. The role of public institutions in the transition to a cashless economy

However, despite the importance of the preferences and choices of companies and users, some argue that market forces will hardly achieve the minimum safety and efficiency objectives to ensure a sustainable payment system, since operators and participants are not necessarily affected by all risks and costs, and therefore may not have adequate incentives to minimize the risk of default (their own or others') or the costs that their behavior implies for other participants.

Similarly, factors such as economies of scale and barriers to entry can limit competition in the provision of payment systems and services, so that, in practice, in many countries there are either a very limited number of payment system providers or a single provider, usually the Central Bank.

However, procedural differences in the pursuit of safety and efficiency objectives can (and should) be pursued through different agencies. While central banks play a leading role (because of their premise related to financial stability, the money market and the preservation of confidence in their currency), an important part of the monitoring and regulatory responsibilities also fall on agencies specialized in the microeconomic aspect of the financial system.

C.3. A review of the 10 basic principles of a payment system

Like any system, the infrastructure that regulates and facilitates payments in an economy is based on a set of principles, which in this case have been widely disseminated and structured to respond to a variety of
situations, but which, according to the BIS, are probably more relevant for developing economies, due to the
greater needs they have to improve systems or build new ones, given that the rate of growth of payment
flows in their markets is usually higher (although this is not reflected in volume). These principles are:

1. **The system must have a well-founded legal basis in all relevant jurisdictions**: this implies clearly
   specifying the jurisdiction under whose law the system's rules and procedures are to be interpreted, which
   must also be clear, enforceable and applicable.

2. **The system's rules and procedures should enable participants to clearly understand the impact on the
   system of each of the financial risks they incur through their participation**: this implies that rights and
   obligations are clearly defined, rules and regulations are publicly known and access to relevant information
   is easy.

3. **The system must have clearly defined procedures on the management of credit and liquidity risks, which
   specify the respective responsibilities of the system operator and the participants, and provide the
   appropriate incentives to manage and contain such risks**: this means that a system's rules and procedures
   ensure that all participants have both the incentives and the capacity to manage and contain each of the
   risks arising from their participation in the system. By the same token, this principle also means that
   maximum limits must be designed for the credit risk that each participant may incur.

4. **The system should provide timely final settlement on the value date, preferably during the day and at
   least by the end of the day**: this principle refers to daily settlements under normal circumstances. Between
   the time when the payment system accepts payment for settlement (including meeting any relevant risk
   management tests, such as the application of risk limits or liquidity availability) and the time when final
   settlement actually occurs, participants may still be exposed to credit and liquidity risks.

5. **A system where multilateral netting occurs must, at the very least, be able to ensure the timely
   completion of daily settlements in the event that a participant with the largest settlement obligation is
   unable to meet it**: meaning that, in such systems, the rule is that they are able to withstand a default greater
   than that of the largest obligor who fails to comply with the system. However, the reduction of risk
   through this scheme has effects on the costs of the system.

6. **The assets used for settlement should preferably constitute a liability of the Central Bank; where other
   assets are used, they should involve little or no credit risk**: Given the above principle, most systems
   involve transfers of assets between participants to settle their obligations. Commonly, this asset is the
   balance of an account at the Central Bank, so these balances are a liability for the monetary authority.
   However, there are other forms of assets that represent liabilities for other institutions that are usually
   supervised.

7. **The system must ensure a high degree of security and operational reliability and must have contingency
   agreements in place to complete daily processing in a timely manner**: the system must incorporate
   recognized security standards, equivalent to the values of the transactions carried out in the system. These
   standards should be refined over time as technological advances are observed. In operational terms, the
   principle implies reliable technology and adequate back-up of all hardware, software and network facilities,
   as well as competent personnel.

8. **The system must offer a means of making payments that is practical for its users and efficient for the
   economy**: the dilemma faced by payment systems between minimizing resource costs and maximizing
   security has already been pointed out; therefore, the design and operation of payment systems must
   provide a certain level of quality in terms of functionality, security and efficiency with a minimum cost of
   resources.

An important element regarding costs is that these are not only those that are absorbed by users, but also

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4 See https://www.bis.org/cpmi/publ/d34s.pdf
those that are used by the system and its users in providing payment services. This means that any indirect costs to users must be considered, as well as liquidity and guarantee costs. On the other hand, the procedures and quality of payment services must be consistent for each type of service demanded by users, appropriate to the country's geography and the distribution of its population and infrastructure (such as telecommunications, transportation and banking structure).

9. **The system should have objective and publicly known criteria for participation that allow fair and open access**: this implies the encouragement of competition among participants so that efficient and low-cost payment services are promoted. However, the recommendations on this principle also suggest that the pursuit of competition must be balanced against the need to protect systems and their participants from excessive exposure to legal, financial or operational risks. In this regard, any restrictions on access should be objective and based on appropriate risk criteria.

10. **Agreements on how the system is governed must be effective, accountable and transparent**: it is necessary to build an effective governance mechanism to provide the right incentives in pursuit of objectives that are in the interest of the system, its participants and users in a broad way.

This set of principles, applied at the national level, is contained in the "Payment Services, Electronic Payment Instruments, Clearing and Settlement Regulations", as amended and approved by BCB Board Resolution 137/2019. This regulation establishes the basic guidelines for operability, admission, management and settlement of resources operated through the different payment systems in Bolivia. It also establishes the set of electronic payment methods allowed within the national scope, among which are the most widely used and known by users, such as debit and credit cards, mobile wallets and electronic transfers, but also some that have not yet been widely applied, such as prepaid cards.

The prepaid card market may offer a competitive solution for unbanked consumers, as it may be easier to switch providers. At the same time, prepaid cards do not require direct linkage to a bank account, and unlike credit cards, they also do not require credit approvals.

Because of its potential flexibility and ease of access, the cost structure (for both users and service providers) is also likely to be comparable to that of acquiring and using cash. In contrast, this alternative is useful for payments by traditionally excluded consumers in areas with access to (usually urban) banking networks.

Another relevant element is the nature of the entities allowed to issue electronic payment instruments, since it opens a wide spectrum of entities, not necessarily of a financial nature. However, this access, in most cases, being linked to liquidity accounts within the BCB, forces non-traditional operators to be linked to the system indirectly.

**C.4. Agent preferences**

As has been said, much of the success in a transition from the use of traditional means of payment to an economy in which money has been dematerialized depends on agents' preferences for the different means of payment. Traditionally, more informal and smaller scale economies tend to have higher coefficients, partly because of the shallower depth of the financial system, but also because of a factor of agents' preferences.

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5 Article 19 of the Payment Services Regulations (https://www.bcb.gob.bo/webdocs/sistema_pagos/RD_137_2019.pdf)
6 See https://scholarship.law.ufl.edu/cgi/viewcontent.cgi?article=1160&context=flr
7 Article 29 of the Payment Services Regulations (https://www.bcb.gob.bo/webdocs/sistema_pagos/RD_137_2019.pdf)
In general terms, in Bolivia about 25% of the money is kept in cash, which contrasts with the values observed in more developed economies, which show indicators ranging from 2 to 8%.

A relevant element of the behavior of this indicator is the stabilization around this value since mid-2016, suggesting that people's preferences for keeping cash flowing is relatively independent of factors related to the economy cycle or even exogenous elements such as social and political conflicts or other events such as the pandemic.

Graph 2. Cash ratio

![Graph showing cash ratio over time](image)

Source: Own elaboration with BCB data

Another indicator that reaffirms this trend is the composition of assets, which although it has a considerable lag due to the lack of adequate data, until 2014 showed a predominance of cash as the favorite asset, representing about 42% of the total, even above real estate, machinery and equipment and other forms of capital.

This is consistent with an expansion of the monetary base, a consumption-based economy and lower levels of investment compared to other more developed economies, but can also be explained by the greater prevalence of informal economies, which require more liquid assets such as cash.
C.4.a. Payment systems in Bolivia

The Political Constitution of the State (paragraph 3, article 328) grants the Central Bank of Bolivia (BCB) the power to regulate the national payment system, so the monetary entity designs the regulatory framework for the provision of payment services and instruments, risk management, analysis and evaluation of systems considered systemically important and is the provider and administrator of the high value payment system.

The payment systems oversight function seeks to control systemic risks, especially in payment systems administered and managed by private institutions, which are:

1. Administradora de Cámaras de Compensación y Liquidación S.A. (ACCL), which manages the payment system operated through electronic orders (Automated Clearing House - ACH) and through checks (Check Clearing House - CCC).
2. Administradora de Tarjetas de Crédito S.A. (ATC), which operates the credit card payment system.
3. Linkser S.A., which also operates a card payment system.
4. ServiRed S.A., which manages the payment system for transactions between cooperatives.
5. The Securities Depository Institution (EDV), which is responsible for the settlement of securities.
6. E-effectivo S.A., which operates with mobile wallet transfers and cross-border payments made by individuals or public and private entities.

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8 In addition, Article 3 of Law 1670 establishes that the BCB is the only authority that will formulate policies of general application in monetary, exchange and payment system matters.
Also, in accordance with Article 8 of Financial Services Law 393, the Financial System Supervisory Authority (ASFI) issues specific regulations and supervises compliance with them within the guidelines established by the BCB.

In this context, the High Value Payment Settlement System (LIP) is the payment system administered by the BCB. It operates under a hybrid settlement scheme\(^9\), since it combines Real-Time Gross Settlement schemes (the settlement of the payment and collection operation is performed in real time)\(^10\) with the use of Deferred Net Settlement methods (the settlement of operations is performed at the end of each cycle). The LIP is interlinked with the rest of the payment systems, which ensures that the following types of operations can be performed:

1. Interbank transfers.
2. Transfers from tax and customs collections.
3. Liquidity loans.
4. Transfers from own accounts in MVDOL, MNUFV and ME to the account in MN.
5. Settlement of electronic clearing houses (CCC, ACH, ATC and EDV). Settlement of these transactions is performed by LIP to ensure payment compliance and avoid settlement risks.

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\(^9\) Hybrid settlement: when the efficiency features of real-time gross settlement are combined with optimizing the use of funds using the tools of deferred net settlement.

\(^10\) In the Real Time Gross Settlement (RTGS) method, there is no interbank credit risk because the transfers are settled individually and immediately in the accounts that commercial banks hold at the Central Bank. However, this method increases the liquidity demands on the system, making it more costly for the end user.
The LIP, in compliance with the principles established by the BIS, is composed of modules that allow the administration of system parameters, instruct funds transfers, grant and manage liquidity credits, make queries and access system reports. All transactions performed in the LIP are currently validated by digital signature.

A relevant point is the participation regime, since the direct participants in the LIP require an operating license from the ASFI or the Pension and Insurance Supervisory and Control Authority (APS). On the other hand, since it is a high value payment system, the General Treasury of the Nation and others expressly authorized by the BCB’s Board of Directors also participate. Direct participation implies having a settlement account at the BCB. There are also indirect participants, which are those who settle their payment orders through a Settlement Entity as defined in BCB regulations (therefore, indirect operators face additional costs arising from the charges established by these entities).

C.5. Sources of financial exclusion and the effect of a cashless economy

While the public debate in many advanced economies has focused on the financial inclusion challenges of certain population groups (elderly, youth, low-income or informal market population, regardless of their geographic location), in economies such as ours the challenge is twofold, since in addition to registering a large percentage of the urban population still outside the financial system, which will be discussed below, barriers to financial inclusion among rural communities, such as access to high-speed internet and reliable cell phone data services, also limit access to financial services in many rural communities.

Given this reality, it seems highly unlikely that economic activities in rural areas will migrate to a cashless economy in the near future until access issues are addressed.

However, in the area of the population that does not yet have access to financial services, one of the main drivers to promote the transition to a cashless economy may be greater competition in retail banking, by promoting greater competition and segmentation of banking services.

For example, more adequate mechanisms to acknowledge the legality of technology companies as financial service providers would facilitate access and promote competition for nascent fintech companies, with dramatic benefits for traditionally excluded consumers. Additionally, clarification of the existing regulatory structure regarding the use of alternative data sources for underwriting financial products as well as for building financial histories would also promote financial inclusion among traditionally excluded consumers. These measures could promote competition in financial services that would likely reduce cost and increase access to bank accounts.

Along with the above, the monetary authorities should take aggressive measures to implement mechanisms for direct access to new players (non-bank entities) to the payment system. Adopting a payment system that includes these players would eliminate possible latency periods that slow down the access and availability of resources received by users.

D. WHERE DO WE GET THE DATA FROM?

The data collection methods used were as follows:

- **Surveys**: the results of three surveys were analyzed:
  a. The first survey was conducted by Datación SRL. on behalf of CERES in June 2021. A total of 600 people were interviewed in urban and rural areas of a total of 105 municipalities in 9 departments of the country. 50.5% of the sample corresponds to men and 49.5% to women. In total, the number of
cases and their random selection allows us to generate representative averages of the population over 18 years of age in Bolivia, with a margin of error of +/- 4 points assuming a reliability level of 95%.

b. The second survey was conducted by Datacción SRL in September 2021 by computer-assisted telephone calls to a sample of almost 1200 citizens. The population group is the adult population in the 9 departments of Bolivia with access to cellular telephony, which represents more than 80% of the adult population of the country. The sample allows inferences to be made about this population universe with a margin of error of +/- 2.7% at a confidence level of 95%.

c. The third survey was conducted by CIESMORI on behalf of CERES between March and April 2022 and covers a universe of 856 people over 18 years of age distributed in the 4 main cities of Bolivia (La Paz, Cochabamba, Santa Cruz and El Alto) derived from a non-probabilistic sampling method. The design and sample size allow observing the results with a referential margin of error of +/- 2.7%.

• **Focus groups:** Diagnosis S.R.L. was subcontracted to conduct 6 focus groups in the cities of La Paz, Cochabamba and Santa Cruz. Two focus groups were conducted in each city, one focused on people who are not familiar with *cashless* payment methods, and the other on people who are.

• **Interviews:** Diagnosis S.R.L. also conducted a series of in-depth interviews with professionals in the financial services sector to get their opinions and impressions on the main challenges and opportunities of *cashless* payment methods. The 12 interviews conducted by Diagnosis were focused on middle management of banking agencies. In parallel, CERES researchers carried out 9 interviews with senior managers of financial institutions, reaching a total of 21 interviews with professionals in the financial sector.

