



Going Mobile with Conditional Cash Transfers

Insights and Lessons
from the payment of Familias en Accion
through DaviPlata wallets in Colombia



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Acronyms

ATM	Automated Teller Machine
BdO	Banco de las Oportunidades, a government development agency
CB	Correspondent Bank (banking agent)
CGAP	Consultative Group to Assist the Poor
DPS	Departamento para la Prosperidad Social, the government arm that manages social programs
FA	Más Familias en Acción conditional transfer program
GMF	Gravamen a los Movimientos Financieros, tax on financial transactions
MO	Mobile Operators
OTA	Over the Air
OTC	Over the Counter
OTP	One Time Password
POS	Point of Sale Device
SFC	Superintendencia Financiera de Colombia, the financial sector authority
SME	Small and Medium Sized Enterprise
SMS	Short Message Service
STK	SIM Toolkit

Executive Summary

DaviPlata is a mobile wallet offered by Banco Davivienda to the general public in Colombia. In 2012 the Government of Colombia contracted DaviPlata to pay conditional cash transfers (CCTs) to 937,000 beneficiaries of the Más Familias en Acción (FA) program. As a result of this contract, DaviPlata became one of the largest-scale mobile-based CCT payment operations in the world. In June 2014 it had 2.2 million wallets, 46 percent of which were associated to CCTs.

DaviPlata was launched at the start of 2011. In its first year of operation it reached 500,000 customers. Beyond that point, it was difficult to grow without significant investments in infrastructure (agents, ATMs). The contract to conduct FA payments facilitated making the necessary investments to expand access points. It also drove DaviPlata into a high-speed expeditionary learning path to discover how to serve some of the poorest individuals in the country.

At the end of the road, the enhancements made to effectively pay CCT recipients helped grow the non-CCT customer base from 500,000 to 1.3 million in roughly one-and-a-half years. In 2014, CCTs still accounted for 79 percent of the US\$43 million¹ channeled through the wallet monthly. FA beneficiaries represent approximately 80 percent of all customers who register monthly movements and show a cumulative balance.

This paper describes the key challenges Davivienda faced through this journey: how the service delivery model had to be adapted to effectively communicate with customers to enable them try and feel comfortable using a mobile wallet; how Davivienda dealt with the challenges in cash management; how to dynamically adjust the capacity of the technological platforms to process the volume of transactions concentrated in space and time.

This study did not evaluate users' experience, but the transactional behavior observed suggests many wallets remain a mechanism to cash out. DaviPlata's wallet has been used primarily as a mechanism for access to cash, although it is estimated that about 12 percent of clients have savings balances. The most frequent transactions are airtime top-ups, which account for 23 percent of monthly transactional volume. This behavior seems broadly comparable to that of the group of FA beneficiaries that is paid with a deposit in a savings account with a debit card (through another banking institution). The cell phone and card are primarily used to get cash from an ATM or a correspondent bank.

Going forward DaviPlata has a number of assets that it seems well-positioned to exploit. It has a virtual delivery model that has proven to effectively reach and engage poor customers. This model can be scaled to accommodate a large part of the population. It also has achieved broad coverage in a large part of the territory where it could seek to expand the base of non-CCT

¹ Average value of the disbursements of DaviPlata from March 2013 to May 2014. For this and other subsequent cases, the currency amounts in Colombian pesos were converted at the exchange rate published by the central bank, Banco de la Republica, using the average for the semester January-June 2014 (US\$=COP 1,960.99).

customers. It has an important customer base, perhaps critical mass, to begin driving network effects to boost use. Taking advantage of these assets to drive the business' growth is not simple. However, this could well unlock the real value of FA payments to DaviPlata, a platform for future growth.

1. Introduction

In recent years, CGAP has conducted several studies to analyze social program payments made through electronic instruments linked to financial institutions, with the purpose of exploring the potential of these mechanisms to facilitate financial inclusion.

Colombia was one of four countries studied in 2012 analyzing the models used and associated costs/benefits from the point of view of different stakeholders (government, banks, and beneficiaries) (Bold, Porteous, and Rotman 2012).

Since then, the Colombian Government has adopted substantial changes. Most importantly, the payment through Banco Agrario savings accounts was partially changed/supplemented with payments through DaviPlata mobile wallets, offered by Banco Davivienda. The latter scheme was based on a contract awarded to that bank to conduct the payment of subsidies in one-third of the localities served by the Más Familias en Acción program in 2012.

The DaviPlata service, which today makes 937,000 CCTs bimonthly through a mobile wallet, affords an opportunity to share lessons that can help operators of financial services, governments, and providers learn how to use mobile banking products in massive processing of subsidy payments.

2. Background

To analyze the case of DaviPlata and its relation to the CCT payment program in Colombia, it is important to take into account the type of financial institution that created it, the evolution that has occurred in the program's payments, and the country's financial inclusion policy at the time of its launch.

DaviPlata was created by Banco Davivienda, a bank historically focused on the retail mass market segment.

DaviPlata is part of an initiative of Banco Davivienda, one of the principal companies in the Bolívar Business Group, which has been working in Colombia for more than 70 years and is made up of 28 corporations (six of them abroad) heavily involved in the financial, insurance, and construction sectors.

Today, Banco Davivienda is Colombia’s third largest bank in terms of assets, portfolio, deposits, and equity.² This has been the result of 40 years of sustained growth along with other legal transformations, mergers, and partnerships with other financial institutions. It began in 1972 as a savings and housing corporation specializing in mortgages, but it was transformed in 1997 into a commercial bank. From then on, although it continued to have a strong mortgage portfolio, it expanded to other segments, moving into consumer credit and general personal banking, agricultural credit, and so on. All of this through successive mergers and acquisitions with other financial institutions. It also expanded into corporate and small and medium-sized enterprise (SME) segments, with the consequent diversification and consolidation of its business portfolio, to eventually broaden its sphere of operation to other countries in Latin America.³

In June 2014 it had more than 6.6 million clients and a staff of more than 17,000 persons, working at 743 branches, 3,500 service points as banking agents (CB) of DaviPlata, and 1,600 ATMs regionally.

Table 1: Savings accounts, loans, and coverage of Davivienda (December 2011–September 2014)

	Clients with savings accounts	Number of savings accounts	Communities with branches	Communities with CB	Communities with presence
2012	3,043,286	3,299,565	178	0	178
2013	3,189,636	3,451,632	181	255	360
2014 ^a	3,150,002	3,393,453	183	924	888
a. As of September 2014					
Source: Superintendencia Financiera de Colombia [Financial Superintendency of Colombia]					

In 2010, responding to the government’s call to support financial inclusion, the bank began reaching out to lower-income segments of the market, starting with a transactional mobile-based service called DaviPlata, with the purpose of acquiring customers and later moving them to broader products, such as savings, insurance, and credit. The DaviPlata wallet was not only designed to serve the population at the base of the pyramid, but there was an expectation to capture other niche segments such as Colombians who had migrated abroad and the possibility of using it in government social programs. DaviPlata was born within the bank, but very quickly, because of the size attained by the operation, was turned into an independent business unit, although still part of the bank.

² Superintendencia Financiera de Colombia [Financial Superintendency of Colombia], June 2014.

³ The Davivienda Bank bought Superior Bank in 2006 and was authorized to merge with the Gran Banco Bancafé in 2007. In the past two years, Davivienda expanded its regional coverage, acquiring the operation of HSBC Costa Rica, Honduras, and El Salvador, thus strengthening its regional presence.

Familias en Acción had consistently expanded the payments instruments used and considered DaviPlata to be an alternative for upgrading the quality of the service.

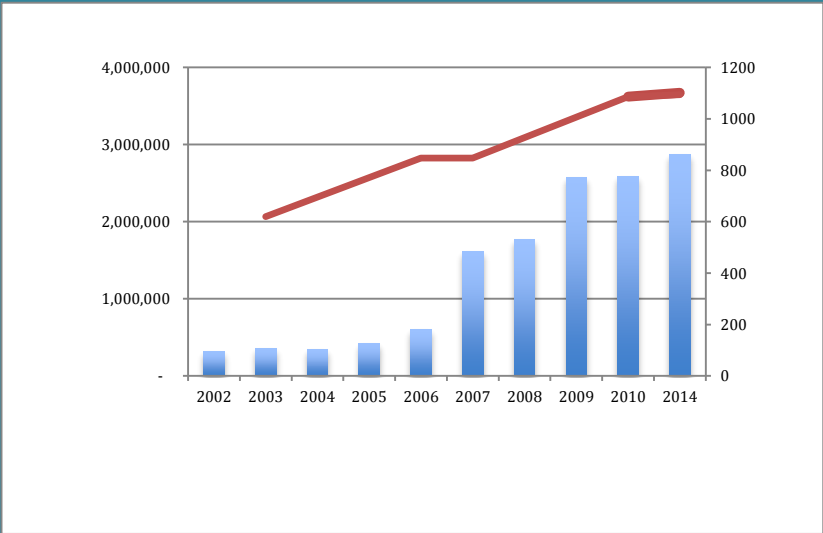
In 2012, the Familias en Acción conditional subsidies program had been operating for 11 years, and the number of families served and the program covered a broad geography.⁴

From its inception, the program used various payment mechanisms, always employing banking institutions that met the requirements set by the National Treasury for the management of public resources.

Box 1: Familias en Acción Program

The Familias en Acción CCT program has been operating in Colombia since 2001 to supplement the income of families with children under 18 who are living in extreme poverty, to help improve their health and education conditions. The subsidies, which on average are US\$68, are paid provided that the families have demonstrated that their children have had regular medical exams and that children of school age are attending school. The number of beneficiaries, primarily women, has been increasing. In September 2014 there were 2.75 million households, where the payment is made to the female head of household in the country's 1,102 municipalities.

Graph B1.1: Number of Familias en Acción and payment communities



Blue—No. Families (left axis); Red—No. Municipalities

The choice of payment instruments was intended to prioritize alternatives that enabled families to reduce transfer times and avoid long payment lines, without ignoring the need for efficiency and cost reduction for the program. Initially, from 2001 to 2005, when the program served

⁴ The Familias en Acción program was created in 2001 under the Office of the President and managed by the Agency for Social Prosperity and International Cooperation, Social Action. In November 2011, the agency became an autonomous entity, the Department for Social Prosperity (DPS).

620,000 beneficiaries primarily in rural areas, cash payments were made at the window of the paying bank (Banco Agrario, a government bank), which caused congestion in the branches with long lines and significantly inconveniencing the bank's traditional clients. In more remote areas, payment was made at a mobile payment point of the bank in the town hall, which required specialized transportation of cash (by ground or by air), safeguarding, and hiring of guards, making operations expensive and difficult. In 2007, when the program expanded coverage to 1.7 million beneficiaries in both rural and urban municipalities, agreements were signed with seven banks, including the Banco Agrario, to make cash payments, supplementing it with payment through rechargeable cards for withdrawal from an ATM in communities where there were more than 7,000 payments, which covered 23 percent of the families.

In 2008, the government continued to expand the program's coverage with a target of reaching 3 million by the end of 2010 and extending geographical coverage even further, incorporating financial inclusion of recipient households as an explicit objective. To achieve this, the government invited institutions in the financial sector to take part in a competitive bid to pay the subsidies through savings accounts offered at no cost to the beneficiaries and with two free transactions per month,⁵ ensuring that the beneficiaries could have access to cash at the administrative seat of the municipalities in which they live.⁶ The limited availability of channels with country-wide coverage in the traditional financial sector at the time led to a very high fee per payment. As a result, financial institutions decided not to bid for the contract. The exception was Banco Agrario, who with Assenda S.A. (a logistics provider), submitted a bid and was awarded the contract for payments. In January 2010 it began the process of opening the savings accounts, which continued throughout the year and was able to reach 92 percent of the beneficiaries, which at that time already surpassed 2.5 million. Given the geographical coverage required, the payment instrument used (a savings account with a debit card), and the short term of the contract (two years), the commission charged by the bank was high: US\$9 per payment made, which was equivalent to 17 percent of the average subsidy. Although there were benefits from this new payment system (Maldonado and Urrea 2010),⁷ including a shorter waiting time for withdrawing resources and lower transaction costs because of the greater number of service points, the beneficiaries kept using the accounts and the associated debit card basically as a way of accessing the cash.⁸

At the end of the contract with Banco Agrario, which was extended for one year while the new bidding was organized, in 2012 the Department for Social Prosperity (DPS), the agency that manages government subsidies, issued a second call for bids for delivering transfers to all the beneficiaries of Colombian State transfers, the most important of which was the payment of

⁵ The banks had to open a small savings account, with no requirement for deposits and easy to open, according to the terms of Decree 1119 of 11 April 2008.

⁶ Social Action. Bidding document No: FA-001-2008, 20 June 2008.

⁷ See also, Maldonado and Moreno-Sánchez (2010).

⁸ Further analysis of the pilot's results in promoting a savings culture financed by the Opportunity Bank program can be found in Marulanda Consultants (2012).

subsidies of the program now called Más Familias en Acción (FA),⁹ with an estimated total of 2.7 million families in the whole country (1,098 municipalities). The country was split into three groups of municipalities with a similar number of payments,¹⁰ mixing cities and small municipalities in each of them. The logic behind this was to have a fair distribution of easy versus hard to access localities across the three zones. The obligation of the contract was to make one pilot payment in 2012 and 10 additional payments starting in 2013, ending in 2014.

Table 2: Distribution of Bidding Groups for FA in 2012

Group	# Families	# Municipalities
1	917,438	368
2	920,082	368
3	916,810	377

In addition, DPS granted greater flexibility to the paying institutions to choose the actual payment mechanisms to be used, permitting different modes, products, channels, and means of payment, provided that they meet some minimum characteristics. Depending on the

type of product offered, the beneficiaries should be treated as clients and/or users of the entity, the means and channels for payment should permit making various types of transactions, the products offered should permit deposits and withdrawals through the financial system,¹¹ and when the product offered permitted the accumulation of funds, there had to be easy and secure access to the accumulated resources.

There were two proposals: Banco Agrario for the three groups with a savings account with debit card, and Banco Davivienda for group 2, with the DaviPlata product, a mobile wallet operated entirely through mobile phones. Banco Agrario won groups 1 and 3; Davivienda won group 2.

DaviPlata constituted Banco Davivienda’s response to the government’s call for greater emphasis on financial inclusion.

The launch of DaviPlata at the start of 2011 occurred in the context of several developments in Colombia with respect to financial inclusion, mostly independent of the payment of government subsidies. From the perspective of public policy, the country was promoting regulatory reforms that would enable financial inclusion. To facilitate this process, it established Banca de las Oportunidades (BdO) in 2006,¹² and introduced reforms such as the authorization to open

⁹ The program retains its objective and the commitments that the beneficiaries must meet to have access to the resources of the subsidy.

