

# Effect of Central Bank Policy Response to Promote Mobile Money Transactions in the Context of COVID-19: The West African Economic and Monetary Union (WAEMU) Case Study

Ibrahim Chaibou Oumarou<sup>1,2</sup>

<sup>1</sup>Central Bank of West African State, Niamey, Niger

<sup>2</sup>Laboratoire d'Economie Rouen-Normandie (LERN), Rouen, France

Email: [ibrahimchaibou.oic@gmail.com](mailto:ibrahimchaibou.oic@gmail.com)

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## Abstract

This article aims to contribute to the literature on policy response to COVID-19 by doing a case study on the West African Economic and Monetary Union (WAEMU) countries. It consists to analyze the effect of the policy response adopted in 2020 by the Central Banque of West African States (CBWAS or BCEAO) to promote mobile payments to limit the spread of COVID-19. The analysis of the digital financial services (DFS) environment shows the need to make efforts at the regulatory and institutional level in order to create a favorable framework for the success of programs aimed to develop the use of mobile money, and to take into account changing needs for innovation. The region has made progress in terms of the use of mobile money, which benefits financial inclusion of the populations. Using a counterfactual impact analysis, we assessed the causal effect of this policy response on mobile money transactions after its adoption, using the method called “difference in differences”. This approach consists in capturing the quantitative effect of this policy by comparing the situation after its implementation and “that which would have prevailed in its absence”. The results showed that this policy has led to an increase in mobile payments of more than 11% on average per month after its adoption, which contributes to strengthening the resilience of populations during the pandemic. The study recommends emphasizing public awareness as part of the implementation of programs, developing adequate policies on access to infrastructure of DFS and accelerating the process of digital transformation in order to create favorable conditions for the development of mobile payments.

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## Keywords

Mobile Payments, Mobile Money, COVID-19, Policy Response, Financial Inclusion, Digital Financial Services, Countrefactual, WAEMU

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## 1. Introduction

The health crisis due to the pandemic of COVID-19 pandemic has impacted the African economy (Ozili, 2020; AfDB, 2020) and the West African Economic and Monetary Union (WAEMU) countries are no exception (Bouraima et al., 2020; Levy et al., 2020; Coulibaly, 2021). The effects of this crisis on populations and value chains come from the pandemic itself and from the barrier measures applied by the governments of countries (Anyanwu & Salami, 2021) to limit its spread. Faced with this economic recession which affects all sectors including the financial system, financial inclusion and financial stability then become a real concern in order to revive the economy. Indeed, the slowdown in economic activity induced by this crisis would cause, on the one hand, the risk of corporate and individual defaults with significant consequences on the global financial sector, and on the other hand, closures of bank branches leading to the temporary exclusion of certain groups of the population.

In the African context, governments have played a crucial role in response and support measures called policy responses in order to fight the spread of the virus and to make economies resilient. These are related to several aspects, in particular, the distribution of products to households, direct money transfers, the distribution of agricultural products and food to the most vulnerable, the alleviation of certain charges, etc. (Ossome, 2021). In the same vein, support for digital finance and more specifically mobile payments, has played a key role in “*developing and providing services and innovations that have mitigated, at least partially, the disruptions brought about by the pandemic on multiple aspects of people’s lives*” (Benni, 2021).

Like other central banks around the world, the Central Bank of West African States (CBWAS or BCEAO) launched a whole series of initiatives during the year 2020 and in early 2021 in order “*to mitigate the impact of the COVID-19 pandemic on the banking system and the financing of economic activity in the zone*” (World Bank Group, 2020a). These measures specifically concern banks’ access to the Central Bank refinancing, access to bank credit by the population, financing of microfinance institutions, updating of the prudential system of banks and promotion of payment systems. Among these measures is the one relating to the electronic or mobile payments. CBWAS took this initiative collectively with electronic money providers, “*with a view to reducing transaction costs and encouraging populations to make greater use of digital payments to better limit contacts and travel*” in the context of the crisis. All these programs, and particularly <https://www.bceao.int/fr/communique-presse/communique-de-la-banque-centrale-des-etats-de-lafrique-de-louest-bceao>.