• **Bibliographic review:** of publications on the digital economy in Bolivia, with the purpose of analyzing what already exists and how these results fall within the points mentioned in the theoretical framework.

E. **WHAT WE FOUND**

E.1. **Bolivian context**

Bolivia has a relatively advanced level of infrastructure for digital payments compared to other countries in the region. Even before 2013 it was possible to make bank transfers at no additional cost between customers of the same bank and, later, between customers of different banks. This was increasing as Multiple Banks (the category that encompasses the largest banks in the country) were improving their mobile banking platforms so that users could perform these transactions more efficiently through their *smartphones*. However, to achieve this the customer had to register the full banking details of the payee, which included long account numbers, ID card numbers, full name of the person, and go through a registration and confirmation process before making the transaction. This was necessary both for payments that one would make frequently, as well as for one-time payments in a store, regardless of the transaction amount.

It was not until 2019, almost a year before the first wave of the pandemic reached Bolivia, that ACCL. S.A. (Asociación de Cámara de Compensación y Liquidación) which is 60% owned by ASOBAN and the 10 largest Banks in the remaining 40%, developed the "Simple" initiative, under which a module was created within the applications of each ASOBAN member bank to generate a QR (Quick Response, in English) code that allows the bank's client to collect money from another account\(^\text{11}\). This method, which was already very common in China and other countries, greatly streamlined transfers between bank accounts, since it allowed

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\(^{11}\) Interview with Mauricio Arze, Executive Secretary of ASOBAN (2021).
payments to merchants and individuals to be made much more easily, without the need for prior registration or the entry of account numbers of more than 10 digits.

The development of this solution allowed Bolivia and its traditional financial system to be at the forefront of innovation in the cashless economy in Latin America, being revolutionary not only in the simplicity of its method but also in the way it developed a resource that did not seek modernization on the margins of traditional banking (as happens in other countries in the region) but was led by the traditional banks themselves, who found a way to join forces to advance their sector without weakening the ability of each bank to compete on its own terms and aspirations. This innovation earned ACCL first place in the Financial Innovation and Inclusion Award granted by the Federation of Latin American Banks (FELABAN) (Los Tiempos, 2021).

Currently, this payment method is categorized within what Bolivian regulations recognize as Electronic Funds Transfer Orders (OETF). According to the Central Bank of Bolivia (BCB), in 2020, EFTOs were for the first time the preferred cashless payment method of Bolivians, having increased by 73% between 2019-2020, reaching 55 million transactions, while electronic cards slowed down in their growth and checks continued their reduction process in a more accelerated manner (graph 5). By 2021, OETFs consolidated their leadership, growing again by almost 70%, reaching a total of 93 million transactions. Another indicator of the massification of this means of payment is that although the number of operations has increased, the average value per operation decreased from Bs. 12,000 to Bs. 7,000 in 2020, and again dropping to Bs. 5,000 per operation in 2021, showing that the payment method is increasingly being used for smaller and, most likely, everyday operations.

Graph 5. OETF, electronic cards, checks and mobile wallet transaction volume (cumulative figures as of December of each year) (cumulative figures as of December of each year)

It is also noteworthy that the OETFs are leaders not only in the number of transactions carried out as of December 2021, but also in the total value of transactions carried out, reaching 502 billion Bs. in that year (see Table 1), a value that is far above any of the other means of payment and that, for comparative terms, represents more than twice the Bolivian GDP.

All of the above payment methods require a bank account, which is one of the biggest constraints (or limitations) for the growth of this sector. However, an alternative to this is what is known in Bolivia as the mobile wallet, a cashless payment method whose only condition is to have a device and cell phone number
provided by a telecommunications company in the country, and it does not need to be a smartphone. It is also not necessary to have internet service to use this product, which is why its use is very popular in rural and peri-urban areas where there is no good internet coverage or a good level of banking. This product also responds to the fact that, in Bolivia, 93% of the population has a cellphone, on average (Miranda and Foronda, 2020). Taking this into account, mobile wallet transactions have the third place in number of operations with 54 million operations (but with an average value of Bs. 61.31 per operation), well above the 2 million operations of check transactions (with an average value of Bs. 46,100 per operation) and just below credit and debit card operations, leaving the aforementioned OETF as the leader (Figure 5 and Table 1).

| Table 1. Low-value payment system (in millions of Bs.) |
|----------|---------|----------------|
|          | 2021    | Var (%) 2020-2021 | Average value per transaction |
| OETF     | 502,166 | 27%             | 5,355.76                      |
| Checks   | 143,150 | 36%             | 46,100.86                     |
| Electronic cards (POS) | 14,900 | 46%             | 217.90                        |
| Mobile Wallet | 3,313 |                    | 61.31                         |

Source: own elaboration based on BCB data (2022).

Fintech in Bolivia

In the international context, companies that support and enable digital financial growth are commonly called *fintech* (a play on words derived from financial technology). But in Bolivia the most relevant *fintech* company would be the aforementioned clearing house ACCL S.A. precisely because of the impact they achieved with their "Simple" QR payment system. However, there are some other *fintech* companies in the country, outside the traditional financial system, which are gaining strength and could eventually emerge as key players in the transition to the cashless economy.

The *Fintech* Latinoamérica portal identifies the following about *fintechs* in Bolivia:

The companies that develop new technologies for financial services or that are applied in the majority are young in the country, the digital technology ecosystem in Bolivia identifies that 12.5% (19) of the 152 *startups* operating in the market are oriented for the financial sector12.

Among them, he mentions a group of *fintech* companies, most of which are simply databases that help make financial decisions within the Bolivian market. However, he highlights the presence of Click Pay, a mobile payment platform that allows users to make and receive payments via QR codes and/or cell phone numbers, which turns any computer or cell phone into a POS machine for merchants.

At first glance, this application sounds similar to the Simple method developed by banks, but the difference is that *Click Pay* facilitates payment through a debit or credit card pre-registered in the application, making it necessary not only to have a bank account, but also an active debit or credit card to make online purchases. This means that, although it is a technological solution that facilitates some important steps in the payment method, it is not an alternative solution to the existing channels in the payment system, as would be, for example, PayPal, whose presence in the country seems to be hindered mainly by a lack of motivation to submit to the strict Bolivian regulation, with all its requirements and bureaucracy.

Regulatory considerations

The Bolivian financial sector is extensively regulated directly by the Financial System Supervisory Authority (ASFI) and indirectly by the Central Bank of Bolivia (BCB). In this context it is a challenge for financial institutions to be at the forefront of financial innovation. However, in order to properly understand the current state of the current legal infrastructure that exists in Bolivia for these means of payment we refer to the following excerpt from the payment system oversight report prepared by the BCB (BCB, 2022, pp. 42):

**BCB Regulatory Boost to electronic payments**

One year after the Covid-19 pandemic, which brought about a change in the population's consumption habits, driving the digitalization of the economy, the general regulatory framework of the payment system was also adapted to this new scenario, incorporating and expanding concepts and making clarifications in order to continue promoting electronic payments. The growing importance of new players such as payment gateways, the increased use of electronic commerce, the need to universalize access to electronic payment means and channels and to complete the cycle of payments for basic services made through such channels with the issuance of electronic invoices, prompted the issuance of a new version of the Payment Services, Electronic Payment Instruments, Clearing and Settlement Regulation and its subsequent amendment. In this line, the definition of payment gateways as electronic payment channels and e-commerce as a commercial relationship through digital means was incorporated, seeking to adequately visualizing the payment ecosystem and its components in a stage of imminent digitalization of the economy. In order to facilitate access and increase the use of Electronic Funds Transfer Orders (EFTO), it was mandatory for financial institutions to provide their users with the electronic channels they have available for the processing of electronic funds transfers, as well as the sharing of information on their use, the opening hours of the services and the enabling of payments for basic services. Internet banking and mobile banking channels must be available on a 24/7 basis and be enabled to all account holders until December 31, 2021.

Inter-institutional coordination was essential for the consolidation of a solid regulatory framework that is sufficiently flexible so as not to impose barriers to technological innovation in the area of payments, guaranteeing a safe and reliable environment for a massive processing of electronic transactions. In this sense, the Central Bank of Bolivia and the National Tax Service (Servicio de Impuestos Nacionales) made compatible the regulations regarding electronic invoicing for electronic payments, which will be implemented gradually according to the schedule prepared by the Tax Authority and which began in December of this year. This regulatory impulse had positive effects in terms of access to electronic payments, as a result, during the current administration, 1.2 million customers requested the electronic banking authorization, approximately 264,669 accounts were opened through digital channels, which represents 26% of the total number of accounts opened during 2021 and the offer of digital financial products and services was expanded by adding to the opening of savings accounts and online Time Deposits.

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13 Approved by Board Resolution No. 069/2021 of 04.27.2021.
14 Approved by Board Resolution No. 129/2021 of November 18, 2021.
15 Coordination meetings and correspondence was exchanged with numerous government agencies, including the Financial System Supervisory Authority, the National Tax Service, the Ministry of Economy and Public Finance, the General Personal Identification Service (SEGIP), the National Hydrocarbons Agency the Ministry of Government, the Agency of Electronic Government and Information and Communication Technologies, Banco Unión, the Telecommunications and Transportation Regulation and Oversight Authority, the Ministry of Productive Development and Plural Economy, the Authority of Oversight and Social Control of Potable Water and Basic Sanitation, among others.
16 Information provided by 8 multiple banks and 2 SME banks.
17 The calculation was based on information published by ASFI, according to which 1,047 million deposit accounts were opened during 2021.
products such as salary advances, guarantee slips, online credit application, as well as the diversification of the functionalities of internet banking and mobile banking of financial institutions that allow not only to make transfers but also payment of basic services, loans, credit cards, taxes, insurance and purchase of airline tickets. To ensure the security of digital account opening processes, financial institutions apply security mechanisms that include due diligence actions, cross-checking of information and even the use of applications that incorporate artificial intelligence technology such as machine learning to validate the identity of customers. The greater access to payment channels such as electronic banking and mobile banking had an impact on the increased use of OETF, which is one of the purposes of the policies implemented by the Central Bank of Bolivia (BCB) in the area of the payment system, in order to democratize electronic payments and transactions and thus contribute to financial inclusion.

The above gives us to understand that, at least in the aspect of electronic payments with traditional monetary units, the regulatory system has made efforts to accompany the digitalization process of traditional banking by coordinating closely with these actors.

However, a cashless means of payment that seems to be becoming more popular is a phenomenon that actually seeks to replace our current conception of money, the famous cryptocurrencies. These virtual currencies seek to replace not only the use of physical coins and banknotes but also the use of the current money issued by the central banks of the countries (the one we have been analyzing so far), achieving this goal through blockchain technology that allows decentralizing any type of contract or transaction, dividing the information into smaller, public computer processes, which offer greater security. However, this is a technology that still does not have the endorsement of many governments in the world, including the Bolivian government, where the regulatory system, through the Central Bank of Bolivia (BCB) and the ASFI (Financial System Supervisory Authority), prohibit its use within the country. However, there are many Bolivians who are acquiring cryptocurrencies for speculative and savings purposes, although at the moment it cannot be used to make purchases of many goods or services, so the real use that it will receive within the cashless universe is somewhat uncertain that eludes the objective of the present analysis. Later in this document there will be a section detailing the challenges and opportunities that the use of cryptocurrencies in Bolivia may present.

E.2. What people say

To complement the additional information from third party sources, we thought it would be pertinent to conduct a series of surveys that could provide us with a little more information on various aspects of the cashless economy in Bolivia; among them, the notion that people have about the possibility of making cashless transactions and the willingness they have to learn and make this type of payment.

Figure 6 shows the percentage of the Bolivian population that has an account in a bank or cooperative in June 2021. It can be seen that, although the majority of the population does not have a bank account, the difference is not so large, since 46% of the Bolivian population claims to have one. This rate is well below other countries such as Argentina with 90% (El Economista, 2021), Colombia with 83.3%, Chile with 74.3% (La República, 2021), Ecuador with 75% (BCE, 2021) and Brazil with 70% (Statista, 2021), but also on par

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18 It is a discipline in the field of Artificial Intelligence that creates systems that learn automatically by identifying complex patterns in millions of data through algorithms.

with Peru (51%) and above Mexico (36.9%) and our neighboring country Paraguay (20%) (La Nación, 2021).

Graph 6. Has an account in a bank or credit union

![Graph showing account ownership](image)

Source: CERES/Datación SRL.

Graph 7 shows that there is no significant difference in account ownership according to gender, although it can be observed that slightly more men claim to have a bank account. As for the average age, the difference is not very significant either, with the average age of those who have a bank account being 34 years old, while the average age of those who do not have a bank account is 36 years old.

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In the survey held at the beginning of 2022, which focused only on the cities of the main axis of the country, the percentage of people claiming to have a bank account increased to 60%, indicating that 3 out of 5 respondents had a bank account.

Something about this indicator (percentage of people with a bank account) is that it has not been found among the official figures on financial inclusion, having looked for it in the statistics of both the regulatory body ASFI and the Asociación de Bancos Privados de Bolivia (ASOBAN). These institutions handle similar figures, but apparently consider more relevant the total number of savings accounts rather than the number of people who have a savings account. However, the most recent data from ASFI’s Financial Inclusion Report 2021 show that in that year there were 13,720,126 deposit accounts in the country. Assuming, as our data states, that 45% of the country’s adult population (a total of 7,617,500 people over 18 years of age) say they have a bank account, we can infer that those 3,427,875 who have a bank account have an average of 4 different accounts, which is also an important fact to consider.

Figure 8 shows the percentage of people who have an account in a bank or cooperative. This is a result of the survey conducted by CIESMORI in the 4 cities of the trunk axis, which explains the higher level of people claiming to have a bank account. Unexpectedly, the graph shows Cochabamba as the department with the most banked people, followed closely by La Paz, but far behind by El Alto and Santa Cruz. This indicator can also be categorized according to socioeconomic level, where it is surprising to find that 11% of the highest stratum still claim not to have a bank account.