¹⁰ Department for Social Prosperity. Public bidding process Convocation 07 of 2012, using the mixed reverse auction selection process.

¹¹ The bidding established that the operations could originate from any source, for different amounts in accordance with the limits established for each product, and could be conducted anywhere in the country, making indiscriminate use of the network and with the channels available in accordance with the products offered.

¹² The Banca de las Oportunidades Investment Program, administered by Bancoldex, was established by Decree 3078 of 2006. Opportunity Bank designed a series of policy instruments (subsidies, co-financing, and technical assistance) to encourage the financial sector to include persons with limited resources, adopting new business

correspondent banking (CB) agents as a low-cost channel¹³; exemption from the tax on financial transactions¹⁴ for a personal savings account; the simplification of requirements for opening low-value savings accounts; the definition of electronic savings accounts; and later the simplification of the know-your-customer requirements through a “simplified procedure”¹⁵ for deposit products. All of these reforms were intended to facilitate the supply of low-cost savings products for the population not being served.

By 2010, financial institutions had achieved coverage of 99 percent of the country’s 1,102 municipalities through some type access point.¹⁶ This was significant progress compared with their 72 percent coverage of municipalities in 2006. However, private banks concentrated their coverage in cities with more than 50,000 inhabitants, with very conservative use of CBs. In communities with fewer than 50,000 people, the primary presence was that of Banco Agrario.¹⁷ At the time, Banco Davivienda had no plans to open a CB channel.

Also in 2010, the bank access index, which calculates the number of adults with access to at least one financial product,¹⁸ reached 62.2 percent, compared with 55 percent in 2007. This was a result of greater penetration of savings accounts. Of a total 35.8 million savings accounts, 9 percent were savings accounts that had been offered by Banco Agrario to FA beneficiaries. Since then, no other bank has rolled out savings products oriented to the low-income population.

models, diversifying their channels and products, and implementing appropriate methodologies for microcredit and microsavings that would produce real financial inclusion.

¹³ The authorization was originally given to credit establishments (Decree 2233 of 2006, External Circular 26 of the SFC, of 2006), and four months later it was expanded to credit unions (Decree 3965 of November 10, 2006).

¹⁴ Law 1111 of 2006 provided exemption from the tax on financial transactions (GMF), which is 4/1000 of withdrawals from an account, for movements up to COP 9,619,950 (US\$4,908) per month from a savings account per person.

¹⁵ The Law of the National Development Plan of 2007 established in Article 70 the generic concept of small savings accounts for people of limited means, which were regulated by Decree 1119 of 2008. Electronic savings accounts were established in Decree 4590 of 2008, and since they were a continuation of the small savings accounts established, they were also for persons in extreme poverty (classified as levels 1 and 2 of the Sisbén [System for Selection of Beneficiaries of Social Programs]). In both cases, they were exempt from mandatory investments and the tax on financial transactions, but they had as a requirement that they could not require a minimum opening deposit or a minimum balance, they had to ensure no fees, and permit two withdrawals and one balance query every month without fees. Finally, the Financial Superintendency of Colombia issued regulations to facilitate the opening of savings accounts with simple procedures, with no stipulation for minimum balance and the amount transferred per month, and in November 2009 authorized the opening of simple accounts without the need for the client’s physical presence (External Circular 053).

¹⁶ Only six of the 1,102 municipalities did not have a financial entity in December 2010. Three of them are located in municipalities with fewer than 10,000 inhabitants. BdO issued two invitations for bids in 2007 and 2008, to grant subsidies to municipalities with fewer inhabitants, so that between August 2006 and December 2010, 303 municipalities were covered with some point for formal financial access.

¹⁷ It is the only public bank in Colombia.

¹⁸ Colombian Bank Association (Asobancaria) Informe de Bancarización [Report on Access to Banking Services].

3 The Concept and Design of DaviPlata

3.1 Innovation aimed at the base of the pyramid

Various motives inspired the bank's leadership to design a product for the base of the pyramid: first, the possibility of broadening its reach and offering to serve all segments of the population; second, being able to support the government's initiatives to accomplish financial inclusion; and third, to have a valuable new offering for current clients in both the public and private sectors, through a product that facilitates transactions with people at the base of the pyramid.

To develop an offering targeting a completely new market segment for the bank, Davivienda designed a *transactional* service with the idea that it would serve as an entry point that would allow the institution to get to know an individual through the analysis of his or her transactions. This would later make it possible to design adequate savings products and subsequently develop a suitable credit offering.

The bank explored different alternatives around a **low-cost product** that could be profitable. A team from the bank visited several poor areas in various cities to conduct market research and understand the cash flows and transactions volumes, and thus measure a community's transaction patterns and potential viability. The team observed that the average value of transactions was very low (the average amount of a purchase in a store was US\$0.91 to \$1.21) and that the community would not be willing to pay for a banking service.

To design DaviPlata, the bank used an innovative methodology developed by Systematic Inventive Thinking¹⁹ that was adopted by the Bolívar Group several years earlier. This facilitated to a great extent DaviPlata's design. The bank applied the concept of "subtraction," i.e., removing essential elements from a current product to begin developing an innovation, and then building on the characteristics of the traditional savings account. The new product needed to eliminate the higher-cost elements that included the form, signatures, and fingerprint in the account registration process; the time of a teller or adviser in the opening; the debit card to avoid the high cost of personalization and delivery; and use of the branch as a service point. The design team also worked to ensure the product would be able to eliminate self-exclusion²⁰ by changing the negative image prevailing at the time regarding the high cost of formal financial services. Thus the rationale for offering the product without charge to its users/clients emerged.

This process led to a product/service model delivered entirely through a mobile phone, something completely new in Colombia at that time. Although Redeban had already developed a transaction product with mobile technology that it was offering to financial institutions, there

¹⁹ The bank uses the methodology of Systematic Inventive Thinking (www.sitsite.com). The methodology consists of a series of tools, principles, procedures, and guides that facilitate the generation of ideas and their implementation. The group has an area that specializes in innovation, and its employees have been trained in using these methodologies. A group of coaches supports the work needed by the various areas to foster innovation.

²⁰ Caused by lack of confidence in the financial system.

had been no practical cases or previous experience to inform Davivienda's endeavor. The team therefore referred more broadly to the international experience of models available in South Africa, Kenya, and the Philippines.

The operation was conceived as a "self-service" model, in which the client has access to the service without personalized commercial assistance. The language employed was simple so that the learning process would be intuitive and the client would readily understand the options on a user-friendly menu with common words, no technical terms. This would make it accessible to any client, whether a bank user or not, of any age, and from any region.

As a result of this process, DaviPlata emerged as the first mobile wallet on the market in Colombia in April 2011, with the characteristics described in Box 2.

Box 2: Main characteristics of DaviPlata

Registration and activation of the product is done in an over-the-air (OTA) operation in a session that is opened from the menu stored in the SIM. This happens most often without the need of external help or involvement of a third party. The number of the electronic account is the same as the number of the cell phone, and it is opened by merely entering the name, ID number, and date and place of issue. None of the user operations has a fee.

Permitted transactions:

- Withdrawals from ATMs (by requesting a PIN)
- Transfers between DaviPlata accounts and from or to a savings or checking account in the same bank
- International remittances and payments
- Payments for public and private utilities
- Recharging of cell phone minutes for prepaid plans
- Changes in password and queries on balances and transfers

By regulation, deposits may not exceed a monthly limit of US\$958, therefore the balance in these accounts may not exceed that amount. Accounts are exempt from the tax on withdrawals from the financial system (called "tax on financial movements") which is 4 per 1000.

For more information, go to <https://DaviPlata.com/activese-claro.php>

The service model was based on the premise that physical client contact in branches should be migrated to remote digital interactions. This service model required a call center that was separate from that of the bank, outsourced to a third party. Over time the bank adapted its interactive voice response (IVR) system, incorporating a predictive solution to more effectively support user's inquiries; created a specific DaviPlata for Familias en Acción site; and used social networks (such as Facebook and Twitter) to expand interaction with program beneficiaries. Furthermore, to take advantage of the bank's extensive network of ATMs, it allowed withdrawals exclusively from the bank's ATMs, which were adapted to work without a card, using a code generated at the client's request (an operation pioneered in the country by Davivienda that is

now available in most of the ATMs²¹ in the country). The decision to offer withdrawals exclusively at ATMs was later changed when withdrawals from CBs were permitted to respond to the needs of the Familias en Acción program.

3.2 How can mobile banking be achieved with no fees?

To offer a product at the lowest possible cost (even free) for clients, an ecosystem was designed in which the parties who initiated or received a payment were the ones who obtained tangible benefits and would be willing to pay to access the platform (either to disburse mass payments or to collect them). Typical large-scale payers such as the government, corporations paying their employees, or persons sending remittances abroad could cover the cost of the commissions needed to make payments more efficiently. In addition, entities with a need to collect payments, such as the government for licenses, services, or taxes, or utility companies that have high costs for collecting cash payment for their bills, should be willing to pay for a service that would facilitate payment by a large segment of the country's population that does not use banks. In both cases, income could be derived from commissions for each payment and/or revenue from the float²² (financial flows in transit would be significant) or through service charges on the savings accounts of the bank's clients, who would receive or make payments without using checks or cash.

In any case, to keep the mobile wallet free for clients, it was necessary to also focus on minimizing operating costs more broadly. This required not only a service model centered on the mobile, but minimizing trips to branches and incentivizing transactions with digital money as opposed to cash. Initially, there were no provisions for cash deposits, e.g., no "cash in" was allowed, and withdrawals were permitted only from the bank's ATMs. Money transfers to DaviPlata wallets originated primarily from Banco Davivienda accounts. The ecosystem was expected to generate incentives to make payments to other DaviPlatas (person-to-person [P2P]), to Davivienda accounts, or to make transfers to corporations with which the bank had collection agreements, thus minimizing the use of cash.

To provide firm support for this model, Davivienda became the first bank to offer cardless withdrawals from ATMs, for which it worked with Redeban (the payment switch that also operates the mobile banking platform, as will be seen in the next section),²³ a solution based on a personal identification number (PIN) generated by users when requesting access to their funds.

²¹ The unification of providers of ATMs accomplished by Davivienda a few years earlier enabled it to introduce this change much more rapidly than the country's other banks.

²² Historically in Colombia companies pay their collection commitments through an agreement with a collecting bank or banks in which they keep collected funds for a certain number of days without using them. The banks get their income from daily investment of the collected funds in the interbank market.

²³ Redeban Multicolor is the transaction switch used by 16 entities in the financial sector. It has been operational for more than 20 years and routes transactions from ATMs and point-of-sale (POS) terminals. Since 1993 it has been a member and issuer of the MasterCard franchise, and since 2012 it has also been a member of Visa International. It manages a network of more than 150,000 affiliated establishments that accept its debit and credit cards as a means of payment and more than 58,000 that have data phones for their sales.

The second element needed to support the business model was to create an effective ecosystem, for which the operation’s scale was important. Initial efforts were therefore aimed at massive enrollment campaigns, including the strategy that subsequently led Davivienda to submit a proposal in the competitive bidding for making the CCT payments of the Familias en Acción program.

Aware of the challenges posed by this model, the bank designated an initial budget of US\$25.4 million to design and support the cost of launching and first stage (18 months) of implementation of this totally new product in the market, with a target of achieving 500,000 active DaviPlatas by the fifth year. The client target was reached in 12 months, more rapidly than expected, but implementation of the model required significant adjustments because some of the assumptions on which the model was based encountered challenges, as explained in following sections.

3.3 Major challenges arising from technology platform

Since 2007, Redeban²⁴ offered banks a mobile banking platform based on the STK technology. Redeban had an agreement with all mobile operators (MOs) that enabled it to include a Redeban application in every SIM. Thus, the Redeban mobile banking service was available on the menu of all SIM cards. Redeban’s platform (provided by Gemalto) connected any institution in the banking system with the three MOs active in Colombia: Claro, Movistar, and Tigo. In 2011, when DaviPlata was launched, eight banks were using the service, accounting for a total of 3 million transactions per month, according to Redeban. Claro,²⁵ the Colombian affiliate of América Móvil, was the MO with the largest market share (see Table 3). Although the platform was available to handle products aimed at the base of the income pyramid, no financial entity was using it to sign up new clients; it was used only to facilitate additional service to its traditional clients.

Table 3: Share of the MO market

PROVIDER	2010-1T	2012-4T	2014-1T
CLARO	66,87%	61,90%	56,61%
MOVISTAR	22,14%	23,85%	23,97%
TIGO	11,00%	13,48%	15,42%
OTHERS	0.00%	0.77%	3.99%
Source: CRC			

Redeban’s platform was the only one available at the time, and there was a price agreement with the MOs in force until 2014. After the bank analyzed the risk and availability of service, possible telephone devices, and types of plans that potential clients had, it decided to

choose the STK technology that had already been proven. Redeban, as a transaction network and platform operator, had negotiated directly with two of the principal mobile operators (Claro and Tigo) the rate of US\$0.035 per financial transaction (i.e., regardless of the actual messages required to execute any given transaction). The market share of these two operators was

²⁴ In 2007 Redeban launched the mobile banking solution, which permitted bank account transactions from mobile phones, supported by a platform from Gemalto.

²⁵ In June 2012 the América Móvil group announced the combination of the COMCEL and TELMEX brands into CLARO, with which it is currently operating.

significant, encompassing about 78 percent²⁶ of cell phones under these price terms.²⁷ Later we will consider the operational consequences of this decision and the implications on the business model at the expiration of the initial price agreement.

Box 3. DaviPlata had to get a new language for transactions

Withdrawal =>	“Get money”
Transfer =>	“Pay money”
Balance inquiry =>	“How much do I have?”

The basic requirement of a user-friendly, simple language for DaviPlata’s clients presented an initial problem with the technology, because the menu for accessing mobile banking operations came recorded on the SIM cards with uniform technology, with

what was called a “static menu.” The change in terminology that DaviPlata needed (see Box 3) required a technological development in Redeban and the MO to incorporate the simpler technology, called the “dynamic menu,” which allowed Davivienda to determine the actual language needed for every transaction made. Everytime a customer began using the service, the MO’s platform would go to Redeban to find out what information should be shown on the user’s cell phone screen without making changes to the SIM card. At that time, it was clear that the menu change would require a longer time and greater number of SMS for each transaction, but for DaviPlata, it was essential to ensure a language that clients could easily understand. These changes meant a major increase in the number of messages required for each transaction, which tripled from an average of six to an average of between 17 and 21 per financial transaction, depending on the amount of information shown to the user. This led to subsequent significant debate because the increase in the number of actual messages implied a higher cost for the MO under same price agreement.