the one relating to mobile payment methods, could generate enthusiasm in the banking system and have economic and social effects to various degrees (Dandougbo et al., 2021) on populations characterized by a low level of financial inclusion compared to the rest of the world, according to data from Global Findex (Demirgüç-Kunt & Klapper, 2012; Demirgüç-Kunt et al., 2018). Indeed, the WAEMU zone records for demographic penetration, 96 financial service branches per 10,000 adults and for geographical penetration, 194 branches per 1000 km<sup>2</sup> in 2019. The rate of access to banking services stands at only 18% for the whole zone and varies from 6% to 25% depending on the country (BCEAO, 2019a). In addition, for a total population of approximately 120 million inhabitants, 76 million mobile accounts are opened in WAEMU.

The objective of this paper is to assess the effect of one of CBWAS's COVID-19 policy responses, in particular the initiative to promote mobile payments. This necessarily involves an inventory of digital finance by taking a specific look at current trends as well as the prospects for mobile payments in WAEMU.

The rest of the paper is as follows: a brief literature review will be presented in Section 2. Then, the method adopted as well as the data used will be discussed in Section 3. Section 4 will present the results of the analysis of the effect of the mobile payment promotion policy implemented. Finally, Section 5 will be devoted to the conclusion and some policy implications.

## 2. Revue de Literature

One of the characteristics of the economies of developing countries is that a significant number of people do not use formal financial services. This situation would be largely linked to a failure of the banking system (Dupas et al., 2012; Chaix & Torre, 2015) and to a low level of financial education of the population. Faced with this large proportion of excluded people, responses are provided by new actors (Herlin, 2015). These are financial products offered from the mobile phone. This type of service is commonly called mobile banking. The terms of mobile money transaction or mobile payments are also used in this literature review. African countries are well positioned in terms of the use of this type of product. Other work has shown the potential of mobile financial services on financial inclusion in developing countries (Assadi & Cudi, 2011). The study examined the “*strong potential of the mobile phone to provide access to financial services to the unbanked in developing countries while lowering the cost of transactions*”. However, the use of this product requires a certain level of users confidence. Indeed, “*Only a few years ago in developing countries, it would be hard to believe in the possibility of remote communication by wireless phones, let alone believe in the possibility of carrying out financial transactions from a mobile phone*” (Ibrahim Chaibou, 2019). For its use and adoption by all populations, especially those living in rural areas and those who do not have a certain level of education, trust is essential according to Malaquias & Hwang (2016). This study shows a negative relationship between the level of education and con-

confidence in the use of mobile financial services. Thus, people with a low level of education have a lower level of confidence compared to those with a higher level of education. The authors also highlighted “*a kind of information asymmetry that could be reduced in order to establish trust in mobile banking and promote its adoption*” by all groups of the population regardless of their level of education.

On the demand side, most studies have focused on the contribution of mobile banking to the financial inclusion of populations (Mishra & Singh, 2013; Porteous, 2007; Tam & Oliveira, 2016). The importance of mobile banking has been shown by its ability to cover all segments of the population, including those living in rural areas, thanks to the associative model between banks and mobile phone companies, which facilitates the financial inclusion of excluded people. Thus, a distinction is made between additive models and transformative models in terms of mobile banking. The first relates to the entry of mobile phone companies into the process of providing financial products in addition to traditional financial institutions. The second refers to a mechanism in which mobile financial products are the main means of offering services to people without any access to banks. Beyond the accelerator character of financial inclusion, mobile banking also has an impact on individual performance in terms of productivity. Business performance would also be enhanced by financial inclusion or the quality of the banking system (Chauvet & Jacolin, 2017), by considering the angle from which mobile has a positive impact on them. This impact at the microeconomic level results from the satisfaction provided by the mobile in the transactions carried out by users of banking services. Which is useful in providing guidance to practitioners in the sector to apply strategies to enhance its use.