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On the other hand, unlike the national survey conducted by Datacción, the CIESMORI survey shows that there is a higher percentage of banked women in the cities of the axis. The age group between 26 and 40 years old is the most likely to have an account in a bank or cooperative (Figure 9).
To get an idea of the frequency of debit or credit card use, respondents who claimed to have a bank account were asked whether they had used a debit or credit card in the last 3 months. Of these, only 32% claimed to have done so, which represents one-third of the banked individuals and just over one-tenth of the adult Bolivian population (see Figure 10).

When this same group of people who claim to have a bank account were asked if they use their bank’s internet banking, 41.57% stated that they do not, even though they are aware that the bank has this service. In second place (26.59%), are those who do use it, but only do so by cell phone.
Graph 11. Do you use internet banking?

When analyzing the average ages and the answers to the type of use they give to digital banking (Figure 12), it can be seen that it is the youngest who tend to use digital banking, particularly on their cellphones, while older people use it only on the computer or do not use it at all.

Graph 12. Digital banking and average age
When analyzing this variable by gender, there is a greater use by male respondents. However, this is most likely due to the fact that, in general, more men than women use banking services, as we saw earlier.

One option for cashless transactions is the use of ATMs installed in different areas of the city. Figure 13 shows what percentage of banked individuals have used these ATMs to make payments for services or bank transfers. It shows that almost two-thirds of those with a bank account do not typically use ATMs for this purpose.

**Graph 13. Use ATMs for payment of services and/or transfers.**

Figure 14 shows the affirmative responses to the question "Do you know that in some businesses you can make cashless payments?" divided by the three largest departments in Bolivia and a fourth column indicating the rest of the country's departments. This graph shows that the department with the highest awareness of digital payments is Santa Cruz (36%), followed by La Paz (31%) and Cochabamba (27%), all of which have a higher level than the rest of the country's departments. Overall, the percentage of people who responded affirmatively to this question is 28%.
There is not much difference in this variable when distinguishing by sex or age. The average age of those who know this means of payment is 35 years old versus the average age of those who do not, which is 36 years old. In terms of gender, the percentage of men who responded affirmatively is only 3% more than the percentage of women who responded in the same way. However, what is remarkable is that among those with a bank account, 60% did not know they could make cashless payments, of which 75% would be interested in being able to do so. This already gives us some indication of the financial education strategy that some banks could follow to increase the use of this means of payment.

When respondents were asked if they would like to make these new types of payments, the percentage of those who answered yes was much higher, with the highest percentage (69%) coming from the rest of the country's departments (see Figure 15). This is to be expected if one considers that it is precisely in the rest of the country where they have less knowledge about these payments and one would expect that it is in these places where people would be more interested in learning about them. It is striking that it is in La Paz where there seems to be the least interest in carrying out these types of transactions (only 57%).
In this case, something similar to the previous case occurs; once again, it is the younger people who are more interested in making these payments (35 years old versus 37 years old) and once again it is the men who are more favorable to making these types of payments (65% versus 62%). But again, it is necessary to consider that the differences are not very considerable when separating the observations by these social characteristics.

When comparing the desire to use a cashless payment method between the banked and the general population, we can clearly see a greater tendency on the part of the banked to want to use these methods (Figure 16). However, it is striking that even among the banked population, some say they are not interested in using these methods.
Graph 16. Thinking about the payments you make, would you like to use a collection or payment system where you don’t need to touch bills?

Figure 17 shows the main advantages considered by those who responded that they are aware of these means of payment. The reason they would prefer to use these means of payment is simply because they are more convenient, followed by the fact that they are considered more secure, and in third place the impression that it is less risky for health reasons. This last point helps to shed some light on the notion that the pandemic has accelerated the transition to a cashless economy for fear of contagion through the exchange of bills and coins. It is also likely that this transition has been accelerated more by the mobility and distance restrictions imposed by some governments around the world than by people's willingness to avoid cash.
When respondents were asked what they consider to be the main disadvantage of these means of payment, the majority responded that they considered it too complicated, followed by the fact that they do not see it as very secure (see Figure 18).
Graph 18. What do you consider to be the main disadvantage of using digital means of payment?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>It costs more</td>
<td>2</td>
</tr>
<tr>
<td>Forced to invoice</td>
<td>2</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
</tr>
<tr>
<td>Mandates a bank account</td>
<td>6</td>
</tr>
<tr>
<td>Other (DO NOT READ)</td>
<td>9</td>
</tr>
<tr>
<td>Don't know</td>
<td>9</td>
</tr>
<tr>
<td>It is not secure</td>
<td>26</td>
</tr>
<tr>
<td>It is complicated</td>
<td>44</td>
</tr>
</tbody>
</table>

Source: own elaboration based on Datación SRL. and CERES survey.

Finally, Figure 19 shows people's knowledge of the different cashless transaction methods available in the country in the backbone cities. It is not surprising that debit and credit cards are still the ones that people are most familiar with (65%)\(^{23}\), since they have been available for longer than digital banking. This is despite the fact that, as previously mentioned in another section, to date more transactions are made through digital banking than through electronic cards.

\(^{23}\) The sum of the percentages in Figure 17 exceeds 100% because it is not a mutually exclusive question. That is, the respondent could mention all the means of payment he/she knew and these would accumulate, making some respondents know more means of payment than others.
Graph 19. Which of the following ways do you know of to pay for purchases, services or debts without using cash?

- Debit or credit cards: 65%
- Bank transfer by QR code or digital banking in general: 53%
- Mobile payment without bank: 51%
- Don't know about any: 14%
- Other: 2%

Source: CERES/CIESMORI.

E.3. **What users say**

In September and October 2021, Diagnosis S.R.L. led a qualitative study on perceptions and attitudes towards the use of non-cash means of payment in the metropolitan areas of La Paz, Cochabamba and Santa Cruz.

The study had the following characteristics:

**Research objectives**

- Perceptions on the use of digital means of payment
- Valuation of the use of cash vs. digital payments
- Reasons for not using digital means of payment
- Usage habits of specific digital means of payment
- Barriers to the use of means of payment
- Demands on the use of digital means of payment

**Methodology**

Two research techniques were used to conduct the study:

- Focus groups with users and non-users of payment methods
• In-depth interviews with experts

a. Focus groups

The focus groups sought to identify opinions and perceptions about the different digital payment methods, the advantages and disadvantages of their use versus the use of cash, the barriers to the use of digital payment methods, and the demands on the different digital payment methods.

The following focus groups were led in the capital cities of the Bolivian axis:

<table>
<thead>
<tr>
<th>People between 25 and 45 years of age with stable income from the typical middle and lower middle stratum.</th>
<th>LPZ/EA</th>
<th>CBBA</th>
<th>SCZ</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used on average 3 times per week digital means of payment in the last 6 months prior to the survey</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Used on average less than 2 times per month digital means of payment in the last 6 months prior to the survey</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A total of six focus groups were carried out. Between 7 and 9 people from different neighborhoods and occupations participated in each of them. It was sought that an equal number of men and women participated. None of them worked in financial institutions.

The focus groups were conducted between October 24 and 30, 2021.

b. In-depth interviews with experts

A total of 12 in-depth interviews were conducted with professionals in the financial area, as follows:

<table>
<thead>
<tr>
<th>Financial professionals</th>
<th>LPZ</th>
<th>CBBA</th>
<th>SCZ</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heads of branches of different banks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University professors in the financial area</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The in-depth interviews were conducted between November 4 and 16 of this year.

The results of the study are presented below:

E.3.a. Use of digital means of payment before the pandemic

This chapter will analyze the experiences in the use of means of payment before the pandemic. The changes that have occurred in the use of these means of payment in recent years will be studied.

E.3.a.1) Changes in the use of Digital Means of Payment before the Pandemic

The following graph outlines the changes in the use of payment methods according to the perception of both the users of these methods who participated in the focus groups, as well as according to the assessments of bank agency heads and academics.
Spontaneously, both the participants in the focus groups and the banking system workers and academics interviewed for this study perceived that the Coronavirus pandemic accelerated a process of change that had been occurring slowly in recent years (Figure 20).

Indeed, interviewees say that before the pandemic, the change in the use of means of payment was slow and restricted to a few people, mostly middle-aged people with a high level of education:

- Before the pandemic there were people making digital payments. But that was a slow change. I remember that mostly young professionals came to ask to enable Internet payments (Head of a bank agency, Cochabamba).

- I have been buying airline tickets online for several years now. It's more convenient because you don't have to go to travel agencies (Male, 37 years old, typical middle class, La Paz).

Before the pandemic, there was a growing, albeit slow, use of digital means of payment. Mostly payment of products and services through debit cards:

- Before Covid I got used to paying with my debit card, don’t you see? For example, I live near a supermarket, so when I went there, I used to pay with my debit card (...). I also used to pay at pharmacies with my card. Sometimes when I went to restaurants, I was already used to it". (Woman, 42 years old, typical middle class, Cochabamba)

- It is more comfortable. You start little by little. You say 'they’re going to cheat me', but you just get used to it (paying with a debit card). (Woman, 31 years old, lower middle class, Santa Cruz)

So, before the pandemic, there was already an increase in the use of digital means of payment. Especially the payment with debit cards in supermarkets, pharmacies, restaurants, etc.

To a lesser extent, the use of the Internet was both for making bank transfers and for paying for services. Those who carried out these transactions through their cell phones are the ones who integrated these
transfers and Internet payments into their payment habits. In several cases, these payments were motivated by the purchase of airline tickets:

I travel a lot, don’t I? I travel by plane. So I had already gotten used to paying (air) tickets with a (travel) agency I had (near my office). I would call them (the agency) and they would buy (the ticket) for me. Then I had to go (to the agency’s office) to pay. That was done by my secretary (then it was easier for me). But once the agency did not pick up, I bought the ticket directly (through the Internet) (...) I found it more convenient, because I could choose the schedules (of the flights), and the agency staff did not have to call me to ask me. Since then I got used to it (Male, 47, middle class, La Paz).

This trend to buy airline tickets over the Internet was later extended to the payment of services (cell phone, electricity, pension payments, etc.). An important factor that influenced the payment of services over the Internet was the enabling of this service in the digital platforms of banks, according to the assessment of some academics and heads of bank agencies.

Initially, middle-aged professionals were used to making bank transfers via internet banking. But when banks enabled payment for services through their platforms, this service was increasingly used before the pandemic. Some experts and agency heads argue that enabling payments for services and airline tickets on Internet banking replaces the "credit card" product, which is a product targeted at high-income segments:

We have always had problems with credit cards. They have not had a very broad niche. Credit cards were restricted to a high-income public, an AB segment. Then, when the bank enabled the payment of services by e-banking, the use of this service grew little by little. I remember that during those years many professionals came to ask how to use these services (Head of a bank agency, Cochabamba).

The credit card was never very successful in Bolivia. For example, in other Southern Cone countries especially, the credit card is a fairly widespread product in the middle class; but not here in Bolivia. Here the credit card was only for high income people. There are several problems in Bolivia, aren’t there? The interest rates are very high (on the credit card), and the services you can access with the credit card are limited (Expert, La Paz).

The payment of services through Internet banking allowed several middle-class people to start using their banks' platforms not only to check balances or make bank transfers, but also to pay for these services.

The next step was to enable Internet purchases with debit cards. This consolidated the replacement of credit card functions with online payments, and with the debit card itself, more within the reach of the middle classes.

If the payment of services by Internet banking is used mainly by middle-aged professionals from the middle classes, the direct payment of products and services with the debit card began to be used mainly by young university students and young professionals from the middle and upper classes.

On the other hand, if the payment of services through Internet banking is mainly of a family nature (purchase of airline tickets, payment of school fees, payment of telephone lines, electricity, etc.), the purchase of services and, to a lesser extent, of products through the Internet with the debit card began as a more individual activity associated with entertainment.

In fact, young people from the upper and middle classes began to buy subscriptions to watch movies on the Internet, to play certain games, to purchase certain programs for computers or cellular phones, etc. To a
lesser extent, they began to use debit cards to buy products over the Internet: sports equipment, home exercise equipment, robots, electronic equipment, musical instruments, etc.

For the last four or five years I have been buying things on the Internet. I have always used my debit card to have subscriptions, sometimes I have bought things that have arrived at my house, such as sound equipment that was not available here (in Santa Cruz). (Male, 29 years old, typical middle class, Santa Cruz)

Some young people started shopping online using payment methods such as PayPal, but quickly migrated to using their debit cards for this purpose.

From the point of view of experts and agency heads, it is difficult to assess which of the two services had a greater expansion before the pandemic: the payment of services by Internet banking, or the direct payment of services and products over the Internet by debit card. Arguably, prior to the pandemic, both services had a progressive expansion in their own age niches:

- Payment of services through Internet banking in middle age.
- Online payment using debit cards, especially among young people aged between 25 and 30.

Another service that had a growing use before the pandemic was the "mobile wallet", especially among people in the lower middle class. This service began to be used mainly to send money for family matters or for people's business needs. Then, to a lesser extent, it was used as a means of payment for certain services and, very exceptionally, for some products in commerce associated with this service.

From the point of view of the experts consulted, the mobile wallet had a higher use before the pandemic because it did not require the opening of a bank account, and because it allowed sending money to various parts of the country, to people who also did not need to have bank accounts:

Despite the fact that in recent years the banking penetration of the Bolivian population has accelerated, not everyone has a bank account. Nor does everyone have access to a computer with Internet. Instead, more people have cell phones that connect to the Internet with specific packages without having to access wifi. That is why the mobile wallet has grown so much (Expert, La Paz).

Thus, the use of digital means of payment before Covid can be described as a progressively diversifying offer of services, supported by a progressive use of these means of payment.

This process is as follows:

1. The use of debit cards is spreading. First to withdraw money from ATMs and then to pay for services and products.
2. The offer of digital means of payment services is diversifying:
   - With the payment of services through Internet banking.
   - With the mobile wallet.
   - With the payment of services and products through the Internet with the debit card.
3. Digital media service offerings are consolidating as more service and product providers incorporate digital payment capabilities.
4. The use of digital means of payment is growing steadily, although there is no evidence of a boom. The process is progressive and gradual, but constant.
Digital means of payment are used not only by people in the upper-middle and typical middle sectors, but also by people in the lower-middle sector. While people in the upper-middle and typical middle strata mostly use Internet banking and the debit card for online payments, several people in the lower-middle stratum use the mobile wallet. In several social strata there is a growing use of the debit card as a means of direct payment for services and products.