3.4 Regulation was inadequate; what could be done?

Initially, the nature of the product raised questions for the regulators. At that time there were already regulations that permitted signing up clients with a simplified procedure, but such regulations were for savings accounts, which created a complex and unnecessary burden for Davivienda. The bank insisted that DaviPlata was a “wallet,” and that as a transfer service it was going to have users (not clients) who would use it to send and receive money among clients of Davivienda. Regulations for electronic savings accounts limited the market to specific beneficiaries (population identified as in poverty by the register known as SISBEN 1), which limited the potential of the market.²⁸

²⁶ According to data published by Mintic, in the fourth quarter of 2010 Claro had 66 percent of the market, Movistar 22 percent, and Tigo 12 percent.

²⁷ Initially Movistar could not use the dynamic menu; this was possible only later after updates in the platform.

²⁸ Law 1151 and external circular 021 of 2007 sought to make savings instruments available to the low-income population. They created the small savings accounts, which subsequently evolved into electronic savings accounts (Decree 4590 of 2008 and Decree 1349 of 2009), that have these principal characteristics: monthly deposits and debits of up to 2 SMLV (current minimum legal wage) (US\$628), maximum balance 3 SMLV (US\$942), one account per person in the financial system, two transactions and one inquiry without charge,

It could not be a savings account; so then what was it?

Davivienda launched DaviPlata at the start of 2011, handling it as a “transfer service,”²⁹ ensuring control of the origin of funds because of the limit imposed at the start that the wallet could be loaded only with contributions from someone who was already a bank client. This arrangement had other advantages for the bank: owners would not be clients but users, so they would have conditions of use but would not be required to sign a service contract, facilitating over-the-air (OTA) opening of accounts; and it would require simpler forms and reports to the Financial Superintendency of Colombia (SFC), which would lower costs and facilitate operations by making it unnecessary to file typical reports that require information on accounts opened and balances by geographical region of the country, which is inapplicable given the notion of a mobile wallet.

This interpretation was originally accepted by the Ministry of the Treasury and SFC, enabling Davivienda to launch the project on the market, as it was consistent with the government’s desire to support financial inclusion and because the model on which it was based adequately addressed the risks: the mobile banking technology based on STK would reduce the operational risks, and money laundering would be prevented by permitting only deposits of resources that were already within the financial system, with transaction limits equal to or below those permitted by the simplified regulations.

When DaviPlata was already in the market, and considering that it had experienced substantial growth with nearly 500,000 clients by December 2011, the need for greater regulatory control over the product led the Ministry of the Treasury to define a new type of deposit account called “electronic deposit.”³⁰ The regulation introduced several important changes: it differs from a savings account but is recognized as a deposit, so it is covered by deposit insurance; although its owners should be considered clients and not users, the know-your-client requirements are simplified, taking into account that use is limited by the amounts permitted to be transferred in the account (see Box 4); and the use of only a channel such as the cell phone is permitted.

exempt from service charge and the tax on financial movements (4 per 1,000), exempt from required investments for financial entities, and must pay interest.

²⁹ Authorized to credit establishments by Basic Legal Circular, section 5 of Chapter XI of Title 1.

³⁰ Decree 4687 of 2011. As a banking product that permits storage of small amounts of assets and at the same time takes advantage of the ubiquity of mobile channels (cell phones) to achieve national coverage.

Box 4: Authorization of Electronic Deposits

Authorization of Electronic Deposit made the transition from “users to clients” under a new regulatory and supervisory arrangement

- For individuals and corporations
- Maximum withdrawals or debits of 2 SMLV per month (US\$628) and balance under US\$958.
- Channels: defined by the financial entity, which may restrict them to the mobile channel.
- Means: permitted to make payments, transfers, and withdrawals.
 - It can be linked to one or more media and incorporate the concept of prepaid card that can be redeemed for goods (electronic deposit transaction).
- Rate of interest: can be paid but is not required.
- Exempt from the tax on financial transactions (4/1000).
- Deposits insured by Fogafin.
- The FSC requires only simplified reports.
- Deposit can be unilaterally cancelled if unfunded for more than three months.
- Can be unilaterally closed if there is no balance for more than three months.

This regulatory framework established the characteristics under which DaviPlata could function at that time. As of the publication of this report, it is the only electronic deposit system on the market, because three other entities that have developed products for the base of the pyramid have decided to offer savings accounts with simplified know-your-client processes, even though in one case the only vehicle is a cell phone.³¹

4. Inauguration and First Challenges

4.1 Alternative strategies to recruit clients to generate scale

One of the greatest challenges for the DaviPlata team was to achieve, in a very short time, a critical mass of clients that would stimulate the ecosystem of electronic transactions to make the business model viable. The tests for massive activation taught many lessons, not only for DaviPlata but also for the other stakeholders in the process, such as Redeban and the MOs. The high volume of concurrent transactions, which had not been foreseen in any of the projected scenarios, caused problems in the system, delays in the service, and congestion in the service channels not only of DaviPlata, but in general the mobile banking service of all banks connected to this platform. This pointed out the need to make major investments in technological infrastructure to increase operating capacity in the entire value chain and to coordinate with all parties before each event to ensure that each one is operationally ready.

³¹ It is, however, the same recruitment instrument that was authorized for new operators by the Law for Financial Inclusion enacted in Colombia in October 2014, which established the legal form of Corporations Specializing in Electronic Deposits and Payments, and is similar to regulations on electronic money issued in other countries, with the difference that in this case, as already mentioned, it is recognized as a deposit and therefore is covered by deposit insurance.

Various examples during the first two years were landmarks for the DaviPlata team and taught great lessons from which experience was gained for bidding for payments of Familias en Acción at the end of 2012.

“The failure in the enrollment of the bank’s employees was the first important lesson that showed that the process was not going to be technologically simple. The dream of virtual money was in practice more difficult than we imagined.”

Juan Carlos Rojas
Former Vice President of DaviPlata

The first massive activation was programmed, as usually done in the bank when launching new products, with its nearly 11,000 employees at the national level in a virtual meeting, chaired by the president. Unfortunately, due to technical glitches, the prevailing response through the launch was a constant message “service unavailable.” Despite these

problems, it was possible to activate about 1,000 DaviPlatas, but the test was important for identifying opportunities for improvement and testing the platform in a massive manner.

Once the technical glitch was fixed, employees began to activate the product on their own. The process proved that enrollment was easy and had a potentially viral effect. The bank currently pays about 70 percent of its employees (on a voluntary basis) a percentage of their salary through DaviPlata.

A second event that provided important lessons was the bank’s participation in April 2011 in the second version of the Expofamilia fair, in which Davivienda drove a broad offering of financing products for homes and housing accessories, and in which its first version received more than 88,000 inquiries in three days. The DaviPlata team, with great expectations, prepared a strategy to leverage this event for marketing and hired 220 agents to recruit clients for DaviPlata during the event. As an incentive, the new clients were given US\$0.50 that they could use in a special stand that simulated a DaviPlata payment ecosystem. Eleven thousand activations occurred during the event. However, the telecommunications infrastructure failed; many people were testing the service and were trying to conduct transactions at the same time, causing congestion in the mobile channel cells. The MO had not been notified that the event was going to take place. Had it been prepared, it would have arranged for special support and would have focused on analyzing the mobile banking platform’s capacity and the possibility of offering greater access to the channel, something that was corrected from that time on.

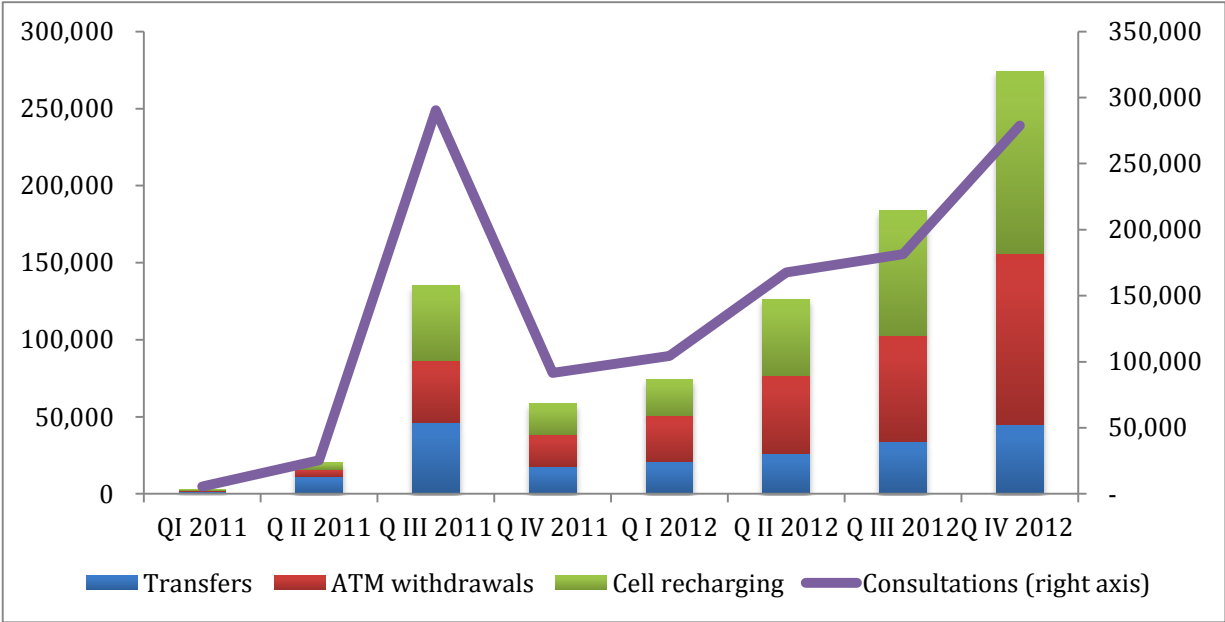
A third large-scale event took place during the Sub-20 world soccer championship in August 2011. The bank launched an advertising campaign during the games with a big marketing push, rewarding the activation of each account with US\$5 per wallet, which the new user could withdraw from any of the bank’s ATMs or use for available transactions. In the opinion of the DaviPlata team, the result was a “totally surprising, a colossal goal.” At first, everything seemed under control with activations not exceeding 5,000 per day. But as the promotion became more visible in the third week, for six consecutive days there were more than 40,000 activations per day, so that at the end of 20 days more than 350,000 DaviPlatas had been activated. The volume

of simultaneous SMS exceeded the response capacity of the Redeban platform. The same thing happened with Claro, where the capacity of the platform for mobile banking and the client service center was exceeded, also hurting the other entities using the same platform. One example is Tigo, which at that time had started selling SIMs in the coastal region, where it has the strongest market position.

Transactions for cash withdrawal and inquiries during the month of the world championship resulted in an atypical month in the history of DaviPlata transactions. The total number of transactions increased tenfold between July and August, from 32,000 to 321,000. Only 30 percent of the transactions in the month were ATM withdrawals, 37 percent used the deposit to recharge their cell phones for an average amount of US\$4.10, and 31 percent of the transactions were transfers between DaviPlatas or transfers from DaviPlata to a Davivienda account, reflecting the desire to access or use the incentive rather than to access a new payment means. (See Graph 1.)

The most important lesson for the DaviPlata team from the massive events was that the product did not require training and customers could learn to navigate and manage the product. Second, the team learned that the typical promotion campaigns for signing up clients could not be the same as those used for other traditional products in the bank, because they had to proactively plan and manage the potential consequences in the quality of service. Third, there had to be a coordinated action and contingency plans for events that concentrated the demand for the mobile channel in time or in space. And finally, creating the ecosystem for electronic transactions was in fact not going to be so easy because, although the deposits and wallets were easily activated, the challenge was to stimulate their use.

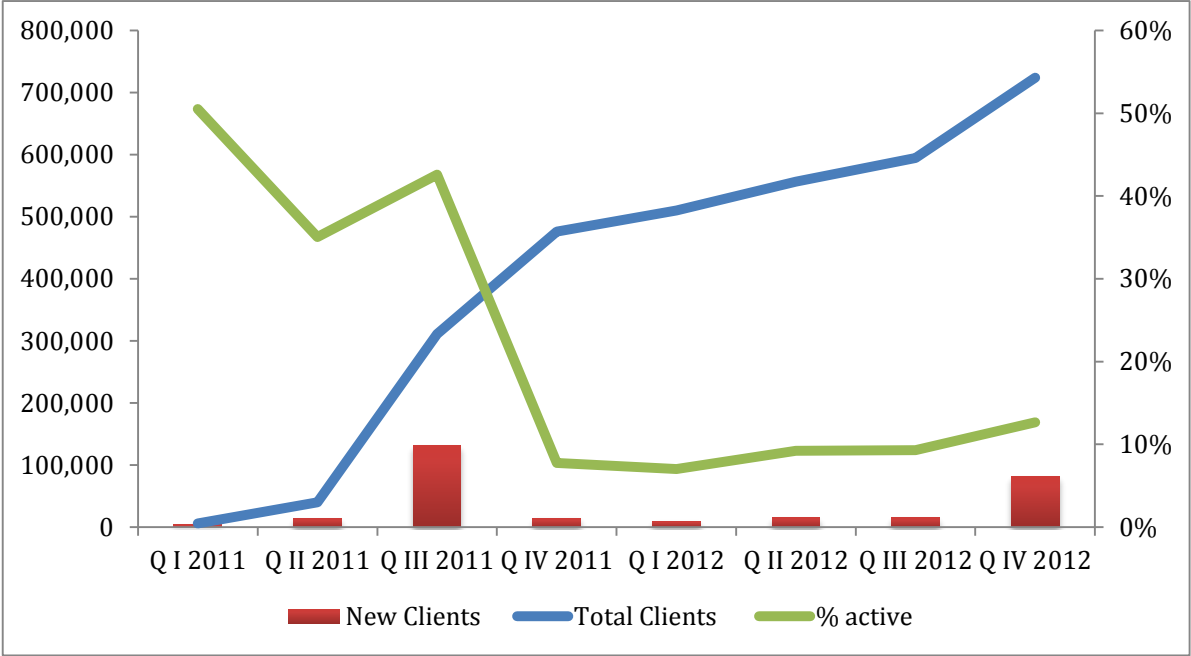
Graph 1: Type of Monthly Transactions Made with DaviPlata (2011–2012)



Source: DaviPlata

In the 15 months after the world championship, and before the next massive event that would be the connection of the beneficiaries of Familias en Acción, the growth in the number of users stabilized at an average of 3 percent per month, with between 8 percent and 12 percent of total clients considered active, defined as those who made transactions in the previous 30 days.