On the supply side, mobile banking is seen as a channel through which banks increase customer satisfaction by providing them with more flexible and advantageous banking products in a competitive environment (Wonglimpiyarat, 2014). This offer can be ensured by the service of mobile phone companies unilaterally or via a financial partnership with banks (Chaix, 2013). What Chaix & Torre (2015) call a “dual role” in the context of Kenya. However, in the WAEMU zone, banking regulations do not create favorable conditions for the first case. After a comparative study in the context of China between traditional banking payment products (bank cards) and mobile payments. Mobile has emerged as more flexible and more suited to the needs of populations (Li & Li, 2020). In the latter, the issue of mobile payment promotion policies designed by financial institutions was also addressed, unlike the policy we are studying in this paper, which is designed by the regulator and also in a particular health context.

On a completely different level, studies have focused on the determinants of mobile banking, highlighting the explanatory factors for its massive adoption by populations in order to shed light on the implementation of policy (Cudjoe et al., 2015; Sakala & Phiri, 2019). Credibility or trust vis-à-vis mobile phone companies and the issue of cost are essential in the use of mobile money. In practice,

promotion policies for this product must focus on these determinants to guarantee their effectiveness.

All of these studies have highlighted the significant contribution of mobile payments to the financial inclusion of populations, while the latter is threatened by the COVID-19 pandemic, which is a shock to the activity of banks and Microfinance Institutions (MFIs) and imposes another way of life to people. The development of the use of mobile money could then be an alternative for populations excluded by banks because of the pandemic (Agur et al., 2020; Carboni & Bester, 2020). Moreover, the literature on COVID-19 policy responses is very recent and that relating to the impacts on the economy of WAEMU countries is not fertile enough. The pandemic has created the increased need to use digital services. However, the effective operationalization of mobile payments largely depends on a country's digital infrastructure (World Bank Group, 2020a).

In this regard, several policy responses have been adopted by Governments and Central Banks in order to create a strong incentive for digital finance. Thus, Hale et al. (2020) developed an index relating to policy responses based on the different measures in relation to containment and health and economic measures. Coulibaly (2021) used this index to assess the impact of policy responses on the level of inflation in WAEMU. The effectiveness of COVID-19 policy responses in general, and that relating to mobile payments have not been the subject of work in WAEMU countries to our knowledge.

### 3. Methodological Approach and Data Used

#### 3.1. Data

In this study, we have used informations on the activity of Electronic Money Issuers or "*Emetteur de Monnaie Electronique*" (EME). In WAEMU, reporting on mobile financial services is provided by a chain including three actors: mobile phone companies who have the IT solution and servers from which all mobile money transactions are traced; the partner banks with which the mobile phone companies have particular accounts which ensure the financial aspect of all transactions, and which are under the control of CBWAS in terms of data transmission; and the CBWAS, which compiles statistics and feeds its database from which periodic reports on digital financial services are published.

The main data analyzed in this study are: the synthetic index of development of the digitalization of the Government (EGDI) of the WAEMU countries extracted from the E-Government survey of the United Nations; data relating to financial inclusion indicators, the number of subscribers to the mobile account, the value and volume of transactions of mobile money are taken from BCEAO reports. To support our analysis, we conducted interviews with stakeholders, including regulators, financial system professionals and mobile phone companies.

#### 3.2. Methodology

As for the effectiveness of the policy response, we will carry out a counterfactual

impact assessment (J-PAL Europe, 2011; Givord, 2015) through a graphical analysis. The program to be evaluated is therefore the policy for the promotion of mobile payments adopted by BCEAO in 2020. The idea that drives of our approach is the fact that “*the evaluation is not limited to the simple description of the results, it also requires a judgment of value*” (Mirrlees, 2012). The effectiveness of the latter is assessed by its quantitative and qualitative effect on populations and the financial system. In this study, we will limit ourselves to measuring the quantitative effect. It can be defined as the gap between the evolution of mobile money transactions after the adoption of the program and what would have happened to them in the absence of this program (Behaghel, 2016). It cannot be considered to be the variation in the volume and transaction values of mobile payments before and after adoption. It will then be graphically reconstructed the trajectory of mobile payments in a “hypothetical situation”, in particular the evolution in the absence of the adopted policy.

Beforehand, the analysis framework uses a “hypothetical counterfactual” in order to compare the situation of the indicators after the implementation of the policy that we wish to assess with “*that which would have prevailed in its absence*” (Givord, 2015).