This tendency to incorporate digital technology "more or less rapidly" into the habits of the lower middle (and even lower) stratum, and not only among young people, but also among adults and even older adults, has been observed in other technological areas:

- The use of mobile telephony.
- The use of "smart" cell phones and access to the Internet by this means.
- The use of social networks and quick messaging services such as WhatsApp.
- Internet access in general.

While there is a more intensive use of the Internet, social networks and paid digital services in the upper middle and typical middle strata, and in young people more than in adults, the use of digital technology and digital services is also widespread in the lower middle and lower strata.

In previous studies conducted by Diagnosis on Internet access, it has been observed that there is no barrier to "understanding" the digital medium that hinders access by the lower strata or adults. These segments adapt quickly to the digital medium because it is intuitive and does not require specialized technical knowledge.

There are two factors that differentiate access to the digital environment and to paid digital services according to social stratum:

- The first factor is access to and cost of technology. In previous years, the lower strata could not access smartphones because of their cost. Now they are more affordable. Now, many people in the lower strata do not have wifi at home and at work, so access to the Internet has its limitations. But these limitations are overcome by accessing the network through specific packages via cell phones.
- The second differentiating factor is the payment needs of the lower strata. These strata move mainly in the informal sector, where suppliers of services and products have not incorporated digital means of payment as in the formal sector, for example. In the lower strata there is less need for online purchases from suppliers abroad, as is the case in the upper-middle and typical middle strata.

In other words, it is the differences in context rather than differences in understanding or adaptation to the digital world that influence the differentiated use of paid digital media according to social stratum.

The same can be said for age differences: it is the contextual needs that influence rather than differences in understanding or adaptation. Adults have less need to buy services and entertainment products online compared to younger people.

As will be seen below, the issue of "trustworthiness" in digital means of payment is not a factor that differentiates greater or lesser use of digital means of payment. Trust in digital means of payment is not an independent variable. That is, the following dynamic does not occur:

- The greater the trust in digital means of payment, the greater the use.
- The lower the trust in these media, the lower the use.
Rather, it can be argued that trust in digital means of payment is a dependent variable:

- The greater the use of digital means of payment, the greater the trust.
- The lower the use of digital means of payment, the lower the trust.

E.3.a.2) **Factors influencing a greater or lesser use of Digital Means of Payment**

In the focus groups and in-depth interviews, the following factors were identified as influencing the adoption and use of digital means of payment. These are listed in order of importance:

1. Innovation in the offer of payment methods, services and products.
2. Formal or informal economic environment.
3. Face-to-face media socialization.

**Innovation in the offer**

In the experiences reported in the focus groups, it has been observed that the changes begin on the supply side rather than on the demand side. It is a dual supply:

- The offer of digital means of payment.
- The offer of services and products that can be acquired through digital means.

It is not possible to specify which of these dimensions comes first, innovation in digital means of payment, or the existence of services and products that can be purchased with these means. It seems that these are simultaneous innovations that need each other.

In people's experience, they suddenly find that the services and products they usually demand can be acquired by digital means. And, at the same time, they find that there are institutions that offer these digital means: mainly banks, although, as we saw with the "digital wallet", it can also be cell phone companies.

> I didn't know about this 'Tigo money'. I had never heard of it. Then I had to send money to my nephew, there in Camiri. But I didn't have an account (at the bank) at that time. Before I knew how to send by money order, but they charged me ... so it was urgent to send (money to his nephew), when he told me that I could send by Tigo. I had a Tigo cell phone. I went to a 'Tig point'. There they explained to me how it was ... and that's how I got to know about it. So since then I have been using it (Woman, 31 years old, lower middle class, Santa Cruz).

As can be seen in this story, there is a service demanded by the interviewee: sending money from Santa Cruz to the province (Camiri). And the interviewee finds that there is a digital means to do so ("Tigo money"), and that this means is within her reach. She uses the service, because it is more convenient and faster than the "bank transfer" service she had used before.

This process, which begins with innovation in supply, is repeated in all social strata. Suddenly the person finds that some products he needs, for example groceries in supermarkets, can be purchased directly using the

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24 As will be seen below, these services and products that can be acquired by digital means of payment have to be part of people's everyday context. In other words, they have to be services and products demanded by people.
debit card at ATMs. He also finds that his bank offers debit cards as a matter of course. Therefore, he uses the digital means of payment.

**Formal or informal economic environment**

Another factor that influences the use of digital means of payment is the economic environment in which the person lives. When the person is in a formal economic environment, he/she generally finds that several products and services that he/she uses, can be acquired by digital means of payment. At the same time, the bank where they have their accounts offers these digital means of payment.

On the other hand, if the person moves predominantly in an informal economic environment, it is possible that the services and products he uses cannot be purchased by digital means of payment. In this context, he does not see the need to use these means, because he simply does not need them.

In the focus groups, the recurring theme is that a person operates in both a formal and an informal environment. When they are in a formal environment and there is the possibility of using digital means of payment in the offer, they tend to use them. When in an informal environment (for example, when buying groceries or other products at a market or fair), they tend to buy "in cash".

Thus, if people move mainly in a formal environment, they will tend to use digital means of payment to a greater extent. On the other hand, if the person moves mainly in an informal environment, the use of digital means of payment will be lower.

**Face-to-face digital media socialization**

A third factor that influences the greater or lesser use of digital means of payment is "face-to-face" socialization. That is, in the family, work or friendship environment where the person moves, there are others who have already used digital means of payment.

In the experience of most of the people who participated in the focus groups, the people who use digital means of payment first are, in general, the youngest people who can decide on some money. They are young people with their own income, or students who receive some kind of "allowance" from their parents, and who can dispose of that amount autonomously.

These young people are informed about different means of payment. They generally use these digital means more than adults and comment on the convenience, efficiency and security of using these methods.

Generally, middle-aged people as well as full adults listen to the experiences of young people in informal conversations in the family, at work, in friendship circles. Sometimes they may ask about how to use them.

Just hearing about these digital means of payment from young people does not make people start using them. The latter happens when there is a need to purchase some good or service, and there is the possibility of using digital means of payment. When this possibility arises, two scenarios can occur:

- The most common scenario is that the person asks an acquaintance who has already used the digital means of payment how to use it, what are the steps to start using this means, and what are the procedures.

This person from the close environment who has already used the digital media, usually younger, explains how the procedure works. If it is someone from home, he or she can guide step by step, or even carry out the
first experiences of using the medium: go shopping with the father's debit card, buy airline tickets with the father's debit card, or with Internet banking, purchase a service abroad via debit card, etc.

It is with this explanation and even with the step-by-step guidance of the acquaintance, that the interviewees started to use digital means of payment.

- A second scenario is when, having heard about the convenience and efficiency of a digital means of payment from an acquaintance, the person asks his or her bank how to enable and use this means. In this case, the explanation comes from the bank officer, or from the agent of the cell phone company (in the case of mobile wallets), who explains the procedure.

Regardless of the scenario, it is common for people to learn about the existence and procedures of digital means of payment through face-to-face contact with someone who has used them before.

E.3.a.3) Use of various Digital Media before the pandemic

Even before the pandemic, people tended to use more than one digital means of payment. The combination is usually as follows:

- Use of the debit card as a means of payment.
- Together with other additional means (Internet bank transfers, mobile wallet, payment of services through Internet banking, payment of services or products with a debit card, possibly using mechanisms such as Paypal).

In the focus groups it has been seen that in some cases the person uses up to three or four digital means of payment according to their needs.

E.3.b. Changes in the Use of Digital Means of Payment in the Wake of the Coronavirus Pandemic

As in the general use of the Internet, the pandemic intensified the use of digital means of payment, but it did not mean a qualitative change in the habits of this use or in the process of adoption of these digital means. The change was a more intensive use of digital means of payment than before, and eventually the incorporation of new digital means of payment.

This increased use of digital means of payment was due to the following factors associated with the pandemic:

- Difficulties in the use of conventional banking services.
- Difficulties in accessing cash.
- Exposure to new service and product offerings that require digital means of payment.

Difficulties in the use of banking services

When focus group participants recall their experiences during the pandemic, they mention almost first and foremost the difficulties of using conventional banking services due to the biosecurity measures adopted by most banks:

- The need to reduce the capacity of banking facilities caused queues outside banks to increase, along with longer waiting times to be served at the teller window.
• On the other hand, restrictions on opening hours made it difficult to access these services.

Some focus group participants recalled the need they had for a traditional banking service that required their presence at the bank and the time they had to wait in line on the street:

*Now it’s a drag to go to the bank. It’s worse than before. There is always a line in the street. There you can catch Covid, or else you get sick. I try to avoid going to the bank as much as possible (Woman, 42 years old, typical middle class, La Paz).*

*I had to send a money order to Argentina for my relatives. But I could not because the bank closed at 3 o’clock in the afternoon. I went to the bank in vain, I found the doors closed. I couldn’t send that day (the money) and that hurt us a lot. (Male, 28 years old, lower middle class, Santa Cruz)*

The first quarantine of 2020 is particularly present in the memory of the interviewees. In that memory, images of closed banks, or of queues at bank doors, are associated with difficulties in accessing the bank because of the pandemic. These images are further compounded by the crowding of people at banks to collect the pandemic relief vouchers distributed during 2020.

In the experience of some interviewees, the inconvenience of going to banks in person encouraged them to make greater use of alternative services. For example, some people who did not use the service of depositing money through ATMs began to use this service:

*I had never used to deposit money in ATMs ... but it was very hard to enter the bank during the quarantine. Besides, I was already afraid that I might get infected (with Covid-19) at the bank. My son told me that I could deposit money in the ATMs. He taught me, so I just deposit there, I don’t have to go into the agency. That way it’s safer (Woman, 42 years old, lower middle class, Cochabamba).*

Difficulties in accessing banks led others to make greater use of online bank transfers. This increased use of Internet banking to make transfers during the pandemic also led to increased use of other services, such as payment for bank-related services.

From the point of view of the agency heads interviewed for this study, the pandemic meant a lower influx of users:

*At the beginning of the pandemic there was a lot of crowding. Ugh ... the queue (outside the agency) was almost all day long. On top of that, we didn’t have many cashiers to avoid congestion. Then they (the clients) waited a lot and protested ... But now, now there are not many people coming to the agency ... less than before (the pandemic). (Agency head, Cochabamba)*

Thus, a first effect of the pandemic was a lower use of over-the-counter services and, consequently, a greater use of Internet banking, including the means of payment it offers.

**Difficulty in access to cash**

During the first quarantine of 2020 and due to travel restrictions, some people had less access to ATMs and cash. In these circumstances, they made more use of digital means of payment. Especially payment by debit card:

*I used to take cash (from the ATM) when I was downtown (because) there are no ATMs near my house. When I came back from the office, near my office there is an ATM (automatic teller machine), I used to take
out cash. But with the pandemic in my office they said that we were going to telework. I didn’t have much cash (Male, 36 years old, typical middle class, Santa Cruz).

There was an ATM at the Bolivia bridge. From there I could withdraw (cash) ... but during the quarantine last year, there was no money in the ATM. I called the bank to complain, but there was still no (cash in the ATM). (Male, 42 years old, lower middle class, El Alto)

This reduced access to cash led several participants to make more use of internet banking to make some payments, either by money transfer or by paying for services on their bank’s platform.

**Exposure to new services**

During the pandemic several of the interviewees were exposed to new services that require payment by digital means. Some of these services were mentioned in the experiences reported in the focus groups:

In first place are the online courses. Some participants in the focus groups mentioned that in the quarantine period they surfed the Internet more and came across educational offers that were important to them. To pay for these courses they needed to use payment systems such as PayPal, or they sought to enable their debit cards for online purchases:

*In my forties I spent most of my time surfing the Internet. I had more time because for a few weeks we were not taking classes at the U. Then I got more involved with the Internet (laughs). Then I saw an interesting course at the Universidad de la Cumplutense (Madrid). I had to pay 120 dollars for the course. Then I went to the bank to enable my (debit) card to make these payments (over the Internet). (Male, 27 years old, typical middle class, La Paz)*

A second service they came into contact with during the quarantine was streaming services, especially Netflix. Again, subscribing to this service requires the use of paid digital media, which motivated some people to use these media more.

It is likely that even without the quarantine, at some point these respondents would have subscribed to these streaming services. However, the quarantine gave them an opportunity to accelerate the purchase of the service since they had enough time to use it regularly, at least during the confinement.

A third service was the purchase of food over the Internet and the use of delivery services. During the quarantine period, delivery services that also allow payment through digital systems multiplied. This service was used mainly by young people from the typical middle and upper-middle stratum. According to some of them, the important thing was not only to buy fast food, but to experiment with this new digital payment service:

*I think the people at ‘Pedidos Ya’ started with this Internet shopping service. I was curious to know what it was like. Then one day I tried it and it worked well. So since then, in my family we pay for our food online. It’s more convenient... I’m the one who pays. (Male, 27 years old, typical middle class, La Paz)*

This increased use of digital means of payment after the 2020 quarantine was also evidenced by bank officials. Some agency heads interviewed for this study stated that after the quarantine, the number of requests to enable debit cards for online purchases increased significantly:
In my agency we received between 2 to 3 requests to enable debit cards for Internet purchases per week. That was before Covid-19. But now, the number of requests is up to 8 or 10 per week. This caught our attention. Before Covid, young people were the ones who asked the most to enable debit cards for Internet purchases. But now they come from all ages. Adults. Even seniors come. That caught our attention. (Head of agency, La Paz)

At least as a quite plausible hypothesis, the pandemic accelerated the use of the Internet and its possibilities. Among these potentials are digital means of payment. This use was already present before the pandemic, but intensified after the pandemic. Therefore, the increased use of digital means of payment should be understood as part of a larger process of integration of the Internet into everyday life, a process that deepened with the pandemic.