Graph 2: Active Clients in DaviPlata—Monthly Figures, 2011–November 2012



Note: % of activity is the % of clients with transactions in the month. Source: DaviPlata

In addition to the massive events intended to achieve scale rapidly, Davivienda considered from the start that DaviPlata could be well-positioned to serve payrolls and government programs. In fact, the product was widely accepted in the construction, agricultural, and utility sectors for payment of workers. In the government the greatest interest came from the army, because DaviPlata offered the possibility of paying soldiers’ salaries wherever they might be (even the forest), because they could transfer their pay to their families (to an account or to another DaviPlata) so that they could get the cash from a teller machine. The product was also widely accepted for paying temporary agricultural workers, eliminating the need for rural business owners to travel with large sums of money each week to pay wages in the field.

With respect to government social payments, the first experience was with subsidies that the City of Bogotá had to pay urgently as a result of flooding that affected families in certain areas of the city during winter 2011. That payment, structured as a single payment, demonstrated again the ease of activation because it did not have to be done in person, requiring an agent only at the moment of payment to facilitate the withdrawal of the cash and supplement the ATMs.

The strategy based on easy activations, focused largely on mass disbursements, became increasingly successful. The number of transfers from an account to DaviPlata wallets, and the number of mass disbursements (often from a single payer), as of March 2013, one month before

the program started paying the Familias en Acción subsidies, averaged about 25,000 recipients per month, with an average amount of US\$160 per transaction in the case of disbursements and US\$86 for transfers. By the beginning of 2014 this segment served about 88,000 employees who received their salary through a DaviPlata.

4.2 The challenges to stabilize the platform

Having implemented the DaviPlata product on the Redeban platform facilitated the operational and technological path for DaviPlata. However, the massive sign-ups demonstrated that the DaviPlata, Claro, and Redeban platforms were inadequate and could not handle the volume of simultaneous operations that could be generated by a new financial product of massive nature. For the MOs, the accelerated growth of DaviPlata began to impact each of their operations, creating interruptions and poor quality in the mobile banking service they provided. In Banco Davivienda, there were increasingly longer delays in bookkeeping because of the processing time needed by Redeban. When DaviPlata was created, it was impossible to predict the explosion in the number of clients, and therefore the speed with which the product would require a technological platform larger than what Redeban and the MOs had available to serve all banks. Making large investments in the technology platform and cellular operator network to increase capacity without a clear prospect of growth curve and volumes would have involved important capital investments with negative impact in the business at the stage of launch. But after six months, the volume of more than 500,000 clients made it clear that the capacity of the platform of all the companies was limited. The agreements for coordination for massive events that were made by all the stakeholders presumed that they could still support a higher number of transactions and that the expansion of the platforms would not need to happen immediately. In fact, this was done only later with the entry of the FA contract. Redeban was the first to invest in separating the operating environments, handling DaviPlata separately from the rest of the mobile banking services that it offered. In the case of Claro, the massive sign-ups led primarily to problems with congestion in the mobile banking service, which prompted investments to expand the capacity of the technological platform with Gemalto, in an agreement with DaviPlata to optimize the service to improve the client's experience and reduce the high consumption of SMS of the transactions designed by DaviPlata and Redeban. The development of the mobile wallet also showed the need to coordinate the execution of massive events among the three stakeholders, providing temporary expansion of service in a specific location.

5. The Payments of Mas Familias en Acción

Various factors prompted Davivienda to submit a bid for the FA payments, despite it being a very risky decision at the time (October 2012).

DPS wanted to unify under a single contract the payments for different programs it administered, to get better terms of quality and price. Davivienda was certain that its DaviPlata product could be an alternative to make the FA payments, because it had already been tested in the payment

of the subsidies of the FOPAE program³² and because there had also been a pilot of mobile payments for beneficiaries of the FA program (see Box 5).

Davivienda had to address various challenges to execute a contract the size of the FA payments: the first was its limited coverage, because at that time it only had offices in 181 of the country's municipalities (in which there was generally at least an ATM) and it had not developed a CB network (Davivienda intended to develop a model of specialized CB); nor did it have experience in setting up the logistics and operations needed to make massive payments of the size of FA, which made it necessary to strengthen the operations and risk areas, expanding the staff then assigned to DaviPlata.

As previously noted, the competitive bidding announced by DPS sorted the country's 1,102 municipalities into three groups with similar characteristics in terms of number of families to be paid and number of municipalities. Therefore, to participate in all or one of them Davivienda had to put together a "shock" strategy so that if it got the contract it could provide the necessary coverage within three months to make the first payment. The best way to get the necessary coverage was to tap into an existing payment network and use it to develop a CB network. To do this, the bank signed an agreement with Conexred, one of the country's largest networks for electronic airtime resale, which had been in operation since 2004 and at the time had a presence in almost all the municipalities in the country, making about 300 million transactions per year. Conexred offered to become an exclusive CB of DaviPlata, providing 40,000 points at the national level.

³² The Fondo de Atención y Prevención de Emergencias (Fund for Care and Prevention of Emergencies) (FOPAE) is a program for financing and coordination for the prevention of emergencies in Bogotá, through which 10,000 payments were made to victims of climate events.

Box 5: A pilot that established the bases for a new stage of subsidy payments

As preparation for the second bidding for FA payments, at the start of 2011 DPS invited the financial sector to execute a pilot to make two subsidy payments, using products associated with mobile banking. The payments would be consecutive and would be made in any of the 28 proposed municipalities, with the potential of enrolling a total of 30,000 mothers who for different reasons had not established accounts with Banco Agrario. The purpose was to test not only the product but the acceptance of the technology by the beneficiary mothers within the program and the payment banks. The only requirement was that the product could retain value, be used to pay stores and utilities, have sites for disbursement of cash in each municipality, and offer users, without cost, at least two withdrawals and one balance inquiry per month.

Banco Davivienda was one of the four banks participating along with Banco Agrario, AV VILLAS, and Banco Popular. The pilot taught many lessons about the dynamics, variety of telephones and SIM, material and language required for opening the accounts, payment, and use of the product.³³ In total 9,202 mothers signed up, of which Davivienda, participating in six municipalities, enrolled 2,937 (40 percent of the total mothers invited in its municipalities). The agreement for payments was extended from two to three payments.

In these pilots Davivienda found that 95 percent of the mothers withdrew their money, 25 percent of the transactions were airtime top-ups, and only 1 percent were transfers. The high percentage of withdrawals was not surprising in view of the pattern noted in the savings accounts with which the other transfers were paid, and did not differ from the behavior of the mothers using the mobile savings accounts offered by the other participating banks. Although the idea was for the mothers to open their accounts without advisers from Davivienda, this was more complex because of the diversity of cell phone models used, among other reasons.

Extensive logistics support was needed for the pilots. In the small municipalities every ATM was supported by three agents seeking to facilitate withdrawals, with more than one person per beneficiary assisting. However, at the end of the pilots, the conclusion was that this logistic support was not scalable because of its cost, and was not necessary in larger cities with more ATMs, which made it possible to spread out the withdrawals without forming lines. It was also discovered that the need to withdraw money brought the need to understand and learn how to use an ATM, and the importance of the children as a way of grasping the technology more quickly.

There were lessons in handling communication, both in the enrollment and training for the client service in the call center, which led subsequently in the contract with FA to hiring persons from different regions to support the activities and local events in each municipality.

³³ To facilitate activation Davivienda made a video on the low-income segment that was revised and improved with visual support as can be seen at https://DaviPlata.com/activese.php?gclid=CJeKxtbIrMECFI_m7AodVVgABQ

The complexity of the task prompted them to bid for only one of the groups, which it won with a commission of US\$3.05 for each payment and the same commission for each enrollment. That commission was US\$0.005 below the maximum rate established by DPS³³ and offered by Banco Agrario, the other bank that was bidding and won the other two groups offering the maximum rate.³⁴ The group awarded to Davivienda included paying one-third of the subsidies in the five

³³ The maximum defined by DPS in the bidding documents for the reverse auction for each payment was COP\$6,000. Davivienda offered COP\$5,990 plus VAT for each payment, and COP\$6,000 plus VAT for each enrollment.

³⁴ Banco Agrario won the contracts for payments in the other two groups. In 735 municipalities it was responsible for 1,834,000 payments, for which it proposed to use an electronic savings account that it had

main cities and the rest in 363 other municipalities. When the bidding process started, Davivienda had coverage with its own channels in 64 of these municipalities, which enabled its ATM infrastructure to cover 46 percent of the payments requested.

The group awarded to DaviPlata had another peculiarity in the size of the municipalities, because 88 percent of them had fewer than 50,000 inhabitants. At the time of the bidding Davivienda had coverage with branches and ATMs in 33 of the 326 municipalities with fewer than 50,000 inhabitants included, in which it had to make 54 percent of 989,249 required payments. Conexred therefore became an appropriate strategic partner to support the coverage required to make the payments and ensure meeting the requirements of the bid.

Kicking off the payments of FA, the program faced fresh, new challenges.

Table 4: Coverage of Davivienda in municipalities in Group 2

Population	Total Municipalities	Number of payments	Davivienda presence with branches and ATMs	Presence to be met with CBs
0–10,000	131	94,827	0	131
10,001–50,000	195	437,315	33	162
50,001–100,000	21	100,113	12	9
100,000+	21	356,994	19	2
Total	368	989,249	64	304

Source: Author calculations with information from the SFC and DPS bidding folders.

Note: There is a presumption that each branch has at least one ATM. Coverage data is that published by SFC for June 2012.

5.1 First challenge: Expanding the “cash-out” network and adjusting the operating structure to support the new contract³⁵

Although the business model was based on withdrawals being made primarily at the bank’s own ATM network, the awarding of the FA required it not only to expand its presence in municipalities where it had none, but also to expand the network in cities to improve capillarity and presence in areas of the cities where there were no nearby ATMs. Conexred offered a great advantage, because it had extensive experience in handling and transporting cash, which was one of the other main problems for making the payments. It was considered technologically and operationally ready, because it was paying 350,000 pensions of the Fondo Prosperar (subsidies for older adults), serving 300 persons per point in 500 points established around the country, with an average bimonthly payment of US\$70. For Conexred the contract was advantageous

implemented in the previous contract; in the interview with DPS the bank said it already had established a banking relationship with 60 percent of the mothers that it would be paying.

³⁵ Information on the network was supplied directly by Conexred.

because it was essentially a collecting network, and the payment of subsidies represented an opportunity to reduce its costs by compensating the flows at the last mile, without the need to collect cash as often, permitting each shopkeeper to release his “quota” as payments were made.³⁶

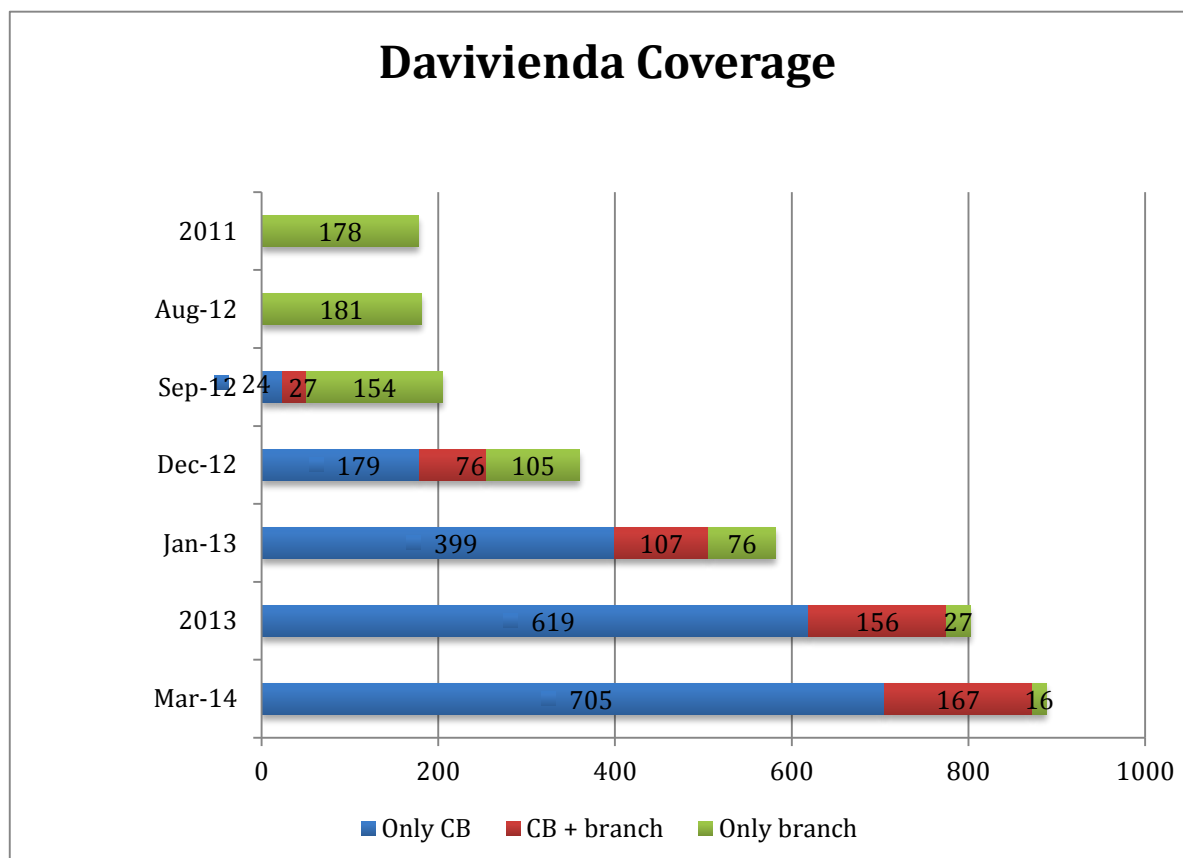
After the DPS contract was awarded, bank staff started to check the Conexred points and found that only 86 municipalities had access points qualifying as CBs to make FA payments, given their security infrastructure and location,³⁷ among other characteristics. This situation called for a quick search for new points in a number of zones (especially in lower Cauca and the south of Bolívar), for which they had to rely on the bank’s own network. In three months, the points had to be connected, trained, and provided with the equipment needed to make the payments. This made it necessary to resolve several issues: (i) convince the potential access points to become CBs of Davivienda and accept the commission offered per payment, which would justify the potential build-up of customer lines, congestion in their stores, and the greater risks given the volume of cash to be handled; (ii) ensure that they met credit risk conditions and regulations of SARLAFT (the money laundering and financial terrorism risk management system); (iii) give them the necessary equipment, because while they need only a POS or cell phone to do charges, to make FA payments they had to have initially a computer and barcode reader, and later a printer. Conexred and Davivienda shared equally the cost of the initial equipment. Conexred took responsibility for ensuring proper cash availability at each access point, either by taking cash directly to the point or ensuring that each CB could withdraw it from the bank’s branches before the payment.