The so-called “*difference of differences*” method will be used to try to capture the real effects of the policy response of BCEAO. It consists in first making the difference between both situations in terms of volume of transactions, and making the difference of the temporal evolution in the absence of the policy.

To assess the “impact” at a given period, we refer to the causal effect  $\Delta$  of the program on mobile payments after adoption. This is the average effect of the policy on the volume (or value) of mobile transactions (Averaged Policy Effect (APE)) which corresponds to:

$$\Delta APE = y_i^1 - y_i^0 \quad (1)$$

$y_i$  = volume or value of mobile transactions at period  $i$

$y^1$  = volume or value of mobile transactions with the policy (observable)

$y^0$  = volume or value of mobile transactions without the policy (not observable)

The parameter relating to the “*difference in differences*” is represented by:

$$\Delta = E(Y_{it1} - Y_{it0} | P = 1) - E(Y_{it1} - Y_{it0} | P = 0) \quad (2)$$

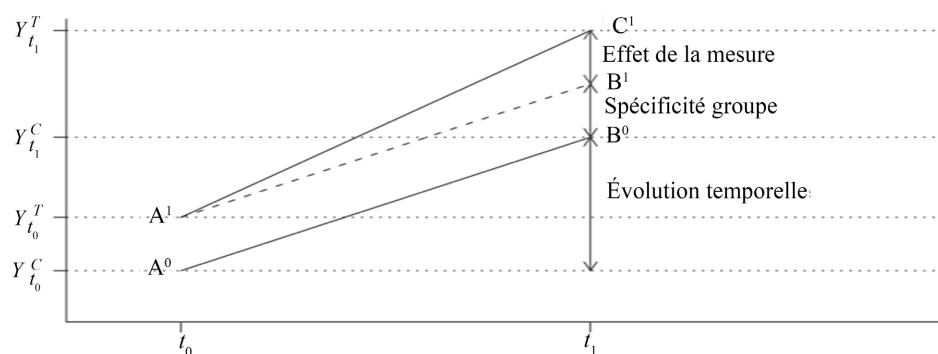
where  $Y_{it1}$  represent the volume (or value) of mobiles payments observed with the adoption of the policy ( $P = 1$ ) et  $Y_{it0}$  that relating to the situation without the policy ( $P = 0$ ).

Two assumptions are important for the application of this method:

Hypothesis 1: the absence of socio-economic externalities on mobile payments in 2020.

Hypothesis 2: the indicators change in the same way depending on the month in 2019 as in 2020.

Schematically, the counterfactual impact analysis is presented as follows (Figure 1).



**Figure 1.** Expected evolution in a “difference in differences” case. Source: Givord (2015).

The initial situation is represented by the  $A^0B^0$  curve; the situation after the introduction of the policy is represented by curve  $A^1C^1$ ; the counterfactual which is an unobserved situation is represented by the stippling curve ( $A^1B^1$ ). Considering the  $B^0C^1$  space as the impact of the policy would be too naïve given several parameters. The real impact of the application of the policy is given by  $B^1C^1$ .

For the case of our evaluation of the CBWAS’s policy response, we will draw inspiration from this graphical analysis in order to assess its effects. However, we are going to transpose the principle of this method insofar as we are not in a case of evaluating a measure applied to a group of people to be compared with another so-called control group.

## 4. Results and Analysis

### 4.1. Analysis of the Digital Financial Services Environment in WAEMU

**Table 1** illustrates the delay recorded by WAEMU countries in terms of digital transformation, which nevertheless constitutes the basis for the development of mobile payments and digital financial services in general.