As will be seen below, the reasons for the use of digital means of payment are mainly threefold:

- Comfort
- Efficiency/rapidity
- Security (less chance of street assaults).

Here it is important to note that, spontaneously, the interviewees do not refer to the need to avoid handling cash to avoid the "Covid-19 contagion" as a reason for using digital means of payment. However, when in the focus groups the moderator introduces the topic, the interviewees respond affirmatively. That is, they refer to "taking care" of the contagion as a reason for making digital payments.

What was mentioned spontaneously was that the increased use of digital means of money transfer and payment avoids going to the bank. This avoids crowds and the possibility of Covid-19 contagion.

In general, in the qualitative study and, above all, in focus groups, the reasons that are mentioned spontaneously are more relevant than the reasons that are induced by the group moderator. Therefore, it can be stated that health care, avoiding handling cash to prevent the spread of Covid-19 is not a main reason for the use of digital means of payment. It can be interpreted as a secondary or supportive reason.

Finally, the QR code should be mentioned as a new payment option appearing in recent months. Some of the interviewees in the focus groups mentioned this option. Mostly young people between 25 and 35 years of age from the typical middle stratum. Mainly in Santa Cruz. These interviewees know how the code works, and also know people who have used this method.

However, at the time of the focus groups, none of the focus group participants had used this system. The interviewees expressed interest in this method. Especially young people. It is likely that in the coming months, this means of payment will be used more and more.
E.3.c. Motivations for the use of Digital Means of Payment

Graph 21. Motivations for increased use of Digital Means of Payment

As can be seen in Figure 21, after the pandemic, the use of a greater number of means of payment is observed. It was said earlier that the pandemic, especially the quarantine during the first wave, prompted a greater use of the tools associated with the Internet, including digital means of payment.

In the focus groups, interviewees were asked about the motivations that led them to use more digital means of payment. In the previous section we analyzed mainly practices, and in this section we will analyze the internal dynamics of individuals, i.e. their motivations and reasons.

E.3.c.1) Motivations for the use of Digital Means of Payment

In the focus groups, four motivations or reasons were mentioned that drive the interviewees to use digital means of payment. These are listed below in order of importance given by the majority of the interviewees:

1. Comfort.
2. Efficiency/rapidity.

a. Comfort
For most of the respondents in the focus groups, the main reason for using digital means of payment is convenience. Here the concept of convenience has several connotations:

- Payments are made from home or from the office, or wherever you are if you use your cell phone.
- You avoid going to the bank to withdraw money or to make a transaction at the teller window.
- This avoids queues and wasted time.
- You choose the time of payment according to your schedule and daily activities.

As mentioned above, the initial decision to use means of payment is mainly conditioned by technological innovations in the supply. Suddenly, suppliers of goods and services needed by the interviewees begin to offer digital means of payment as a payment option. At the same time, banks accompany this innovation in the offer, making these means available to people.

In the environment of the interviewees there are people who have already used these digital media and recommend them.

Once people try using digital means of payment, the first advantage they notice is convenience. They experience a big difference from paying with cash. It is precisely this convenience that allows people to return to using digital means of payment and integrate them more or less quickly into their payment habits:

I used to have to pay my children’s school fees at the bank teller window. I had to go to the ATM to withdraw cash. Then I had to go to the bank where I pay the pensions. I had to wait in line, wait for my card to be called. Doing the paperwork and paying the pensions in cash... Now all that seems like an unnecessary hassle to me. Several times I was late in paying pensions because I didn’t have time to go to the bank to pay. Then, since I used my debit card to pay these pensions it was easy and convenient. Now I pay from my home without queuing up, without handling cash, without waiting at the window. (Male, 47 years old, typical middle stratum, Santa Cruz)

It is the experience of convenience that builds user loyalty for the use of digital means of payment. Once the user has tried the use of a digital means of payment and compares its convenience with the use of cash, he/she highly values the digital means and recommends it to others. In this case, it is difficult for the person to return to the use of cash if he/she has already tried digital payment for a certain service or good.

Some experts interviewed say that this experience of convenience is normal in the incorporation of new technologies, not only in the use of digital means of payment:

It is normal that people see the advantages of digital means of payment immediately, that they feel the convenience. This also happens with other technological tools on the Internet. Without going too far, now it is hard to think how we used to solve our communication without WhatsApp; but we did it. But once we have already incorporated the use of fast messaging, we are no longer willing to go back to what we used to do before. It is the same with digital payments (Expert, Cochabamba).

b. Efficiency/rapidity

A concept closely associated with convenience is the efficiency and speed of operations with the use of digital means of payment. The use of these means saves a lot of time in making payments. In the past, making payments or bank transfers over the counter meant an investment of time that was sometimes difficult.
However, with transfers through the bank's online platform, or with payments for services through this platform or with the debit card, all this time is saved. Therefore, the digital payment allows to be more efficient:

_Paying for my cell phone online saves me a lot of time. I use that time for other things. It's better for me._

(Female, 32 years old, middle class, Cochabamba).

### Security

A third motivation for using digital means of payment is security. This motivation was mentioned above all in the city of Santa Cruz. Handling less cash means less risk of being mugged. Concern about insecurity is expressed in the fear of crime and street robberies. In the focus groups in Santa Cruz, much emphasis was placed on experiences of muggings and street attacks. Especially by groups of children and adolescents living on the street:

_The other time I saw a group of street children assaulting a lady. They took everything from her and ran away. They go around in groups of eight or ten. The police don't do anything._

(Woman, 43 years old, lower middle class, Santa Cruz).

The fear of being robbed makes people seek to have the least amount of cash on them, especially when they are on the street, and even more so when they are in crowded places at night. Therefore, the use of digital means of payment minimizes these risks.

Although the fear of street mugging is noticeably lower in the cities of Cochabamba, La Paz and El Alto, compared to Santa Cruz, it is nevertheless present in these cities. It is always better for respondents to have little cash, and to make their payments digitally:

_I have been a victim of robbery in minibuses. Especially when they are in La Ceja. Who hasn't lost money there. I have been robbed several times. 10 Bs., 20 Bs. Sometimes my whole wallet has been stolen. It is not convenient to handle a lot of money, you get robbed when moving around._

(Woman, 33 years old, lower middle class, El Alto).

In the focus groups, several interviewees recounted their experiences or the experiences of family members regarding muggings and robberies in the street. In this context, the use of digital means of payment to prevent these street crimes is valued.

### Preventing Covid-19 infection

A fourth reason to value the use of digital means of payment is the prevention of Covid-19 infection. As stated earlier, there is no spontaneous fear of catching Covid-19 when handling cash. However, focus group interviewees commented that they are cautious when handling cash and that they always wash with alcohol when handling cash.

The fear of Covid-19 infection is in going to bank facilities where there are many people in closed environments. As long as it is possible to avoid going to the bank to expose oneself to this virus, the use of digital means to make bank transfers is highly valued:

_Since I use my bank's platform to make transfers, I hardly go to the bank anymore. I make transfers to my suppliers in La Paz, so they can send me goods. Before I had to go to the bank every now and then (...) now I_
Within the context of the analysis we are conducting, we can interpret that the fear of Covid-19 due to crowds at the bank instead of simple cash handling generates growth in the cashless economy, but indirectly. This is due to the need to use the remote services implied by digital banking, which inevitably generates an indirect growth in digital means of payment.

E.3.c.2) **Barriers to the use of Digital Means of Payment**

If in the previous section we analyzed the reasons for the use of digital means of payment, in this section we will describe the barriers that hinder a more intensive and/or more diversified use of these means.

As mentioned above, six focus groups were conducted: three focus groups are intensive users of paid digital media, and three focus groups with occasional users of paid digital media. Up to this point, the experiences of mainly intensive users of these media have been analyzed. At this point, we will analyze the barriers in the less intensive users of digital payment media.

In the focus groups with non-intensive users of paid digital media, the barriers that prevented or hindered greater use of these media were investigated. It was found that these barriers are the following in order of importance:

- A context with limited supply of digital means of payment.
- Little need to use these means.
- Adaptation to the use of cash in a context that is not very innovative.

**a. Limited supply of digital means of payment**

Focus group participants who use little or no digital means of payment generally operate in a context with a limited supply of digital means of payment. At most they buy items from supermarkets, pharmacies and pay for restaurant service with debit cards. But they rarely do that.

They live in neighborhoods where there are many supermarkets so they shop in stores or warehouses paying in cash. They go to fairs or markets to buy food, where they also pay in cash. Occasionally go to restaurants, or, in the restaurants where they go there is no habit of offering to pay by debit card.

These people, generally adults, have little need to make bank transfers over the Internet, nor to buy services or goods over the Internet:

> Sometimes I pay for some things with my debit card, when I am downtown and buy things from a supermarket, but that's all. I rarely do that (Male, 45 years old, typical middle class, La Paz).

> Where I live I buy things from the neighborhood store. Everything there is cash. I don't need to pay with a card (Female, 42 years old, lower middle class, Cochabamba).

Thus, the context in which these people live does not offer them the alternative of using digital means of payment, nor is it very innovative. In short, the main reason for the low use or non-use of digital means of payment is that they are not needed in the daily dynamics.
Some experts attribute the low use of digital means of payment in Bolivia relative to other countries in the region to the fact that the country's technological development is still limited:

The problem is that the country still has a limited development of banking and financial services. And this limited development also affects the supply of other services. For example, in Brazil it is common that you can pay for your deli service with your debit card or with a QR code. It is even becoming more and more common that you can pay for a cab with QR. (Expert, La Paz)

b. Low need and incentive to use digital means of payment.

A factor closely related to the previous one is the low need to use digital means of payment. Focus group participants with little use of these means expressed that in fact they do not need to use them. They have developed a dynamic that does not require them. Therefore, in their spontaneous interest does not appear the need to be informed or to experiment with the use of them:

I've heard something about buying subscriptions to watch movies online. My son is a fanatic, he's always into that stuff. He's also ordered some home workout equipment online...to build his muscles. Sure, right? His order took a while, but it's arrived at the house. That's something for young people, isn’t it? (Man, 45 years old, typical middle class, Cochabamba).

As can be seen in this testimony, the interviewee understands that she does not need to learn about digital means of payment, even though her son uses them, because, from her perspective, she does not need them.

c. Use of cash

In a context with little innovation and with a daily dynamics that does not need digital means of payment, people who do not use them have adapted their purchases of services and goods to the use of cash:

I don't have any problems, I do my shopping with money (cash), I'm used to it. I take good care of myself. Whenever I touch money I spray myself with alcohol if I am in the street, or I wash my hands with soap. I'm fine like that. (Woman, 41 years old, lower middle class, La Paz)

d. Fear of scams

It is important to highlight that fear of scams is not present in the interviewees, or is a very weak factor in their spontaneous reasoning. None of the participants in the focus groups referred to fear of deception or scam as a factor inhibiting the use of digital means of payment. When the moderator in the focus groups induced this topic, the interviewees affirmed that it is possible that there is a danger of online theft by hackers; however, it is not a topic that generates greater interest in people. Focus group participants quickly moved on to other topics of discussion.

In a focus group in Santa Cruz, an interviewee stated that banks provide insurance against possible robberies over the Internet.

None of the interviewees commented on their own or acquaintances' experiences of Internet theft or scams.

As mentioned above, people who use digital means of payment more regularly demonstrate trust in the institutions that provide these means, so that the fear of fraud or theft by hackers is not present in their reasoning. The greater the use of these means, the greater the trust in the institutions that provide them.
The agency heads interviewed for this study stated that they have not received complaints or reports of Internet theft or scams involving the vulnerability of their clients' bank accounts, or a risk in the use of digital means of payment.

E.3.d. **In a nutshell**

E.3.d.1) **Changes in the supply for technological innovation**

It has been observed that the use of digital means of payment is primarily conditioned by changes in supply rather than by the development of new habits in demand. These changes in supply have two dimensions:

- That suppliers of goods and services incorporate the possibility of using digital means of payment.
- That the financial system makes these digital means of payment available to its customers.

When there are changes in the supply of digital means of payment, people tend to adopt them relatively quickly. Digital means greater convenience and speed for people, so they are highly valued. In addition, digital is highly intuitive and therefore easy to use. It does not require specialized technical knowledge on the part of users.

The clearly perceived benefits of using digital means of payment, the ease of using them, and the increasingly widespread access to the Internet make it possible to foresee that technological innovations in the supply associated with digital means of payment will have the effect of rapid adoption by the population.

According to the experts interviewed in this study, public policies are needed to enable greater digitalization of the financial system and, above all, of the banking sector in Bolivia. This digitization will allow greater technological innovations and a more varied offer of digital means of money management and payment methods.

E.3.d.2) **Favorable Conditions for Technological Innovation in the Supply Chain**

According to several experts interviewed in this study, there are favorable conditions for technological innovations in the financial system to have a significant impact on the population's digital payment habits. Among the most important, the experts cite three contextual processes:

- First, there has been an increase in the banking penetration of the Bolivian population in recent years.
- Massive use of debit cards.
- Increased Internet access

Some experts mentioned that between 2005 and 2019, the number of bank accounts grew from about 2 million to a little more than 11 million. This implies that more of the population has bank accounts and that innovations in the banking system will affect more and more people.

On the other hand, most experts refer to the massive use of debit cards. Large segments of the population have incorporated this technology into their daily money management dynamics. Especially for cash withdrawals from ATMs, but also to pay for products and services. This means that there is a wide familiarity in the use of digital means of payment, which facilitates the adoption of other means that can be offered by the banking system.
Finally, experts mention that there is growing access to the Internet. Some have referred to the expansion of wifi service, especially in cities. But the greatest emphasis the experts place on Internet access through packages via cell phones. From their point of view, access to the network via cell phones allows people not only in urban areas but also in provincial and rural areas to access the Internet and become familiar with the use of Internet-related services.

All these conditions facilitate the adoption of digital means of payment and generate a favorable context for technological innovations in this area.

E.3.d.3) Confidence in the Financial System

On the other hand, in the focus groups it was observed that there is a high level of trust in the financial system in general, and in banks in particular. The interviewees in general have no doubts or fears of possible robberies or scams for using digital means of payment.