The network of CBs gradually expanded until by June 2014 there were 5,400 points of which 724 were used in that month for payment of FA subsidies. The bank’s expansion in coverage of municipalities was impressive, as can be seen in Graph 3. In something less than a year-and-a-half, Davivienda multiplied its presence to 710 municipalities (five times the initial coverage), and in two years it multiplied the contact points (including branches and ATMs) 3.6 times. However, the CB network is used primarily by DaviPlata for FA payments and the bank, which has used it for some collection agreements, is starting to link the network to its traditional operations.

³⁶ The cost of CCTs in the correspondent bank model of Conexred is important, because each of the shopkeepers receives or buys in advance a quota that it can handle (based on a risk evaluation), which is released as deposits are made or money is collected.

³⁷ Conexred classifies the points as “standard” (those that handle traditional products such as recharges and PINs); “plus” (those that handle traditional products and collections); and “gold” (those that handle traditional products plus collections and payments), which are the only ones that make the FA payments.

Graph 3: Davivienda's coverage by municipalities



Source: SFC and Banca de las Oportunidades

Table 5: Davivienda's contact points

	June 2012	Dec. 2012	June 2013	Dec. 2013	June 2014
Branches	565	572	569	577	558
ATMs	1,482	1,524	1,563	1,581	1,606
CBs	0	653	2,581	4,440	5,394
Total	2,047	2,749	4,713	6,598	7,558

In spite of this success, experience showed that the effort of mobilizing cash was much harder than initially envisioned. The volume of the FA payments and their bimonthly frequency made it essential to deliver cash to the CBs to make the payments. In practice, Conexred failed to collect cash in some locations but had to take cash to all the correspondents that made FA payments on the days the subsidies were paid (an operation that could take from a week to 20 days, depending on the municipality). To do this, it designed and implemented various alternative schemes for transporting cash. So far the mechanism has worked with few glitches; on average there are 16,000 payments per day on the payment days, and DaviPlata uses the CB channel to pay about 55 percent of the FA subsidies.³⁸ It has also tried to improve organization of the demand for cash by sending messages to the beneficiary mothers on payment days indicating the precise point where it is recommended they make the withdrawal. Despite this information, the beneficiaries sometimes opt to go to an ATM or CB other than the one suggested.



Correspondent El Maná Melgar-Tolima

All this required Conexred to make several adaptations: it had to increase the quotas per payment point (which added risk),³⁹ expand the fleet of moto taxis it used to collect and deliver cash, adjust the charges of coordinators, and reach new departments and zones, especially in Antioquia and the south of Bolívar.

Banco Davivienda also had to make adjustments to make the remaining 45 percent of the payments. First, it had to strengthen its operation, simulating the structure of a branch supported in independent areas of risk, operations, technology, auditing, and security, and triple the team in charge of DaviPlata, which in June 2014 was 114 persons.

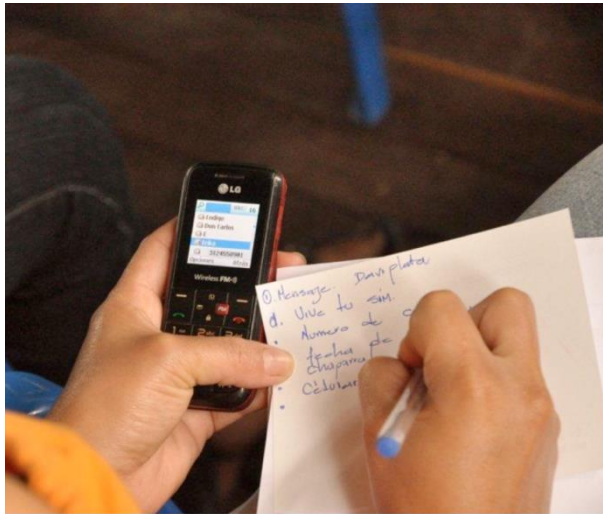
5.2 Second challenge: Massive sign-ups

The process enrolling beneficiary mothers envisioned by DaviPlata with virtual registration, following audiovisual support available in each municipality and viral dissemination thanks to the support of the leader mothers, was combined with agreement with DPS with sign-ups at massive events, individually or in fairs shared with Banco Agrario (in cities), taking advantage of registrations in the program at the municipal level.

³⁸ Percentage estimated based on the number of withdrawals made from CB versus ATMs in the eighth payment.

³⁹ On average the amount of money with which each point began the day had to be adjusted to US\$5,100 in cash and the balance at the end of the day could not exceed US\$2,500. The average amount of the transactions also increased: before the FA contract it was US\$45 and with FA it became US\$53.

Although having participated in the pilot taught valuable lessons in terms of massive enrollment, the logistics necessary to achieve it were costly; it was necessary to provide a team of collaborators and logistical conditions/space for serving the volume of mothers invited. Sometimes only a small fraction of those invited actually signed up for the program. The turnout improved, however, when the process of opening DaviPlata was done right after enrollment in the program and even more so when DaviPlata was programmed at the time of the subsidy payment.

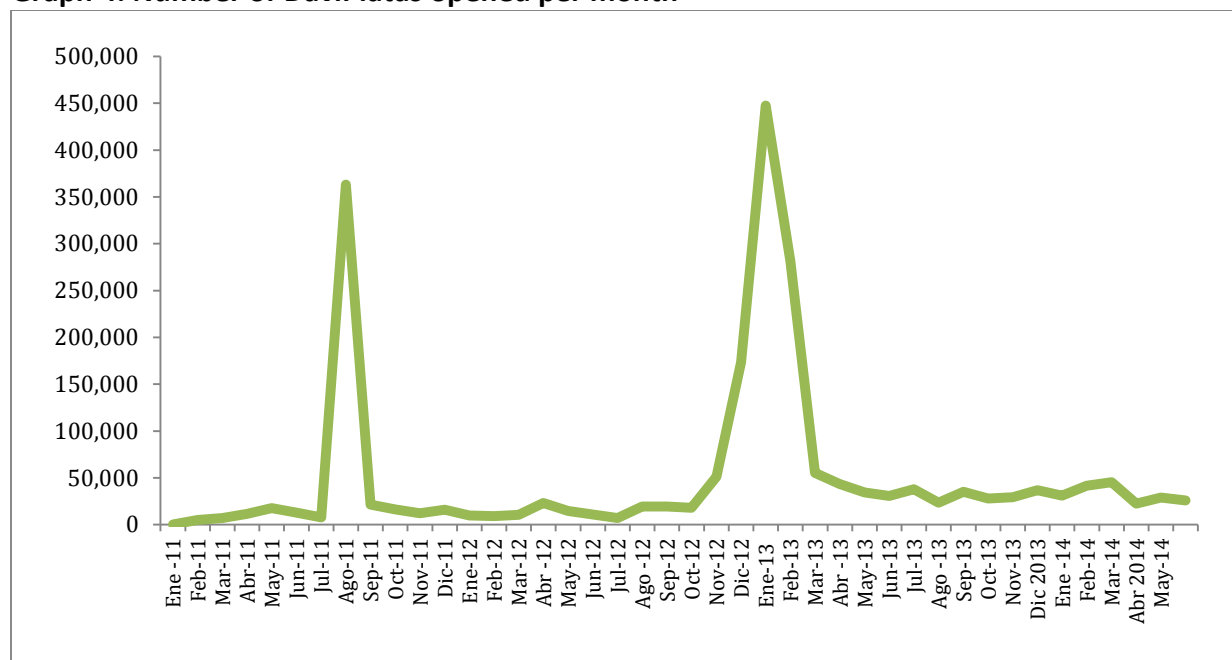


DaviPlata tried to use the contact information supplied by DPS to send SMS with information before the invitation and make the process more efficient, but there were problems. Many of these messages were never received because the contact information was not current or simply because, as is often the case with this population group, the cell phone numbers are

constantly changing, which had an impact on the time, cost, and fluidity of the invitations. The process relied more successfully on ease of communication through the program structure, in which two key links were found: the “municipal liaison” (the person designated by the mayor in each municipality in the program) and the “leader mothers” (those who over the years have been chosen by the beneficiaries as their representatives to the program). The liaison came to be the vehicle for communication between the program at the national level and the leader mothers, who represented on average 50 beneficiary mothers, an excellent contact with the final beneficiaries.

The massive number of invitations caused problems from a technological standpoint, because the concentrated demand exceeded infrastructure of the mobile banking service of the MOs (especially that of the principal operator, because it experienced special impact) and clogged Redeban’s capacity to respond. Even when the program sought more coordination and requested authorization from DPS to make payments progressively according to the cell phone number and not simultaneously in the various departments, it was necessary to expand the processing capacity of the technological platform and coordinate the payment events with the principal cell phone operator. In other cases, signal variability/deficiency led to incomplete registrations. Efforts to do the enrollment after the events made it possible to enroll 95 percent of the beneficiaries. Some of the mothers failed to open the product and are now among the 5 percent of the total payments in May 2014 that have to be made by check.

Graph 4: Number of DaviPlatas opened per month



Source: DaviPlata.

Note: The number of connections to Familias en Acción is calculated as 100 percent of the openings of DaviPlatas in the months of December 2012 to February 2013.

The largest sign-up effort was done in three months, between December 2012 and February 2013, in which 902,000 wallets were opened. In March the remaining ones were opened for a total of 905,815, equivalent to 92 percent of total called for in the contract.⁴⁰ In the following months the total reached 937,485, equivalent to 94 percent. The enrollment of FA represented the largest growth in new clients for DaviPlata in a short period, comparable only to the campaign during the world soccer championship in August 2011.

Although in the first quarter of 2013 FA beneficiaries accounted for 57 percent of the total of DaviPlatas, thanks to opening accounts for other clients that percentage has decreased and in May 2014 those beneficiaries represent 44 percent of the total.

⁴⁰ The bidding documents included a total of 920,000 families in Group 2; subsequently the number of enrollments increased to 988,000.



Beneficiarias de FA Melgar Tolima

The range of account openings expected per municipality varied from Tarairá, where it was necessary to sign only up to 60, to Cúcuta, where the number was 53,813 mothers; the average number of mothers to be enrolled per municipality was 2,692. A total of 44 municipalities had fewer than 500 mothers, while in 16 municipalities the number was greater than 10,000. The result was highly satisfactory, because on average 96 percent of the beneficiaries per municipality were signed up, and in no municipality was the enrollment rate less than 50

percent; the rate was greater than 90 percent in 338 municipalities.

Although most of the sign-ups occurred during the massive events, a number of them were done by people on their own. For example, in the first events 90 percent of the invitees opened accounts at the mass meetings, but in the last meetings only 60 percent did it with assistance and the rest did it on their own, demonstrating to some extent that there was a “viral effect” on enrollment.

For the DPS the product was not new, because it had been used for payments in the Jóvenes en Acción (Youth in Action) program, in which the younger age of the beneficiaries had permitted rapid opening of accounts and understanding the benefits of DaviPlata. However, in the case of FA, as mentioned there was a pilot test with successes and lessons, so there was expectation for the reaction and acceptance by the mothers of the new payment product and the bank’s response to the operating process on a massive scale. In the implementation stage there were all kinds of reactions, and it was especially difficult in the case of elderly and illiterate mothers. In the case of indigenous mothers, they did not want to register because the process required agreement to become a customer of the bank, and there is a general cultural rejection of inclusion in the banking system.

For DPS the change of the product from a savings account to a mobile wallet represented more internal work for the program. Given the novelty of the product, and despite the service channels set up by DaviPlata, there were many complaints channeled through the program’s call center and the municipal liaison. In general, the subjects requiring attention by the operations area involved the number of the cell phone to which the deposit was made, which frequently changed. Over time, the topics were similar to the calls about payments with debit cards available in the savings accounts.

Box 6: What do the beneficiaries think?

Opinions of the beneficiary mothers

“I like it because I can come on the day I want at the time I want.”

“I asked my sister to help, and since she put in the SIM for me, I learned how to do it.”

“It’s as easy as the account at the Banco Agrario.”

“I’ve been in the program for four years; we like it, it’s better because the card is blocked sometimes and you have to call.”

“Sometimes when they send money to my brothers or my mom, now they do it there.”

“I’ve had no problems. I don’t take it all because I leave the part I don’t want to spend.”

“For senior citizens it’s hard, but I help my mother.”

“One goes, and if you want to keep it, you do.”

“I like DaviPlata because it’s free.”

“I recharge minutes for my sister, because she’s on a small farm and it’s hard for her.”

“Other moms have told me this service is *sensational*.”

Mothers interviewed in Melgar, Cundinamarca

Adjustments were also needed to the call center. When DaviPlata was created it had a dedicated call center, separate from Davivienda’s client service call center. The DaviPlata call center started with 30 advisers who handled 3,000 to 4,000 calls per month. Another 30 advisers were added when the Giros al Gratín (transfers au gratin) campaign (which consisted of placing the transfers that could be made without cost from one DaviPlata to another) was launched. For the FA contract it was expected that about 15 percent of the mothers would call—about 138,000 calls per month—assuming that the consultations could be staggered because the program had been authorized to schedule the payment days based on the beneficiaries’ cell phone numbers. With these estimates, the number of persons in the call center was increased to 300 in preparation for the first payment. Reality exceeded expectations; in January and February 2013, when 79 percent of all activations occurred, the call center handled 183,000 calls, 55 percent of which asked for information about the product and 42 percent were requests for service. The most important calls concerned errors that beneficiaries saw on their cell phone screen, such as “bank account not registered” or errors in the consultation to the risk center when seeking to verify the user’s identity. Those related to technological problems were minimal: 1 percent of the total calls. Only 709 calls requested follow up, of which 33 were for opening accounts. Changing the password and changing the number accounted for 13 percent of all calls received.