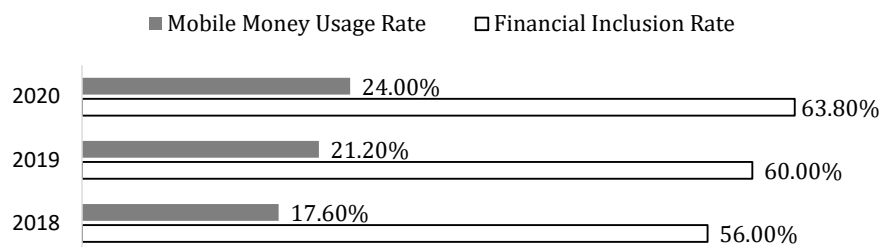
In this synthetic index called EGDI, three dimensions are aggregated, namely the adequacy of the telecommunications infrastructure, the capacity of human resources to promote and use the technology and the availability of online services. The information analyzed shows that efforts are being made by governments to digitize the activities of public administration. However, the last places in the ranking are occupied by the WAEMU countries. No one country in the zone has a high or very high EGDI. This shows that much effort remains to be made at the regulatory and institutional level in order to create a favorable framework for the success of policies and initiatives aimed at promoting the use of mobile money. By dimension, it is especially on the aspects of telecommunications infrastructure and human capital that great attention must be paid, given the poor performance recorded in comparison with the rest of the world.

In addition, the use of mobile money is very significant in the zone. **Figure 2** shows the share of mobile money usage in global financial inclusion. This situation explains the interest given to the development of digital financial services by

**Table 1.** WAEMU e-government development index (EGDI).

Pays	2018	Rank	2020	Rank
BENIN	0.3264	159	0.4039	157
BURKINA	0.3016	165	0.3558	164
COTE D'IVOIRE	0.2776	172	0.4457	139
GUINEE-BISSAU	0.1887	187	0.2316	186
MALI	0.2424	178	0.3097	171
NIGER	0.1095	192	0.1661	188
SENEGAL	0.3486	150	0.421	150
TOGO	0.3989	138	0.4302	147

Source: United Nations (2018, 2020).



**Figure 2.** Contribution of mobile money in financial inclusion in Niger. Source: Author, BCEAO (2019a, 2020b).

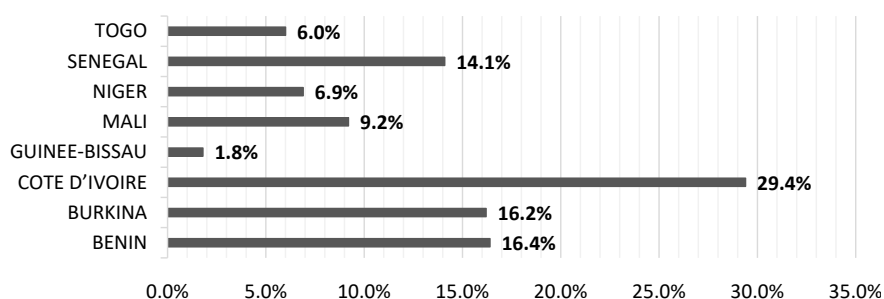
all the strategies of public authorities in terms of financial inclusion in recent years.

Financial inclusion has increased over the years, from 56% in 2018 to 63.8% in 2020, the use of mobile money is observing the same trend. The observation is that we observe an exponential contribution of the usage of mobile money to the process of financial inclusion. Thus, the contribution of mobile money (by establishing a relationship between financial inclusion rate and mobile money usage rate) alone is equivalent to “more than a third of the formation of the financial inclusion rate” (BCEAO, 2019a) over the period. This growth is driven by the exclusive offer of partnerships between banks and mobile phone companies such as ORANGE, AIRTEL, MOOV, NSIA MOOV, MTN, TELMOB, TOGOCEL, etc.

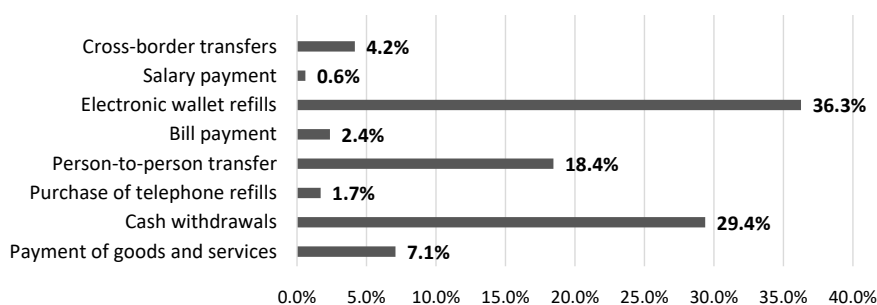
**Figure 3** shows that Côte d’Ivoire dominates the market in terms of the number of mobile account subscribers, representing 29.4% of the entire zone. Niger, Togo and Guinea-Bissau occupy the last places in the zone with weights of 6.9%, 6% and 1.8%, respectively. This ranking is quite similar to that of the level of digitalization measured by the EGDI index and that of the financial inclusion of countries. This shows the significant contribution of the use of mobile money to financial inclusion in WAEMU.