None of the interviewees mentioned experiences of scams or robberies via the Internet or ATMs, or for using digital means of payment. Neither their own nor those of people close to them. Focus group participants assume that the banking system and the digital platforms of their banks are safe enough to avoid any type of theft or scams associated with the digital environment.

This confidence in the banking system is another favorable factor for the adoption of digital means of payment to the extent that there are technological innovations in the financial system and in the suppliers of goods and services.

E.3.d.4) The Process of Adopting Digital Payment Methods

As in most technological innovations, the following process has been observed in the use of digital means of payment:

- First, there is technological innovation in the supply of goods and services and in the banking system. In other words, in people's everyday environment there is the supply of digital means of payment as well as access to them, mainly through banks (although we can also see the provision of digital means of payment by mobile telephone operators, such as the "mobile wallet" for example).
- Once the offer of a new digital means of payment is observed, the dynamics of its adoption begins. In the first "experimental" stage, it is the "innovators" who start using the new means of payment. In the case of digital means of payment, innovators are usually young people between 25 and 35 years old who manage their own money in bank accounts. These young people, who are "digital natives", i.e. who have grown up with digital media since childhood, have no major difficulties in adopting the new digital means of payment in their daily lives. It can therefore be said that a new digital means of payment that meets the money management needs of young people is more likely to be quickly assimilated by the population, because it is the young innovators who will help its adoption by other segments.
- The second stage is the face-to-face socialization of the new digital payment medium, generally from young people to adults. In this stage the adoption of the new technology occurs through imitation. Adults begin to imitate the young innovators in the use of the new means of payment. In this second stage, the "face-to-face recommendation" of the digital means of payment from the innovators to the other segments is important. To the extent that the innovators’ experience of adopting the technological change has been satisfactory, recommendations to adults will also be
satisfactory. In this dynamic, imitation occurs through the innovators' own recommendation. At this point there is the possibility of an "unsatisfactory experience" in the innovators that translates into "negative recommendations" to others not to use the technological innovation. So far, this scenario has not been seen in digital means of payment. Generally, innovators have a pleasant initial experience with a new digital means of payment, and recommend it to others, and the process of imitation occurs in the majority customer segments.

- The third stage of adoption of a technological innovation is the consolidation of the new digital means of payment. That is, the adoption of the new digital means of payment into the habits not only of the innovators, but also of the bulk of customers, the imitators. So far it has been seen that the consolidation stage of technological innovation tends to be relatively fast in the case of digital means of payment. That is to say, there is a rapid adoption of the new digital medium to the extent that it adapts to the needs of the population.
- The fourth stage is the adoption of technological innovation by the "laggards", i.e. other people who, either because of their own living conditions or their personality, are not very inclined to adopt technological innovations, are reluctant to do so. But as a digital means of payment consolidates, these laggards also "catch up" and begin to adopt technological change.

In all this dynamic of adoption of technological changes in general, and of digital media in particular, the promotion of technological innovation does not seem to play a central role. It seems that the adoption of technological changes does not occur primarily because there has been any communication or information campaign on the advantages of these changes.

E.3.d.5) The Impact of the Pandemic on the Adoption of Digital Payment Methods

The Coronavirus pandemic does not generate the dynamics of adoption of digital means of payment, but it accelerates it, just as it accelerates the incorporation of all digital services and potentialities related to the Internet.

In other words, it is possible to foresee that the coming months and years will see an increasing adoption of digital means of payment as a result of the restrictions associated with the Coronavirus pandemic.

It should be noted that in the focus groups it has been observed that most of the participants show a certain fear of the risk of contagion when going to banks to carry out transactions at the teller window or face-to-face consultation at the customer service platform. And it is this fear of contagion (not the fear of handling physical banknotes) that is the motivating factor that helps to increase the use of Internet banking and the digital means of payment associated with it.

E.4. What specialists say

In addition to the focus groups and interviews mentioned above, CERES researchers conducted a qualitative analysis of perceptions and attitudes towards the use of non-cash means of payment through a series of in-depth interviews in the city of Cochabamba.

The interview guide was structured to identify the following points:

- Perceptions on the use of digital means of payment

- Valuation of the use of cash vs. digital payments
- Means of payment in the national financial system
- Barriers to the use of digital means of payment

A total of 9 in-depth interviews were conducted with professionals in the financial area, as follows:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Entity</th>
<th>Type of entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juan Pablo Iriarte</td>
<td>General Manager</td>
<td>Community SME Bank</td>
<td>SME Bank</td>
</tr>
<tr>
<td>Pablo Rodriguez</td>
<td>General Manager</td>
<td>The EFV Promoter</td>
<td>Housing Finance Company</td>
</tr>
<tr>
<td>Miguel Granado</td>
<td>Corporate Banking Officer/ SME Banking</td>
<td>Banco BISA</td>
<td>Multiple Bank</td>
</tr>
<tr>
<td>Claudia Grágeda</td>
<td>Corporate Banking Officer/ Corporate Banking</td>
<td>Livestock Bank</td>
<td>Multiple Bank</td>
</tr>
<tr>
<td>Roberto Rios</td>
<td>Country Manager</td>
<td>Bolivian Foundation for Development - FUBODE</td>
<td>Development Finance Institution</td>
</tr>
<tr>
<td>Michael Gomez</td>
<td>Deputy Operations Manager and Digital Transformation Leader</td>
<td>Pro Mujer IFD Foundation</td>
<td>Development Finance Institution</td>
</tr>
<tr>
<td>Sergio Jáuregui</td>
<td>National Commercial Manager</td>
<td>Community SME Bank</td>
<td>SME Bank</td>
</tr>
<tr>
<td>Oscar Luján Llorenti</td>
<td>Agency Manager</td>
<td>ECOFUTURO SME Bank</td>
<td>SME Bank</td>
</tr>
<tr>
<td>Albano Quiroga</td>
<td>Regional Manager Cochabamba</td>
<td>Administradora de Tarjetas de Crédito S.A. (ATC S.A.)</td>
<td>Card Administrator</td>
</tr>
</tbody>
</table>

In-depth interviews were conducted between November 15 and December 15, 2021. The results of this analysis are included in the following section.

E.4.a.1) Perceptions on the use of digital means of payment

a. Payment habits

Most interviewees agree that changes have been observed in relation to the use of digital means of payment in the last five years. However, some still consider that this change in relation to growth is relative.

A widespread assertion is that the pandemic has greatly increased the use of digital channels. Over the past 18 months, the need to avoid interaction and the risk of contagion inherent in Covid has driven the use of digital payment methods, and has become the main driver of the change in payment habits and the popularization of these services.

This process was supported by external but highly complementary elements, such as technological development, telecommunications coverage, the use of mobile equipment (cell phones) and, above all, access to the Internet.
Interviewees state that digital means of payment have been present in Bolivia for a little more than five years through mechanisms such as internet banking and ACH transfers\(^{25}\). In 2000, Bolivia began to operate with credit and debit card transactions in manual machines. To date, there are more than 18,000 card payment points (POS) in different formats throughout the country. It should be noted that the Credit Card Administrator was part of this process of market change, providing complementary financial services in a strategic alliance with the banks. This interaction made it possible to manage the electronic payment network in Bolivia more efficiently. Currently, the Credit Card Administrator continues to adapt to emerging technologies for digitalization, and believes that these changes will not affect its operations.

During the last few years, more resources were allocated to develop digital means of payment and the pandemic acted as a trigger to accelerate this process. The interviewees affirm that in this way these services were massified, making online banking platforms more efficient. Also, QR payments and payment/collection of basic products and services, among others, are enabled.

From this point on, the more traditional institutions recognize that the culture of supply and demand is essential. Apart from the internal development of products and services, enabling ATMs, extending access networks and other policies of the regulator - which have helped to increase the frequency of use of digital media - there is a need to generate a change of mentality in consumers to adapt to a new reality.

Several interviewees stated that, from the customer's point of view, the most important motivation is time efficiency. Whereas, for banks, the main motivation for digitizing payments is to avoid overcrowding of customers in physical locations and to achieve more efficient management of financial users. As a result, in the medium and long term, significant investment in physical branches would not be necessary and the benefits of digital banking could be further developed.

When talking about relative growth, interviewees noted that as the pandemic wanes, the needs will not be the same as they were at the beginning. In this sense, users will put into perspective the effect of the use of digital media in relation to the traditional way of conducting transactions. This will become a determining factor for an optimistic projection of the future of digital means of payment.

Similarly, different macro-level issues in the country were highlighted in this section during the different interviews. For example, it was stated that a weak infrastructure and poor coverage in sectors with limited Internet access, among other aspects, do not contribute to the maintenance or development of digital channels.

Another factor why customers may delay the migration to greater use of digital means of payment is the fear of not knowing about the proper use of ATMs, web platforms and/or mobile applications. In this sense, interviewees agree that part of the solution is to accompany the customer during this process with the aim of ensuring less traumatic experiences.

Most traditional banks have not been able to build an adequate Financial Education model focused on the reality of each client. They are only interested in securing a line of credit and expect to see the client every time she needs a new loan (M. Gómez, Pro Mujer, 2021).

\(^{25}\) An ACH transfer is an electronic transfer of funds between banks and credit unions, through what is known as the Clearing House network.
A proper financial education plan, as well as a client-oriented process, are key to mitigating this underlying reality for many individuals and families in the country.

b. Digital means of payment and the fight against corruption, terrorism and money laundering.

Digital payment systems provide a secure channel to perform formal financial transactions on a regular basis. By enabling a bank account, making transfers and card transactions, the movement of money is banked. In this way, interviewees agree that it increases financial transparency, the ability to track and control funds, and reduces corruption reflected in bribes and other illicit activities. However, they also highlight the fact that this process is not very different from what is currently done at teller windows when making a deposit or cash withdrawal.

Currently, a lot of work is being done on security and traceability issues, which provides protection against fraud and minimizes risks related to irregular payments. The policies of financial institutions are implemented under rules that require records to identify the customer, authorizations to support the use of funds, and the mandatory completion of digital forms, among others, to continue with the normal use of services. In addition, each entity has departments specifically in charge of compliance with these policies, and financial investigation units (FIU) that identify suspicious transactions with amounts exceeding the limits established by the regulator.

On the other hand, it is important to mention that the interviewees effectively recognize the contribution to the fight against corruption, terrorism and money laundering in the country; however, they also highlight the subjectivity of stating that the use of digital media is the solution.

In the country context, they mention a degradation of society's values and the different barriers related to access to infrastructure and technology as an obstacle to the adoption of alternative means of payment. They also state that this situation has facilitated the existence of the informal economy, tax evasion, institutionalized corruption and the growth of illicit activities.

c. Digital means of payment, financial inclusion and economic development.

According to what was commented during the interviews, the integration of digital payments in the country's economic activity contributes to a generalized economic growth, as well as to a financial empowerment of certain sectors. Since it is a complement to traditional services that, in addition, is gradually becoming the one with the greatest potential and prospects, it is considered that the use of digital means of payment contributes to expand the coverage and scope of attention (financial inclusion) and allows greater dynamism and versatility on the monetary flow of the economy (economic development).

There is a greater frequency in the use of money, and a greater adoption of technology; therefore, the interviewees affirm that a greater turnover of resources is generated through digital means. As a result, digital payments are seen as a tool that provides the opportunity to incorporate more people into the formal financial system, eliminating certain restrictions imposed by an economy based solely on cash.

A general statement suggests that boosting the development of digital financial services can empower businesses and increase the level of banking in the population. However, among those interviewed there are opinions that dismiss digital means of payment as a means of financial inclusion because they consider that these tools are aimed at people who are already banked. In relation to this point, it is also noted that, for example, the young population is familiar with the different options and is the one that generates a digital
culture in their immediate environment and transcends to an adult audience. Consequently, this can generate an effect of subsequent adoption of new payment habits and a form of inclusion.

The trends were clearly defined among the interviewees, who state that, from this point on, fewer physical channels and media and more digital channels and media are expected.

*The trend towards digital transformation and greater use of digital media is a marked path with no return (J. Iriarte, SME Community Bank, 2021).*

It is suggested that future investments be redirected over the next five years to strengthen these means of payment and evolve the financial system towards greater financial inclusion and a demand for more efficient ways of interaction between economic agents.

d. Valuation of the use of cash vs. digital payments.

Although the use of digital means of payment is encouraged within the institutions interviewed, there is still a lot of room for improvement in relation to the improvements needed to move clients towards a digital ecosystem.

Because of the pandemic, financial institutions developed a series of measures that facilitated processes such as the digital opening of accounts, payment of services, transfers, and collection of money transfers through cell phone codes. Evidently, this process was supported by customer service personnel at branches and self-service points. As a result, there is a significant number of people who recognize the benefits of using digital banking and use it regularly.

However, the interviewees agree that, in our context, there is still a significant level of distrust regarding the use of digital means of payment. Although it is recognized that electronic payments guarantee the privacy and security of money, greatly streamline processes, reduce operating costs and allow a more efficient and transparent management, some disadvantages are evident in relation to culture, lack of usage habits and misinformation.

In order to achieve greater acceptance of digital payment methods, interviewees recognize the importance of designing products suitable for end users, which allow a friendly process to help create a real impact towards the path of digital transformation.

On the other hand, in relation to cash payments, an interesting conclusion from the series of interviews reflects that the use of cash has fewer and fewer advantages. Some of the disadvantages mentioned include the time and cost involved in handling and storing the money, in addition to the risks of operating with large amounts, long trips by customers who come from distant locations to carry out transactions, counterfeit bills and the heavy investment in security means for transporting paper money. However, they point out that there

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26 Although most of the findings from these interviews show significant similarities in perceptions, it is important to recognize the differences among the entities interviewed. In this regard, it is worth mentioning that the perception of a development finance institution (DFI) in relation to a traditional bank varies according to its scope of work and the type of client it targets. For example, 80% of DFI clients are informal, with fewer possibilities of accessing services that would imply an additional cost to their economic activities. On the other hand, the client portfolio of traditional banks usually includes a certain degree of formalization that allows for higher incomes, greater savings and credit capacity, and makes this segment more likely to use and/or demand digital payment services.
is still a large percentage of active customers who trust the use of cash over other means, which allows banks to generate trust and loyalty among this type of customers with a more ingrained culture.