Table 6: Reason for calls to the DaviPlata Call Center in the activation process, January-February 2013

Reason	Number	%
General information	100,234	54.5
Other reasons	4,090	2.2
Platform errors	866	0.5
Assistance	709	0.4
National payments	16	0.0
Service requests	77,972	42.4
News of DPS Familias en Acción		
Total calls	183,887	100.0

Source: DPS report on contract management

5.3 Third challenge: Organizing the payments

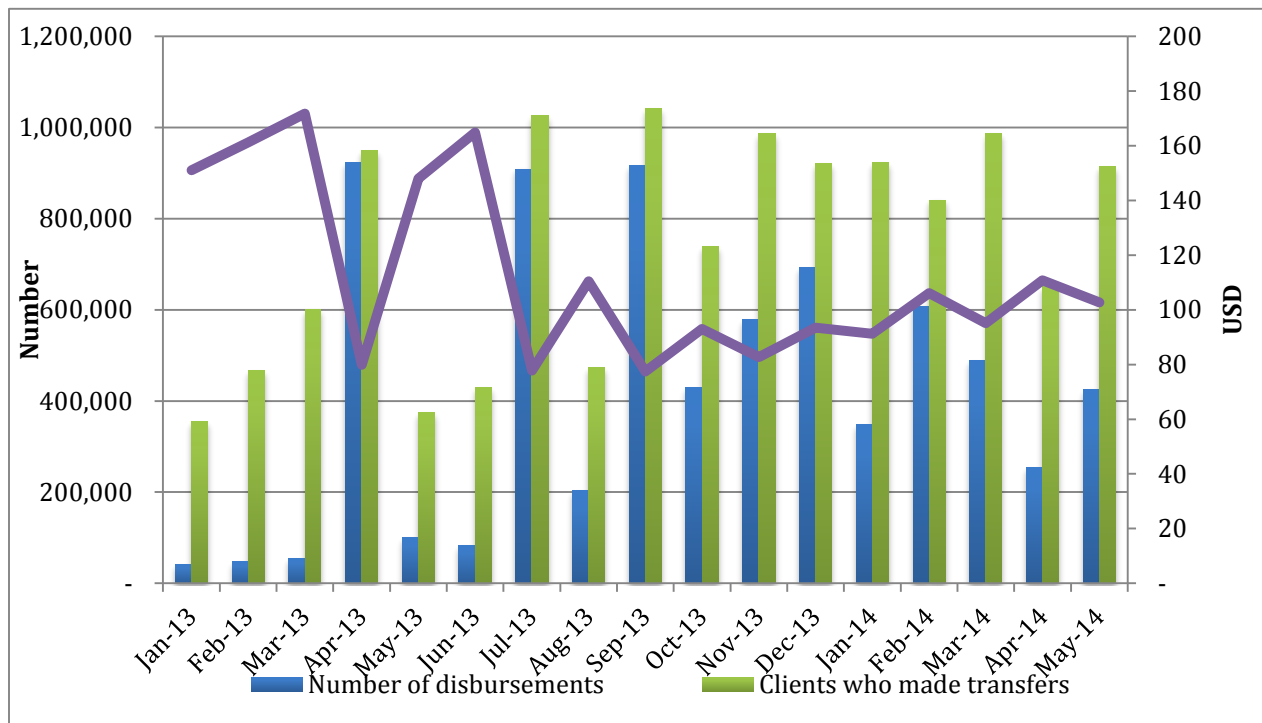
The first payment of subsidies occurred in April 2013, four months after the first accounts were opened. From the outset it was recognized that the most important advantage of using a cell phone for these payments was that it was a way to communicate with the mothers, thus making it very easy—with the updated numbers that in practice are their account number—to send information by SMS to all mothers to record the use of the product. As more payments have been made, the problems have been reduced, thanks not only to the mothers' greater trust in the payment instrument, but also to the strategies that had to be implemented in better communication tools to improve service at lower cost.

The first three payments were more complicated. There was a recurrence of the challenges faced during the earlier massive events, indicating that the model needed to be refined and that there needed to be greater coordination across all stakeholders (MOs, Redeban, and DaviPlata itself), because of the ongoing operational and technological restrictions from the massive and concentrated demand of a large number of payments. During the first payment, aspects such as the high demand placed on the operators' mobile banking platforms⁴¹ affected the technological platforms of Claro and Redeban for this service. For the former, clients made countless attempts to obtain balance inquiries at odd hours, requiring implementation of urgent action of information and training so these clients could better understand the process; for the latter, the avalanche of balance queries and OTP requests for withdrawals, up to several times by the same client,⁴² also caused problems with the mobile banking platform.

⁴¹ Includes not only sending the text message, but a platform that interacts securely with the SIM card according to bank security levels and regulations.

⁴² Redeban stores the data from each DaviPlata, and the balances are reported in a batch to the bank at the end of the day to permit closing the books.

Graph 5: Number of disbursements, active clients, and average value of disbursement, January 2013–May 2014



Note: Disbursements include payments made by FA, the average of 50,000 payroll payments, and payment of other marginal programs. Source: DaviPlata

The topic was complex, because when people had trouble communicating, they kept trying, exacerbating the congestion of the platforms, increasing the complaints at the call center, and causing longer lines at the ATMs seeking to withdraw the money. In view of the widespread difficulties and complaints about the quality of service in the first payments, it was necessary to seek authorization from DPS to apply a contingency option and pay by “cash payment”—an operation that was available only at the CB, applying the special controls established for these cases. This activity called for intense activity by Conxred’s CBs, and even though they are responsible for taking cash to the points, it was necessary for the bank to support them with personnel and cash to ensure availability at all points and guarantee that the payment could be made. About 80 percent of the payments in the first cycle and 60 percent of those in the second had to be made this way, which meant a high operational and financial cost for the bank, but it was the only way to ensure that the beneficiaries got their subsidy.

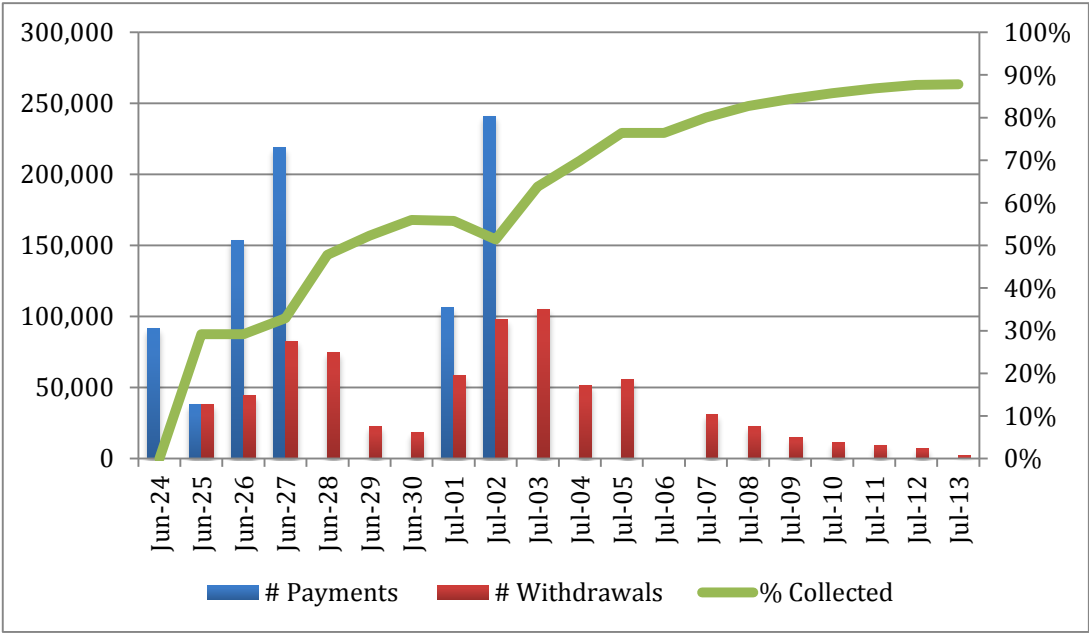
The technological challenges for the payments were not the only ones. During July and August 2013, at the time of the second FA payment, the country experienced an agrarian strike that paralyzed transportation to and from many municipalities in which payments had to be made. The risk of moving cash was very high in some municipalities, putting at risk the possibility of making the payments. However, to avoid further alteration of the public order the bank responded to the government’s request for its cooperation to make the subsidy payments, facing the risks inherent in the operation. The beneficiaries received the subsidy in all the municipalities,

with massive events in some of them, because it was very hard for the shopkeepers, CBs, to participate because their security was at risk, and they had to be able to get out of the municipalities as quickly as possible.

The process was improving, and a key factor in this was the DPS authorization to organize the payments in a staggered manner between municipalities of the same department and between departments to permit that in the same municipality the payments would be made on the basis of the last two digits of the ID card, so that the disbursement process was spaced out over time as shown in Graph 6, although not exceeding 20 days per cycle. In this way, the average percentage of “cash payments” in the three cycles paid in 2014 was only 5 percent.

One example of the better outcome by implementing the option of spreading out the payments was achieved in the eighth cycle, when it was possible to divide the number of payments among six days. Payments were made only on business days, so 100 percent of them were made in the course of nine calendar days. The largest number of payments in one day was 241,000, and the largest number of withdrawals was 102,000. In spite of this, the analysis of the 20 days during this payment, which is shown in Graph 7, illustrates that the beneficiaries continued to withdraw money very rapidly from the DaviPlata. The demand for cash was spaced out over 20 days and the number of withdrawals equaled 88 percent of the total payments.

Graph 6: Number of daily disbursements and withdrawals in the eighth payment cycle



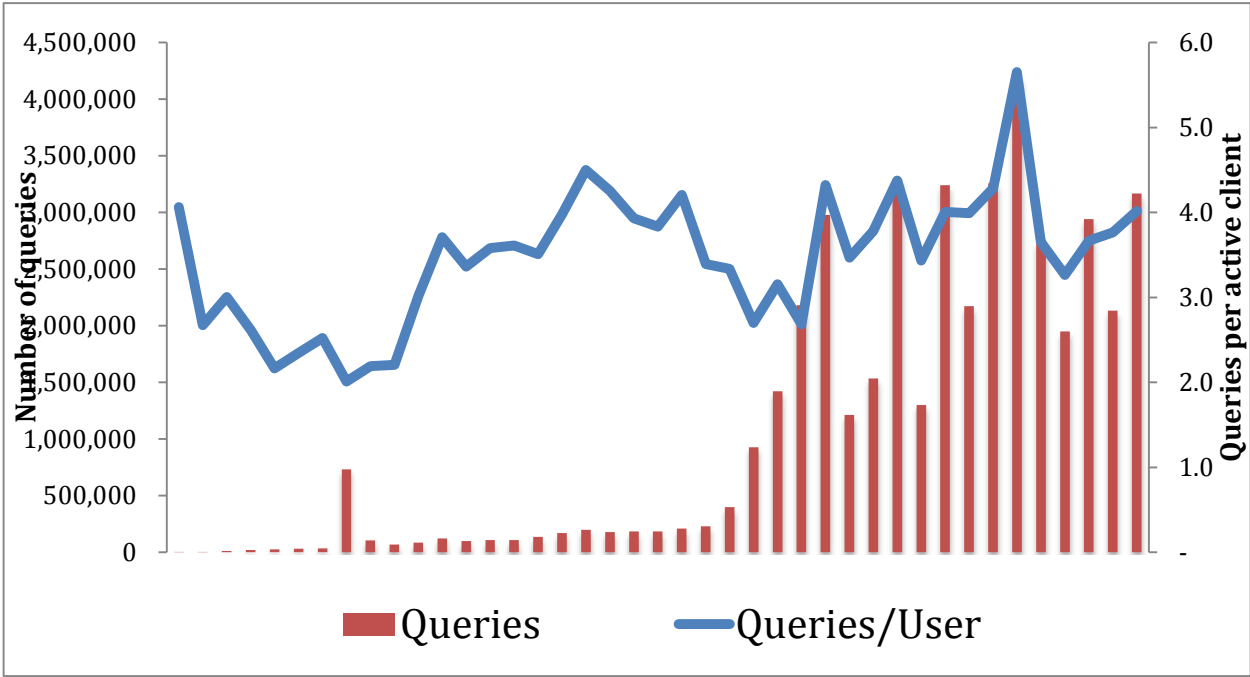
Note: The percentage collected is the proportion of the number of payments over the number of withdrawals.
 Source: DaviPlata.

The operation to make the distribution of payments also taught many lessons. For DaviPlata, fluid communication with the program beneficiaries was an essential part of its idea of having a virtual

relationship taking advantage of the cell phone. Therefore, they decided to make active use of SMS to organize the withdrawal of subsidies, notifying the beneficiaries of the payment and the address where they had to go to make the withdrawal, which called for a major effort of georeferencing of the database. However, in spite of this notification, balance inquiries are frequent in a no-cost operation, and this affects the business model, because the consultation is figured as a transaction that must be paid to the MO and to Redeban.

Balance inquiries increased rather than decreased as more payments were made. In 2012, before the entry of FA, the average number of queries per month by DaviPlata clients was 0.3 per client. With the FA contract in April 2013, coinciding with the first payment, the number of inquiries per client reached 4.3 for the first time, and the peak was in December 2013, with an average of 5.7 inquiries per active client, of which 70 percent were made by the program’s beneficiaries.

Graph 7: Number of balance queries—total and per active client



Source: DaviPlata

This volume was explained by various factors, among them the size of the program and the profile of the beneficiaries, and the average number of inquiries per active client increased from 2.3 in 2011 to 3.2 in 2014.

Calls to the call center produced novel service alternatives in the bank (Box 6) taking into account that they are free. Although a lot less than the balance inquiries (at their peak 0.22 per client per month), they had a major impact on the business model because of their cost. Therefore, DaviPlata is working on strategies to serve clients with less costly virtual schemes.

Box 6: Novel client service alternatives

The challenge of building a model of virtual service and communication appropriate for the FA program and the resulting creation of digital capabilities in the beneficiaries

Defining a new service and communication model for the beneficiaries of FA was another challenge, and today it is considered one of the most important lessons for the bank, because it was based on the search for virtual communication channels, obviating the direct and typical channel the bank used in its branches. The greatest success was its approach to the mothers of the FA program and bringing them into the participatory process of building a suitable service model, including their opinions on the advertising material and a variety of novel channels of communication, generating greater confidence in their use.

The strategy had to respond to various stages in the relationship with the beneficiaries. For signing up the mothers there were different instruments to facilitate the activation of the mobile wallet, including posters, messages, and videos, incorporating the mothers' opinions so that they would have better acceptance in terms of accents and appropriate language for confidence-building and facilitate contact with the product. From that time on the DaviPlata team developed several means of reaching out to them, using for example the traditional meetings organized by the DPS, holding focus groups to check their concerns and opinions about the product and about the messages that were sent to them, making it possible to design better schemes for communication and service.