**Figure 4** displays the statistics relating to the distribution of the value of transactions for all the countries in the zone.





**Figure 3.** Distribution of the number of customers by country in 2020. Source: Author, from BCEAO (2020a).



**Figure 4.** Value of transactions by type of service in 2020. Source: Author, from BCEAO (2020a).

**Figure 4** shows that products do not have the same degree of use by the populations. The use of a product depends on the need but also on the available infrastructure and the level of mastery of mechanism of transaction, since it is about syntaxes, shortcodes and a whole procedure to be followed on a mobile phone. This is not at all obvious to all categories of people, especially those who do not have a certain level of education and old people. The most used product is the recharging of the mobile money wallet or “cash-in”, which represents 36.3% in value. It is a form of deposit in an account called the wallet from which other transactions are made. Money withdrawals or “cash-out” and P2P transfers represent respectively 29.4% and 18.4% of the value of transactions. It is a form of transfer that takes place outside the traditional banking system. To a lesser extent, people made P2B or B2B payments (for purchases of goods and services) at 7.1%. This low rate is explained by the context which is characterized by a strong preference for cash by retail traders, and micro-businesses, service providers, etc. Via mobile accounts, users made 4.2% of the value of all transfer transactions to other WAEMU countries. This product offers a better solution that is more suitable than international transfer services like Western Union or Moneygram, in terms of flexibility and especially cost. Finally, it should be noted that only 0.6% of transactions are devoted to the payment of salaries.

#### **4.2. Analysis of the Effect of the Mobile Payment Promotion Policy in the Context of the Fight against the Spread of COVID-19**

The global health crisis due to the COVID-19 pandemic has also affected the

WAEMU zone. This area as a whole is characterized by the significant weight of the informal sector in the global economy, leading to limited access of the population to financial services. In this respect, the massive adoption of digital financial services by the populations will contribute not only to respecting the distancing measures, but also to maintaining the level of financial inclusion of the populations. In addition, the use of digital financial services in times of crisis presents several opportunities (Agur et al., 2020) for the provision of credit to customers, electronic payments for goods and services, transfers or settlement of public administration, transfers to households, etc.

The BCEAO has adopted the policy response mentioned above to support the financial sector, which in turn will support economic activity. This measure aims to encourage the use of mobile money by limiting “*physical contact between people by reducing the use of cash in favor of electronic payments*”. The following reforms are envisaged, with a view to their implementation by electronic money providers:

- Action 1: it aims to make all P2P transfers free of charge in the same country, including bank to wallet transfers for an amount not exceeding \$<sup>2</sup>.
- Action 2: it also aims to make payments free through the mobile phone, water and electricity bills not exceeding 90 dollars.
- Action 3: it encourages electronic money providers to eliminate the commissions that merchants pay on mobile merchant payments.
- Action 4: it encourages banks to reduce by 50% the commissions that merchants pay on mobile merchant payments in the area.
- Action 5: it establishes an increase in the electronic wallet recharging ceiling from \$3690 to \$5530, as well as the cumulative monthly transactions from \$18,450 to \$22,140. However, this measure applies to customers under certain conditions set by regulations.
- Action 6: it aims to promote customer interbank transfers by instructing banks to reduce the charges applied by 50%. The Central Bank for its part, suspends in the same proportions the costs to be applied in its system.
- Action 7: it recommends relaxing the conditions for creating an electronic money account. This amounts to requiring less in terms of the account opening procedure and encouraging the process of digitization.
- Action 8: it aims to introduce a 50% reduction in bank card withdrawal fees, applied to customers.