Based on the experience of the interviewees, the age of the users, the degree of formality and the nature of their economic activities are identified among the most common determinants of the tendency to use digital means of payment.

In general, older people (i.e., people between 45 and 60 years of age) prefer to conduct their transactions in person and experience difficulty migrating to digital platforms. On the other hand, young people between 18 and 45, with certain exceptions, are already familiar with digital means of payment and are more likely to conduct their transactions via cell phone or computer.

Regarding the degree of formality of a business, some of the interviewees mentioned that MICRO business users still express distrust, while SME users feel more comfortable using digital means of payment.

Regarding this last point, interviewees acknowledge the lack of a more robust database that would allow them to identify more specifically the type of clients who opt for cash payments or those who prefer to use digital media. Although they do register and follow up on clients, the information is often incomplete and does not allow for proper stratification of clients.

e. Means of payment in the national financial system

The entities interviewed have the most common digital payment methods such as debit cards, internet banking, applications linked to the cards, and QR payment systems. The mobile wallet option is not available in 4 of the 7 entities interviewed.

Among the positive aspects identified for these alternative means of payment are the simplicity of use, accessibility and immediate response to make payments or digitize the money deposited. The interviewees mentioned that, although further development of these means of payment is needed, for the time being they provide good support.

The disadvantages, on the other hand, are identified in relation to infrastructure problems and factors external to the bank, such as, for example: problems with collection equipment, system outages, internet coverage, and restrictions in the development of applications, among others.

It should be noted that some of these entities still have certain services such as QR in development or are waiting for the corresponding authorization to introduce digital means of payment as part of their service offerings. It is also interesting to note that development finance institutions (DFIs) still operate in alliance with banks, making use of their various transfer tools or services.

It is worth mentioning that, among the interviewees, the mobile wallet is perceived as the least attractive option among the Electronic Payment Instruments (EPI) available in the country. Only DFI representatives refer to some applications, such as SOLI, which function as a mobile wallet. This tool, developed by a multiple bank (Banco de Crédito), allows digitizing money to make electronic fund transfers, deposit and/or withdraw cash, and perform other activities without the need for a bank account.

f. Barriers to the use of digital means of payment
Despite the benefits of digital payments identified above, there are still challenges that impede the successful adoption of these mechanisms in Bolivia. The interviews show that the level of penetration depends on both supply-side and demand-side barriers.

From the demand perspective, interviewees consider that the barriers to greater penetration of digital means of payment include issues of perceived security, trust, culture, and the variety and supply of services.

They point out that, although structural obstacles are detected (such as the restricted supply of telecommunications and Internet services in some areas of the country), behavioral barriers such as the habit of using cash, lack of knowledge and/or training in the use of these means are the most important.

They emphasize that, although structural obstacles have been detected (such as the restricted reach of telephony and Internet services in some areas of the country), behavioral barriers, such as the habit of using cash, lack of knowledge and/or training in the use of these means, are the ones that stand out the most.

On the other hand, at the macro level, it is considered that there is a lack of regulations in the country that causes a relegation in terms of taking advantage of the potential of digital payments.

The government, through its regulatory bodies, has the authority to be the main driver of much of what is needed to promote digital financial development. However, most interviewees perceive the regulator as an obstacle, a bureaucratic process, which limits the scope of action, and often slows down the incentive and use of digital means of payment.

One of the most important issues mentioned during the interviews highlights that both the establishment of regulation and the development of technology must go hand in hand. In this way, together with the private sector, supervisory authorities will be able to frame the development of products and services based on more appropriate regulatory reforms, taking into account financial education needs and supporting effective business models.

The entities interviewed claim to have different control measures in place to guarantee operations carried out through digital means of payment. As they are regulated by a supervisory entity (ASFI), they must guarantee the correct functioning of their information security systems, reflected in elements such as PINs, chip cards, fingerprint recognition in the use of cell phones, and limits on cash withdrawals, among others.

However, they also mention that it is important to plan for greater investment to implement more measures to avoid digital security problems. Likewise, regulators should make their regulations more flexible and accompany this process through incentives to ensure that the private sector is a transparent and efficient partner in the process of generating digital payment ecosystems in the country.

g. Main results of the in-depth interviews

Despite the benefits of digital payments, there are still challenges that prevent the successful adoption of these mechanisms in Bolivia. In this series of interviews, the key factors considered to encourage the use of digital means of payment are mentioned below.

Financial education. There is still ample room for financial education to achieve greater outreach for the benefit of different segments of the population. Beyond the usual dissatisfaction with issues such as lack of infrastructure and Internet connection, interviewees conclude that a better financial education system is crucial, as it can overcome negative perceptions towards digital banking experiences and counteract the
barriers of culture and misinformation. Greater dissemination of the advantages offered by digital means of payment can contribute to more people accessing and using financial products and services, with better knowledge, skills and economic-financial aptitudes.

**Internet access.** Internet access and service costs are key elements to encourage greater use of digital means of payment. It is important to reflect that, according to the experts interviewed, greater acceptance and use of these instruments will be based mainly on being able to access a service digitally to make payments and process transactions.

**Improvements in government regulatory policies.** An appropriate regulatory environment that accompanies the development of robust digital networks is a vital component in evolving toward an efficient digital payments system.

**Suppliers.** Strengthen suppliers’ digitalization capabilities and work on incentives to learn the benefits of using and accepting digital means of payment.

**Increased supply of digital media services in the financial system.** Expanding access to financial services and greater investment in IT infrastructure and personnel to design user-centered products.

**F. ANALYSIS: CRYPTOCURRENCIES IN BOLIVIA**

Before moving on to the results and conclusions section, we consider it necessary to make an in-depth reflection on the subject of cryptocurrencies. This, because it does not represent just another cashless payment method but probably a technological revolution that forces us to reevaluate the meaning of money and the policies that are necessary to accompany this new way of carrying out transactions. In this sense, we collect some analysis of a document prepared by Luis Christian Rivas Salazar for CERES, entitled "We must legalize bitcoin in Bolivia".

In this document, the author emphasizes the need to legalize cryptocurrencies in Bolivia not only for principles of individual freedom, but also for the potential they represent for the financial independence of each individual, their connectivity with the rest of the world, and protection from inadequate economic policies of a government that may not be looking out for the interests of its citizens but acting based on personal, populist, or simply misguided interests.

The author expresses his doubts about the principles under which it would be correct to force a transition in Bolivia towards a cashless economy, especially considering that almost 70% of the country currently takes refuge under economic informality in order to avoid having to submit to the rigid tax and business laws to which formal Bolivian companies are subject. In this sense, a digitalization of the currency and payment systems in general, where financial movements are registered in a third-party database, would eventually lead the entire population to submit to the control and surveillance of institutions strongly regulated by a government that has not always shown to look after the interest of the citizens. This is why, at present, cash in Bolivia represents a type of protection for the large number of informal entrepreneurs in the country, allowing them to carry out transactions that allow the daily operation of their businesses without being closely observed by a regulatory body. A government wishing to foster the transition to a cashless economy in Bolivia

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27 The "Paying Taxes 2020" index by PwC and the World Bank indicates that a Bolivian citizen spends 1,025 hours a year paying taxes, almost 42 days a year, ranking 186th out of 189 countries (https://www.pwc.com/gx/en/services/tax/publications/paying-taxes-2020.html).
must first demonstrate that it is willing to change its business rules and laws, making them more flexible for the benefit of the different business models that exist in Bolivia and recognizing that not all businesses can be fit into the same operational and legal scheme, thus signaling that the government is truly looking out for the interests and welfare of all its citizens, large and small, both employees and those who generate employment. Once the trust that people would have in their government is reinforced, a more accelerated transition to a cashless economy could begin to be considered.

However, independently of this transition and the trust that people have in their government, cryptocurrencies emerge as a decentralized solution on which the current systems of informality can be maintained. Thanks to blockchain technology, which guarantees peer-to-peer transactions (apparently incorruptible and totally anonymous), the level of trust that would be placed in these transactions is, in a way, comparable to the transfer of cash from one person’s hand to another, without the need for third party intervention. It is for this reason that, on the one hand, some governments around the world, including Bolivia’s, do not want to legalize its use, since they argue that it would serve to continue feeding, or facilitating even more, illegal activities.

On May 6, 2014, R.D. No. 044/2014 of the Central Bank of Bolivia was made public in Bolivia, which, administratively, orders: As of this date, the use of currencies not issued or regulated by States, countries or economic zones and of electronic payment orders in currencies and monetary denominations not authorized by the Central Bank of Bolivia (BCB) within the scope of the national payment system is prohibited. In this regard, Rivas Salazar mentions in his document:

The aforementioned resolution states the following: That it has been detected in some countries the use of virtual currencies such as Bitcoin, Namecoin, Tonal Bitcoin, IxCoin, Devcoin, Freicoin, 10coin, Liquidcoin, Peercoin, Quark, Primecoin, Feathercoin and others that do not belong to any state, country or economic zone, consequently their use and issuance is not regulated, being able to cause losses to their holders, but of the virtual currencies mentioned, only Bitcoin is operating on the blockchain platform, the others are pyramid scam companies that do not appear in the Coin Market Cap or index of cryptocurrencies by price and market capitalization, which shows us the lack of knowledge of the subject by the Bolivian bureaucrats who issue regulations that are an international disgrace.

While the aforementioned resolution is a prohibition to the general population to use cryptocurrencies that are not backed by any State, in 2020 R.D. No. 144/2020 was issued, which, seeing that the population continued to make use of cryptocurrencies, issues the prohibition directed specifically to financial institutions, considering that, as we saw, they centralize the bulk of transactions in the Bolivian payment system and are subject to greater control by Bolivian regulation. Thus, the resolution concludes with the following articles, among others:

Within the framework of the powers conferred to the Central Bank of Bolivia (BCB) by the Political Constitution of the State, Law No. 901, Law No. 1670 and Law No. 393, to authorize the issuance of currency and regulate the payment system, financial entities are prohibited from using, trading and negotiating cryptoassets in the national payment system because they do not constitute legal tender in the country.

Article 2. Financial entities are prohibited from processing payment orders for the purchase and sale of cryptoassets.

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28 https://www.bcb.gob.bo/webdocs/01_resoluciones/044%202014.PDF
It is prohibited to associate or link Electronic Payment Instruments authorized by the BCB to cryptoassets.

Article 4. The use of Electronic Payment Instruments authorized by the BCB to carry out transactions for the purchase and sale of cryptoassets through electronic payment channels is prohibited.

In defense of the legality of cryptoassets in Bolivia

Regarding the implications of these laws for Bolivia, Rivas Salazar comments as follows:

The Bitcoin Bolivia Community submitted a letter to the BCB in August 2020 warning of the disadvantages and confusion about the ban, explaining that BTC can not only be seen as a digital currency, but also as a cryptoasset, under the Civil Code, as if it were a fungible and negotiable thing. Efforts were in vain; the BCB, instead of redirecting itself, opted to abrogate its previous resolution and issue a new one, warning and prohibiting the financial system from using "crypto-assets".

For this reason, we are also going to call it the "antibitcoin law." R.D. No. 144/2020 of the Central Bank of Bolivia that prohibits the use of cryptoassets in the national payment system and abrogates board resolution 044/2014, which prohibited the use of unregulated currencies and monetary denominations in the scope of the national payment system.

Prohibiting financial institutions from using cryptoassets for trading and negotiation because they are not legally issued, as well as prohibiting any operation of use, purchase and sale of cryptoassets is against the global technological progress. We do not understand this irrational way of proceeding when the Spanish bank Bilbao Vizcaya Argentaria (BBVA) allows the purchase, sale and custody of cryptocurrencies of its customers, and the financial company of American origin JP Morgan is overbuying bitcoins. Thus, the world's largest investors have proceeded to obtain and store (hodl, from the English hold on for dear life) cryptocurrencies as a refuge for the value of their assets in the face of the devaluation of the US dollar. At this point, we must also highlight the limited nature of BTC; only 21 million cryptocurrencies can exist, no more. This characteristic of scarcity gives it superiority over any fiat currency. If we are analyzing the advantages and disadvantages of the elimination of cash we must also understand the limited or unlimited amount of issuance, for reasons of inflation and devaluation of the currency held whether it is digital or not.

It is true that Article 328 of the Constitution establishes that the BCB, in coordination with the economic policy determined by the Executive Branch, is responsible for regulating the payment system, in addition to those established by law. Furthermore, according to Article 331 of the Constitution, financial intermediation activities, the provision of financial services and any other activity related to the management, use and investment of savings are of public interest and can only be exercised with prior authorization from the government. However, Bitcoin is not only a cryptocurrency, but it also has the quality of cryptoasset; therefore, it goes beyond the regulation of the Central Bank, because it is also a fungible thing, under the protection of art. 78 of the Civil Code, which states: fungible things are things of the same kind that are ordinarily determined by weight, number or measure and can be substituted for each other... fungible things have the same releasing value in payment... Then, cryptoassets enter the field of exchange and contractual civil negotiation, also commercial, which corresponds to the private sector and the contractual individual freedom.

Furthermore, Bitcoin is beyond the reach of state regulation because nothing can be changed in BTC anymore. It has been programmed in such a way that it is immutable, unlike a vehicle that you can regulate whether it needs to have seat belts, the size of the rims, etc. With the cryptoasset you can only regulate some aspects such as profit taxes. In other words, you can regulate the results, operations and use, but you cannot regulate its very essence, its way of being, its quantity and its technology.
Even so, it is foreseeable the provisions of art. 47 of the Constitution, which proclaims: *Everyone has the right to engage in commerce, industry or any lawful economic activity, under conditions that do not harm the collective good.* The use of Bitcoin is not coercive like national currencies; its use is free and voluntary between parties, it accelerates the economy by its upward behavior and favors the maintenance of value.

In summary, R.D. N° 44/2014 was issued with ignorance of blockchain technology, in the heat of scams and frauds by Ponzi schemes, of financial intermediation companies, when the use of blockchain and Bitcoin does not need intermediation. Subsequently, R.D. N° 144/2020 prohibits the Bolivian financial system to use its technological means for the use, purchase, sale, custody of crypto-assets\(^3\), both regulations look bad when El Salvador grants a legal quality to Bitcoin.