Special work was needed to adapt the bank's traditional virtual service channels such as the Call Center and IVR, for which personnel were dispatched to some regions such as Choco to facilitate understanding with the mothers. Special mention should be made of the development of an intelligent text message platform on number 85888, without cost for the mothers, which was enabled the bank to respond to their concerns in a more efficient and cost-effective way, known in the institution as the Blue Line.

Surprisingly, and in a very positive way, DaviPlata discovered that the social networks have also been successful with this group of clients. In the search for creating nearby virtual channels, using a "community administrator," the FA mothers have gone digital, setting up a [Facebook](#) group that as of December 2014 had 8,936 mothers. They also use Twitter, channels that have been very useful not only for the bank to establish communication and send messages, but also to generate a virtual community that permits members to post messages and personal accomplishments, and help each other resolve concerns about the product.

In this case the results have been very positive, having reduced the total volume of inquiries by more than half as shown in Table 7. Although the reasons for inquiries remain the same, primarily concerning general information, other reasons have relatively increased, while news of the DPS/FA decreased.

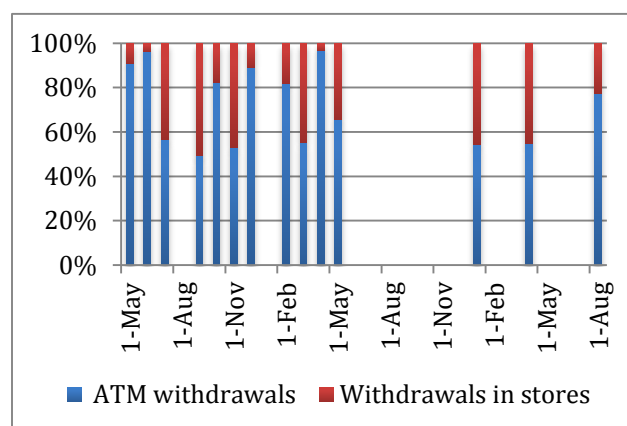
Table 7: Reasons for calls to the DaviPlata Call Center during the payment process, March 2013–April 2014

Reason	March-April 2013		May-June 2013		March-April 2014	
	Number	%	Number	%	Number	%
General information	125,944	38.6	68,373	43.9	51,615	41.7
Other reasons	6,256	1.9	4,658	3	9,814	7.9
Platform errors	151	0	119	0.1	84	0.1
Follow up	328	0.1	192	0.1	24	0
National payments	1,448	0.4	207	0.1	16	0
Service requests	84,493	25.9	41,504	26.6	48,229	39
News of DPS Fam. Acción	107,979	33.1	40,845	26.2	13,892	11.2
Total	326,559	100.0	155,898	100	123,674	100

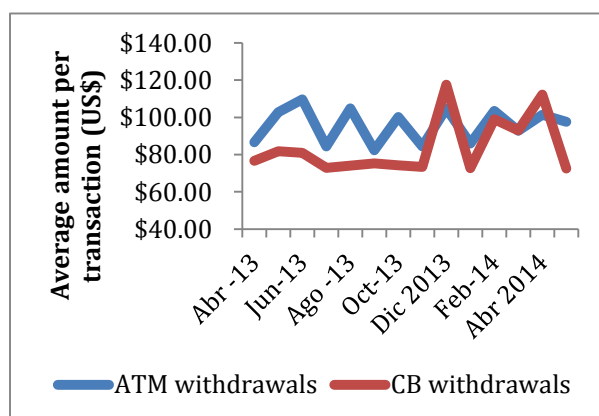
Source: DPS Report of contract management

The other critical factor in the payment process is management of the channel used by the mothers to make their withdrawals. Between 44 percent and 55 percent⁴³ of all transactions are completed using CBs managed by Conexred, with an average amount per transaction that has increased from US\$76 in April-November 2013 to US\$95 between December 2013 and May 2014,⁴⁴ the latter figure being similar to the average ATM withdrawal of US\$96. No CB handles sums greater than needed to pay 100 subsidies per day. This is intended to avoid the risk of theft, although in practice this has been very low; the few thefts that have been reported have been, in order of importance, fraud or “self theft,” theft during the movement of cash, and to a lesser degree, holdups.

Graph 8A: Distribution # of withdrawals from CB and ATM



Graph 8B: Average amount per withdrawal



Source: DaviPlata

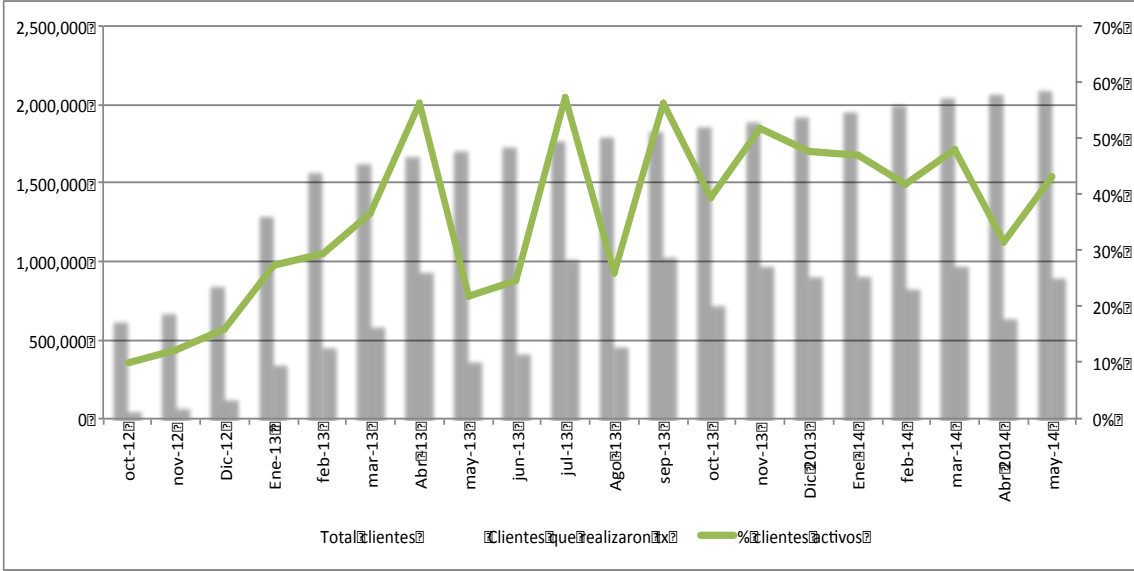
⁴³ The trend in using CBs has decreased as more people use ATMs. For the first payments, about 65 percent were by CB but now this accounts for 45 percent.

⁴⁴ The increase in amount per transaction may be due to the inclusion of payments of other programs.

The transaction cost per CB is one of the highest in the business model, and given its weight as a channel in the total withdrawals, DaviPlata is continuing to seek strategies to reduce the total cost of the withdrawals, considering even the possibility of payment in massive events. It has also tried a pilot to expand the network of channels with 25 ATMs that are self-loading in municipalities without other channels of the bank, which to be effective require business accompaniment for enrollment and motivation to make deposits in the ATM.

The importance of the FA program in DaviPlata’s operation is undeniable. In 2014 the bank made an average of 425,000 disbursements per month through DaviPlata, of which an estimated 85 percent were associated to the program.⁴⁵ The average amount of the FA payments is US\$68, while the average of all disbursements is US\$101, suggesting that the amount of disbursements of other users of DaviPlata is significantly more than those of FA. In terms of the total volume of disbursements, there was a total average mobilization of US\$43 million per month, of which FA accounted for 79 percent. This undoubtedly explains the higher level of current activity in DaviPlata, whose average activity level of 10 percent at the end of 2012 increased to 43 percent in the first half of 2014.⁴⁶

Graph 9: DaviPlatas opened and active October 2012—June 2014



Note: Active clients are the ones who made transactions in the month. Source: DaviPlata.

5.4 Fourth challenge: How to diversify the uses

In spite of DaviPlata’s efforts to promote savings and a full range of transactions that DaviPlata offers, the mothers still tend to withdraw their resources as soon as they get their subsidy, to a greater extent than recipients of other types of disbursements (such as payroll payments), as can

⁴⁵ Calculated as an average of the number disbursements made to FA beneficiaries per month (provided by the DPS) as a percentage of the total disbursements made by DaviPlata per month.

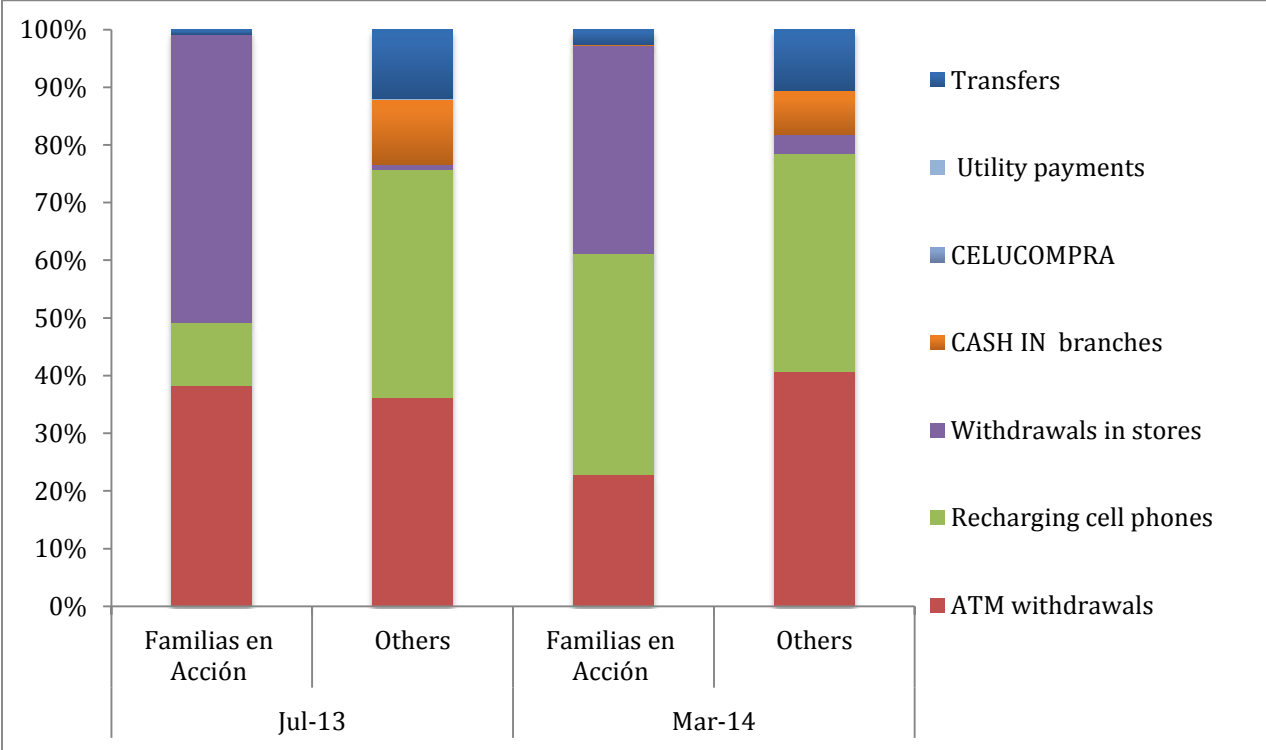
⁴⁶ The active DaviPlatas are those that made some monetary or nonmonetary transaction in the month.

be seen from the analysis of transactions in two different months, shown in Graph 10. Comparing the number of transactions per type made by beneficiaries of FA over nine months, there is a change in behavior: as they became more familiar with the service, there was a proportional decline in the number of inquiries, which dropped from 78 percent of total transactions in July 2013 to 64 percent in March 2014, reaching a level similar to that of the other segments. Cellphone top-ups also increased, and they began to make transfers, although still at a low level.

When reviewing only the monetary transactions, the major ones were the withdrawals from ATMs and stores (i.e., CB) confirming all of the clients’ preference for cash, which still is the case. While FA beneficiaries preferred to use the CBs, both in number and amount, given the geographical distribution of these clients, DaviPlata’s other clients preferred the ATM channel, with a marked increase also in the use of CBs.

The large number of transactions for cell phone top-ups reflects the behavior noted in other countries for mobile wallets, but in this case it can also represent a way of using the balance of the payment funds, which have a requirement for withdrawal in multiples of US\$5 for both ATMs and CBs.⁴⁷ This is confirmed by analysis of the transactions (Graph 11), where the latter is minimal for both the FA beneficiaries and DaviPlata’s other clients.

Graph 10: Breakdown of monetary transactions by number and type, July 2013–March 2014

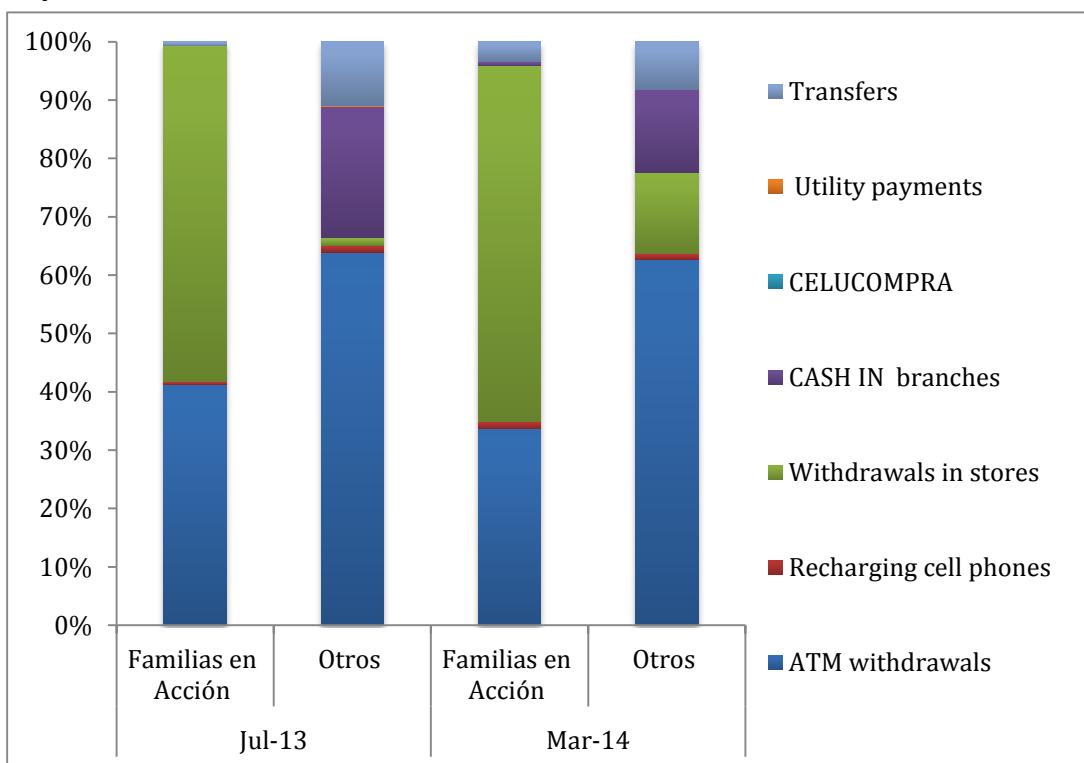


Source: DaviPlata and DPS contract management reports.