This policy is undoubtedly a better instrument for the development of mobile payments and financial inclusion in general, especially in the context of the health crisis. It also calls for the pooling of efforts between all mobile or electronic money providers, the Central Bank and other economic agents in order to support economic activity. However, the socio-economic environment is not entirely favorable for the success of such policy, as shown by the EGDI index, which shows a low level of digitization in the countries.

<sup>2</sup>1\$ = 560 FCFA.

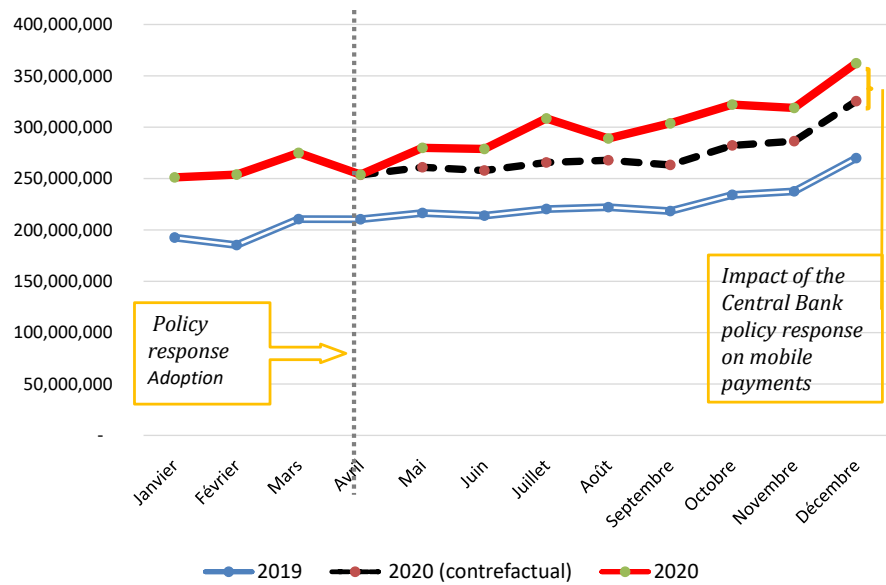
By analyzing the strengths and weaknesses faced by this program, EMEA is characterized by increasing mobile phone penetration over the years, like sub-Saharan Africa (GSMA, 2020). The level of banking, meanwhile, is at its lowest level in the area with less than 23%, well below the world average according to Global Findex data (Demirgüç-Kunt & Klapper, 2012; Demirgüç-Kunt et al., 2018), which constitutes a real opportunity for mobile money. It should also be noted that there is good accessibility to the bank account via mobile phone or mobile account and also a clear desire on the part of the actors to develop this product with the adoption of several programs and strategies. With such strengths, the above program will have a great chance for success. However, it also faces significant weaknesses on both the supply and demand side of electronic money. Populations in the WAEMU zone are also characterized by a strong preference for liquidity. The level of education and financial education of the populations is low (Ibrahim Chaibou, 2019) and a large proportion of the population lives in rural areas, lacking several infrastructures essential for the development of their activities.

With regard to the effects that this policy relating to the promotion of mobile money has had on the supply and the demand of financial services, the counterfactual impact analysis carried out through **Figure 5** shows a certain improvement at the level of WAEMU zone.

Indeed, there is a strong increase in the total volume of mobile transactions in WAEMU year-on-year. However, this increase is not enough to objectively assess the adoption of the policy response. To deepen the analysis, we considered the difference between the related statistics for the year 2020 (after adoption of the policy) and the counterfactual (the level that would be reached in the absence of the policy), which shows an impact positive of this initiative. The counterfactual is plotted by referring to normal conditions (Naudet et al., 2012), i.e. similar to the pre-COVID-19 period in terms of monthly variations in mobile transactions.

The evaluation of the adoption of this program made it possible to have on average per month, an increase of 11.4% from May to December 2020 in the volume of mobile payment transactions (difference on **Figure 5**). We can deduce that the objective targeted by the Central Bank through this initiative has been achieved, the populations have intensified the use of mobile money during the COVID-19 pandemic while respecting the distancing measures and other restrictions. In addition, it can be noted that the volume of transactions began to fall from March to April 2020 when the governments introduced lockdown, curfew, and other social distancing measures in the regions. The trend was reversed just after the adoption of this policy response which greatly encouraged people to lean towards transactions from the mobile phone such as bill payments, P2P, P2B, etc.