The following articles that are present in the Constitution, and support the adoption of the cryptoasset, Article 103. I. which states:

*The State shall guarantee the development of science and scientific, technical and technological research for the benefit of the general interest. The necessary resources will be allocated and the state science and technology system will be created.*

II. *The State will assume as a policy the implementation of strategies to incorporate the knowledge and application of new information and communication technologies.*

III. *The State, universities, public and private productive and service companies, and the indigenous native peasant nations and peoples shall develop and coordinate processes of research, innovation, promotion, dissemination, application and transfer of science and technology to strengthen the productive base and promote the integral development of society, in accordance with the law.*

As we can see, it is the duty of State administrators to guarantee technological and technical development that benefits the general interest, incorporating new knowledge, research, information and communication. If this guarantee exists constitutionally, it is sufficient reason to notice the unconstitutionality of the BCB's R.D. N° 144/2020, or the "Anti-bitcoin Law" as it is popularly known.

The exchange of cryptocurrencies and cryptoassets is made between people who exercise their economic freedom, freedom based on consent and voluntary, free and informed acceptance of this technology. This contractual freedom is also based on civil matters, since it includes natural and legal persons who want to make an exchange contract, purchase and sale of a fungible thing, under the protection of these articles of the Civil Code:

*(Notion): A contract exists when two or more persons agree to constitute, modify or extinguish a legal relationship between them.*

*(CONTRACTUAL FREEDOM: ITS LIMITATIONS) Article 454.*

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\(^3\) The "bitcoiners" and crypto-users are harmed because the exchanges (currency exchange houses) and digital wallet platforms do not want to operate in Bolivia because of the ban, with this, Bolivian users are at a disadvantage in the global cryptocurrency market by not being able to have all the services available, because there are companies that do not want to operate on Bolivian soil, this is not only a damage and economic damage, but also undermines economic freedom and human rights.
I. The parties may freely determine the content of the contracts they enter into and agree on contracts different from those included in this Code.

II. Contractual freedom is subordinated to the limits imposed by law and to the realization of interests worthy of legal protection.

In addition, there is no article or crime in the current Criminal Code that prohibits the purchase, sale, extraction, supply, use, promotion of cryptocurrency or cryptoasset. We are aware of the legal principle that what is not prohibited is permitted; in criminal matters it is required that the offenses are taxable, clear and precise. We are not opposed to the criminal prosecution of those who deceive and lie, use the name and prestige of Bitcoin to commit fraud and fraud, promise profits, income and interest without warning their victims of the risks, on platforms that are not sufficiently guaranteed. But citizens must be given back the power and freedom to choose, to be responsible and self-responsible for the management of their own electronic wallet to save (hodl), exchange, invest, buy or sell, protect their savings and assets with these assets. To this end, we propose that educational institutions should teach financial education and that universities should conduct research on this technology, its advantages and disadvantages; that there should also be conferences, panels, socialization and open debates on the subject.

If a person decides to carry out this activity as a business, it will be protected by the Commercial Code, and it will be appropriate to allow the registration of the legal entity to carry out the activity freely on the basis of the contractual freedom explained above.

As it is known, even the State encourages digital citizenship and is changing the way of carrying out procedures and service platforms, digitizing procedures to make them easier to carry out with the help of the Agency of Electronic Government and Information and Communication Technologies - AGETIC. It is clear, as even Article 7 of the Digital Citizenship Law (No. 1080) states: (PAYMENT OF PROCEDURES OR SERVICES). In the case of procedures or services that have a cost, payments may be made through digital means, we can observe that there is a transit to the digitization of payment methods, not only of startups but also of public offices. In the United States, the Miami City Hall receives tax payments and pays salaries to its employees with BTC.

It is interesting to note the vision of Satoshi Nakamoto, who in the "White Paper" of Bitcoin, a document called: "Bitcoin: a peer-to-peer electronic cash system", explained that Bitcoin's original intention is to dispense with a third party, to make financial institutions unnecessary, to make the transaction direct. Also, this document says: Digital signatures are part of the solution, but the main benefits disappear if a trusted third party remains essential to prevent double spending (NAKAMOTO, 2008: 1). To dispense with a third party means to save, not to have a double expense. The exclusion of the third party is an imperative in cryptocurrency. Trust, which is the basis of fiat currency, which is subjective, is displaced by objective cryptographic proof, mathematical algorithms and electricity. We are given a product, BTV miners mine a product.

Now, if the objective is to exclude a third party, as if it were a matter of formal logic, displacing the financial agent, leaving aside the traditional financial system as a third party, why meddle in these transactions the State? This is a question we try to answer when we see similar abusive and confiscatory bills. The State should have a limited government for its only and main functions, namely: administration of justice, security

31 Under the pretext of prevention of the fight against illicit gains, it is intended to prosecute those who have cryptoassets to request that they prove the origin and destination of the funds, for this purpose it is required the information provided by financial institutions on suspicious transactions and cryptocurrencies made by their users, violating confidentiality.
and infrastructure or public works. Beyond these functions it is not advisable because it corresponds to the private sector to provide education, culture, health, administer pensions and retirements, etc. In this sense, a State that pretends to monitor, control, supervise the economy is taking the socialist-statist position that history has taught us does not work anywhere. This cyberstate would be a third party trying to interfere in the operations that we have seen are direct, imposing a coercive power on people who want to exchange freely, this is nothing more than statism. Bitcoin makes the currency independent of the State.

Bolivia has the Digital Citizenship Law - Law 1080, of July 11, 2018, whose purpose is to establish the conditions and responsibilities for full access and exercise of digital citizenship in the Plurinational State of Bolivia and according to its Article 4, digital citizenship consists: 'in the exercise of rights and duties through the use of information and communication technologies in the interaction of people with public and private entities that provide public services delegated by the State... this digital citizenship should also be understood in the use of technologies in the economy and personal finances, just as if it were a consequence of Human Rights.

Despite the aforementioned prohibition with respect to cryptocurrencies the Bolivian State is making use of blockchain technology through the Agency of Electronic Government and Information and Communication Technologies (AGETIC) as a decentralized entity of public law, with legal personality, autonomy of administrative, financial, legal and technical management and its own patrimony, under the Ministry of the Presidency, legal and technical and its own assets, under tuition of the Ministry of the Presidency, who through the Administrative Resolutions AGETIC/RA/0039/2018, AGETIC-UlID/IT/0034/2018, AGETIC/IL/0100/2018 concerning the protection of certificates granted to blockchain participants can be protected from hardware with the use of HSM with PKCS11 APIs. The settings for this case are configured in the BCCSP (BlockChain Crypto Service Provider) section of the configuration of a client or server member of the platform. As we can see there is a double parameter when using the technology by the public administration.

Then, we must think about how to abrogate and repeal laws, norms and institutions for the legal and economic empowerment of Bolivians to think about a true financial inclusion."

G. CONCLUSIONS AND RECOMMENDATIONS

The growth of the cashless economy in Bolivia has major challenges in some areas compared to neighboring countries, particularly in terms of infrastructure and mobile broadband coverage. However, the exponential growth it has had in the last pandemic years suggests that it is a trend that will not be reversed. Despite a still low level of awareness of these means of payment in the general population, this growth seems to be an indicator that both businesses and consumers are finding positive aspects in the mass use of these means, and their preferences are making themselves felt. An increase in payment options will undoubtedly favor a growth in commerce and the economy in general.

The country has promising rates of banking and financial inclusion and very favorable indicators in the use of cell phones. Although the latter is a common indicator throughout the region, it is believed that the growing availability of cell phones, especially those considered smart phones that allow running applications not only for online banking but also for other means of payment, will be fundamental for the accelerated growth of the cashless economy.

The transition to cashless payment methods is being led by the solutions offered by traditional banking, particularly with the implementation of the Simple QR system. 2020 was the first year in which EFTOs (Electronic Funds Transfer Orders) surpassed credit and debit cards as the preferred cashless payment method of Bolivians, both in absolute number of transactions and in the value of money exchanged (which in total is
2.1 times the value of Bolivia’s GDP in 2020). This preference is most likely due to the implementation of the aforementioned Simple QR payments in 2019, whose use is growing exponentially. This leadership has given important recognition to Bolivian banks, since in other countries there are still no such efficient solutions and in many cases banks are competing with cashless solutions that dispense with traditional banks, as is the case of Uala, a fintech company that seeks to double its growth by focusing on Argentina (highly banked) and Mexico (one of the least banked in the region)\textsuperscript{32}.

This study shows that it is not the demand for digital solutions from customers that drives technological innovation in the cashless economy in Bolivia, but rather the innovation efforts made by the supply of financial services that demonstrate the possibilities for growth in this sector. This is what happened with debit cards, mobile wallets, the implementation of digital banking, QR codes, and will continue to happen with other new digital service offerings that may exist. Thus, it is necessary that both traditional banking, fintechs, decision-makers, and all actors that can influence the supply maintain an intense pace of innovation, where trial and error is commonplace and does not present major costs or regulatory implications or sanctions for those who continue to seek to promote this process.

Another important element is that the current financial system enjoys a high level of trust among the population. It has been seen in the research that there is a high perception of security regarding digital banking transactions, and the population is not very afraid of being exposed to theft or hacking in these transactions since they trust that banks will offer them guarantees and effective solutions.

One of the reasons why the OETF means of payment may have been growing in Bolivia, in addition to its ease of use, is that it allows Bolivian clients and businesses to maintain to some extent the high levels of informality to which the country is accustomed. This is because, unlike credit/debit card collection service providers, it does not require special contracts that demand a Tax Identification Number (NIT) and facilitate control and collection by the National Tax Service, factors that have always acted as an access barrier for some businesses to decide to operate in a formal manner. However, this method still requires the user to have a bank account, which represents another step towards formality, which, under the current context, does not seem to be desired by the entire population.

This is one of the reasons why cryptocurrencies are an attractive option for the Bolivian market, since their use does not require the intervention of third parties (neither public, such as the BCB, nor private, such as banks) and allows them to maintain current levels of informality, independent of financial and state policies. However, it is precisely this quality that makes some governments in the world, including the Bolivian government, show distrust towards these payment methods and, for the moment, prohibit them in all their forms, despite the pressure of current international trends and the growth in the purchase of cryptoassets by the Bolivian population.

Given this situation, one recommendation that has been presented in this publication is for the government to look for ways to first demonstrate to the population that it is willing to relax its business and labor regulations for the benefit of businesses, thus showing that formality is not the undesirable situation that Bolivian businessmen consider it to be at the moment. But in order to do so, it is necessary for the government to first re-evaluate its current laws and regulations and try to understand the situation of Bolivian

\textsuperscript{32} https://www.reuters.com/world/americas/argentinas-cashless-king-targets-latin-americas-unbanked-millions-2021-05-07/
businesses, which in some cases even feel constrained by the excess and complexity of regulations and state bureaucracy.

However, the digitization of financial transactions also brings operational advantages for businesses, which will be able to make considerable administrative savings, improve the recording of their expenses, and simplify payment procedures to suppliers and on behalf of their customers. This is already being seen spontaneously in many large and small businesses in Bolivia's cities, as well as in merchants offering products through social networks and other online platforms. In this sense, it is important for the government to recognize that a natural growth of the cashless economy in Bolivia can encourage the population to formalize, which would increase the population of taxpayers, offering opportunities for public policies. A government that wisely takes advantage of this situation could take advantage of this context and be open to formulate a tax reform that would simplify control processes, regulations, and even reduce the percentages of taxes currently charged, which would demonstrate the government's commitment to the country's economic growth.

The results of the surveys conducted provide important information on Bolivian citizens' impressions of these means of payment and people's levels of banking penetration. Depending on the survey, the percentage of people over 18 years of age who say they have a bank account varies between 45% (country as a whole) and 60% (axis cities). Of these people who have a bank account, 68% say they do not use credit or debit cards frequently and 42% do not use online banking, which is essential for making QR code payments and bank transfers. This shows the enormous challenge that traditional banking faces in terms of financial education and the long road the country still faces to continue its transition to a cashless economy, should it wish to do so.

Therefore, we can say that in order for Bolivian banks to affirm their leading role in the transition to the cashless economy, they must strengthen their financial education programs with emphasis on their online banking platforms, especially the applications they have developed for cell phones, thus solving the high percentage of customers who still do not know about these means of payment and who would be interested in making use of them.

The adoption of new means of payment in the population occurs thanks to a young sector of the population (25 to 35 years old) that tends to be open to trying technological innovations. Once this population assimilates the innovation in their daily use, they socialize it with the people closest to them belonging to other age groups, eventually causing them to adopt these means of payment as well. Likewise, financial education occurs in a more spontaneous and less planned way through these channels than through the traditional channels that the banking system seeks to establish. Therefore, innovation policies that focus on this sector will have a higher adoption potential than other innovations focused on other age groups.

It is safe to say that cashless payment methods are growing rapidly in Bolivia. But the fact that very few people consider that the main advantage of these means of payment is that they are "less risky to their health", leads us to understand that this acceleration has not necessarily been due to the fear of catching the Covid-19 virus. In any case, it is very likely that movement restrictions and social distancing have been some of the real accelerators of this trend, together with the fact that it is a global movement that is just beginning to show the potential it has to make profound changes in our lifestyles.

Having said that, some guidelines to underpin the transition to a cashless economy are:

**It is essential that in the transition to a more cash-free society no one is left behind.** This implies gradual policies, sympathetic to economic reality, but at the same time, free and non-coercive.
Government policy should not directly favor any payment system, which derives from the first principle, but also implies a high degree of openness and study of society’s preferences on the evolution of payment systems. As a consequence of the above, a third principle for public policy direction: consumer preferences, as observed through the market, should be the reference point for policy adjustment and evolution.

These principles could favor the inclusion of a large part of the population in financial circuits. It is clear that there are also a series of access and infrastructure barriers that escape the regulation of the payment system. Access to communication technologies, banking services and even basic services such as electricity, continue to be determining factors for the exclusion of a large part of the population in rural areas.

H. BIBLIOGRAPHY


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