In more detail, **Table 2** shows the changes observed for the different types of services.



**Figure 5.** Effect of the policy response on mobile money transactions. Source: Author, from BCEAO (2020a).

**Table 2.** Comparative evolution of the use of mobile money.

(value in billion of FCFA)	2019		2020		Variation %	
	Volume	Valeur	Volume	Valeur	Volume	Valeur
<i>Electronic wallet refills</i>	611,600	10,956	765,836	14,926	25.2%	36.2%
<i>Cash withdrawals</i>	497,644	8901	633,182	12,088	27.2%	35.8%
<i>Purchase of telephone refills</i>	1,108,128	561	1,455,723	699	31.4%	24.6%
<i>Person-to-person transfer</i>	220,515	4163	369,041	7593	67.4%	82.4%
<i>Bill payment</i>	87,479	584	128,275	975	46.6%	67.0%
<i>Payment of goods and services</i>	33,748	1706	54,017	2916	60.1%	70.9%
<i>Salary payment</i>	8432	148	21,664	249	156.9%	68.2%
<i>Cross-border transfers</i>	26,699	1286	31,685	1713	18.7%	33.2%

Source: BCEAO (2019b, 2020a).

We see a positive change in the usage of all types of services year-on-year. An exponential increase of 156.9% in salary payments (including G2P) is observed in 2020 with the implementation of the mobile payment promotion policy. P2P transfers recorded a 67.4% increase compared to the pre-COVID-19 period. Mobile merchant payments (P2B and B2B), bill payments (water, electricity and TV channel subscriptions) increased by 60.1% and 46.6% respectively. The populations then took advantage of this program by integrating into their habits remote financial transactions using the mobile phone, required by the health context on the one hand, and by the incentives in terms of advantages on the other hand.

Without attributing all these advances to this BCEAO policy, most of the

main indicators have experienced a positive evolution since the launch of this initiative. Moreover, it should be noted that since 2015 this sector was already growing, the health crisis would undoubtedly have slowed down this process without this policy response from the Central Bank.

As our counterfactual impact analysis shows in **Figure 5**, the adoption of this policy has been beneficial for economic activity in the area. It gradually increased the volume of mobile payments since its adoption by the Central Bank. Mobile money transactions thus experienced an average monthly increase of 11.4% during 2020.

In addition, the annual variation compared to 2019 shows a considerable increase in the use of different services with mobile money as shown in **Table 2** (payment of salaries, P2P, payment of goods and services, etc.)

## 5. Conclusion

Digital finance in general and mobile payments in particular has experienced tremendous growth in recent years in the context of WAEMU. With the various restrictive measures imposed in 2020 with the COVID-19 pandemic, a slowdown in economic activity and particularly the supply and demand for digital financial services was expected. In this respect, the public authorities have implemented a series of measures or “policy responses” to support economic activity. And among these actions is the Central Bank’s policy on the promotion of mobile payments launched in April 2020. The latter has many advantages for populations in an environment that is not very favorable with a low level of inclusion (**Demirgüç-Kunt et al., 2018**), a low level of digitization of countries according to data from the EGDI survey (**United Nations, 2020**) and a particular health context.

There is a positive change in the use of all types of services on a year-on-year basis and when comparing before and after the implementation of the policy. In particular, an increase in mobile salary payments (including G2P), P2P transfers, electronic merchant payments (P2B and B2B), bill payments (water and electricity) of 156.9%, 67.4%, 60.1% and 46.6%, respectively. In addition, the counterfactual impact evaluation that we carried out using a graphical analysis using the “difference in differences” method of **Givord (2015)**, shows that the adoption of this policy response has made it possible to have an increase in electronic payments of more than 11% on average per month since its adoption in April 2020.

As a recommendation to consolidate the dynamic of mobile money transactions during the COVID-19 crisis, it would be appropriate to focus on raising people awareness of the implementation of all the actions envisaged, accelerate the process of the digital transformation of economies in order to create favorable conditions for the development of this service, and to finalize the project for the interoperability of financial services between the different types of financial institutions.

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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