⁴⁷ The minimum withdrawal from either channel (CB and ATM) is COP 10,000. However, DPS payments are not necessarily in multiples of 10,000, because the amount of the subsidy is adjusted each year for inflation.

There is also a growing trend to make transactions between DaviPlata devices or to DaviPlata accounts by FA beneficiaries and even more so by other clients, with the latter more likely to make deposits (“cash in”) to their mobile wallets, an operation that was established almost one year after the wallet launched, which is free if charging one’s own DaviPlata and has a fee of US\$1.80 if credited to a different person’s DaviPlata, which in reality resembles an OTC payment; it is promoted as such by DaviPlata,⁴⁸ thus stimulating the opening of more DaviPlatas because transfers between them are free.

Graph 11: Breakdown of monetary transactions by amount and type, July 2013–March 2014



Source: DaviPlata and DPS contract management reports

The average amount of the operations also reflects the client profile. The average amount of transactions per month in the case of FA is very similar to the average amount of the subsidies, about US\$70. This confirms that the FA mothers tend to withdraw the whole subsidy, not only through the traditional channels but even by making a transfer between DaviPlatas or from DaviPlata to an account. For the other clients, most of whom are wage earners, the average withdrawal is US\$110, similar to the US\$140 that would be the biweekly amount of the minimum wage. The amount of minutes in top-ups, which is minimal, reflects that to some extent it is used to withdraw balances that cannot be withdrawn through other channels.

⁴⁸ See description of the payment at https://DaviPlata.com/cmp_giros_oficina.php - info_giros_oficina.

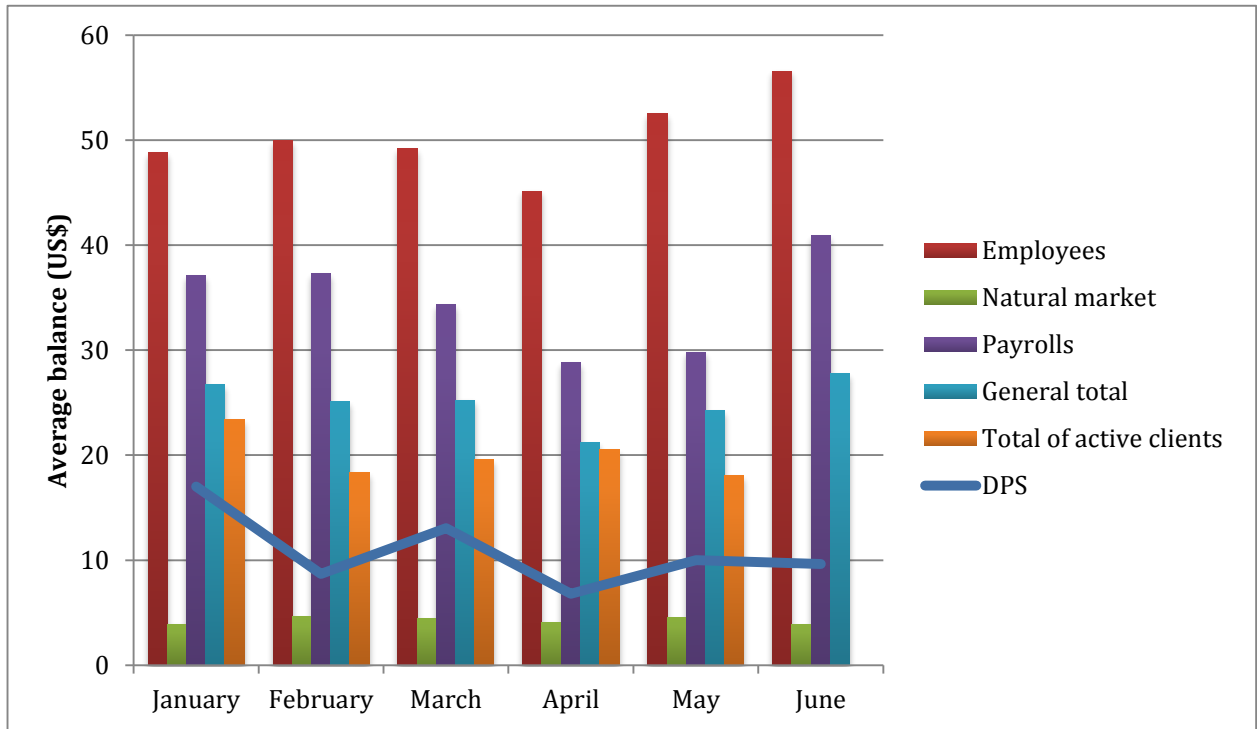
Table 8: Average amount by type of transaction

	Jul-13		Aug-13		Nov-13		Dec-13		Mar-14	
	FA	Others	FA	Others	FA	Others	FA	Others	FA	Others
ATM withdrawal	68	106.9	79	107.4	66.5	103.4	74.1	122.1	70.6	113.5
Recharging minutes	2	1.8	2	1.8	2.4	1.7	2.6	1.8	1.4	1.7
Withdrawal from store	73	78.3	74	77.5	73.4	74.3	89.1	231.2	80.7	321.3
Transfer from DaviPlata to DaviPlata	56	28.3	58	29.9	65.4	30.1	69.5	32.7	51.4	33.4
Cash deposits		121.6		118.3	120.8	124.2	138.8	142.0	134.3	136.2
Transfer from DaviPlata to account	87	74.0	68	71.5	82.1	72.3	86.6	86.5		54.5
Transfer from account to DaviPlata		90.6		88.3	84.7	93.1	101.1	104.1	72.1	103.8
Purchases		1.4		8.2	9.7	7.2	74.4			72.4
Payment of utility bills	22	27.3	12	25.0	16.2	26.8	6.9	26.0	14.0	27.0

Source: DaviPlata and DPS contract management reports

During the first half of 2014, it is encouraging to note that the average FA balances in DaviPlata were US\$11 and their increase coincided with the payment cycles of January, March, and May, with levels similar to those experienced in the case of the savings accounts that Banco Agrario uses to pay the subsidies to the other FA beneficiaries (Marulanda Consultants 2012). The average balance in the FA accounts is higher than the average balance of the natural market for the product, which does not exceed US\$4, and lower than the average balance of other types of clients such as payrolls (US\$35) and employees (US\$50), which corresponds to the considerable difference in income between the two segments of clients.

Graph 12: Average balances by type of client, January–June 2014

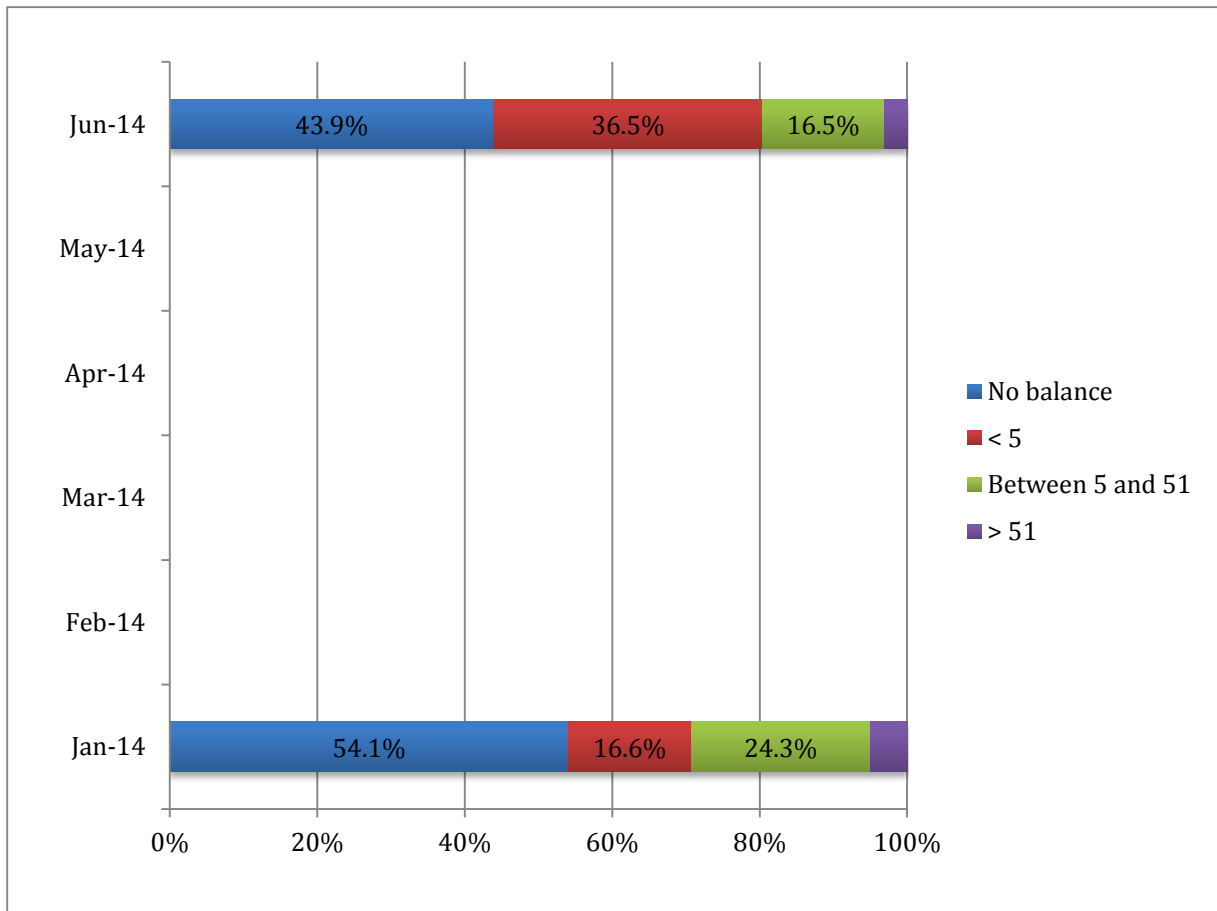


Source: DaviPlata

Inactivity in a substantial number of DaviPlatas was confirmed by analyzing the balance ranges,⁴⁹ an exercise that could be done only for the first half of 2014 (Graph 13), which showed a decrease in the number of those who had no balance in the period; in June 2014 56 percent had a positive balance.

⁴⁹ The balance ranges are taken independently for each month, and from the data used it is not possible to determine if the DaviPlatas without balances are the same from one month to the next.

Graph 13: Average balances by range—first half of 2014



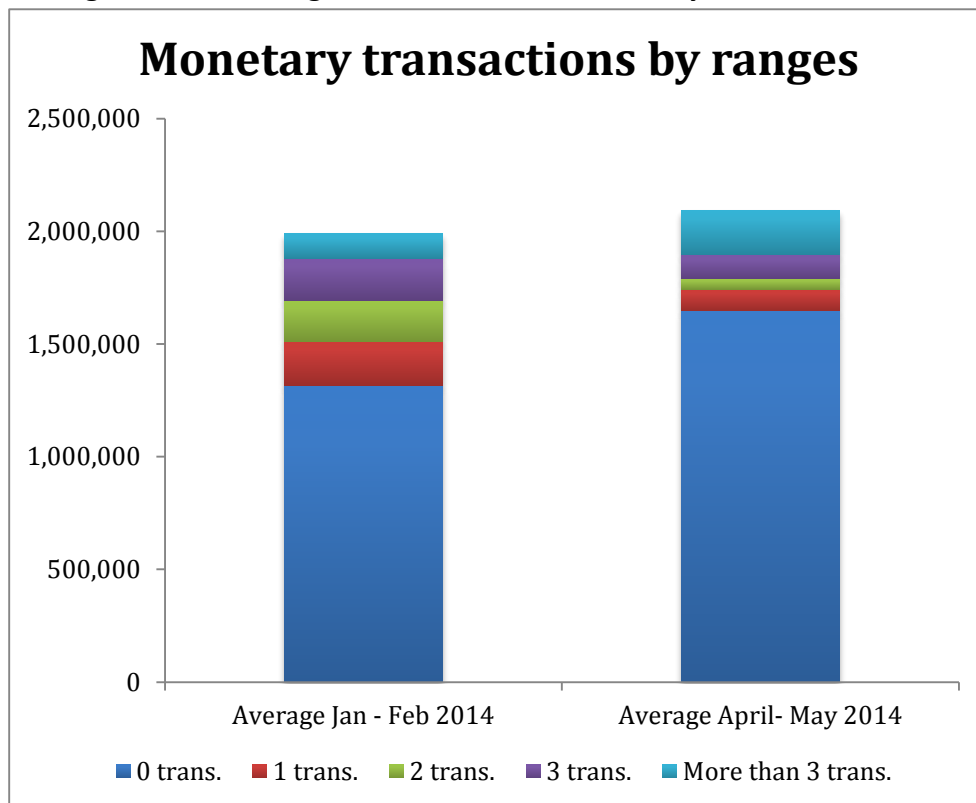
Source: DaviPlata and author's estimates.

When analyzing the number of monetary transactions during the month, the percentage of DaviPlatas with no activity increased to 70 percent when compared with the average of the DaviPlatas that had no transaction in the month. Many of these were certainly in the group classified as the natural market, including those that were opened at massive events induced by the money received as a promotion. The FA beneficiaries are therefore very important clients for DaviPlata, because they represent about 80 percent of the total with monthly movements and an average balance. The remaining percentage is made up primarily of those classified as employees and the payroll clients.

In this regard, and despite the scale achieved by DaviPlata, the ecosystem that was expected to be created to reduce the use of cash has still not been achieved for FA beneficiaries. This despite the fact that since the beginning of 2013 there has been an option to make purchases on DaviPlata, for which clients are asked to enter their cell phone number, the ID number, and the PIN they receive, that is requesting a PIN that the storekeeper enters, in addition to the cell phone number, in the POS. This behavior is similar to that with mobile wallets in other parts of the world and confirms that unlike the initial conception, changing habits is very complicated and requires

generating total confidence to ensure the accessibility of a client’s resources at any time, which calls for an extensive network of points for cash in and cash out.

Graph 14: Breakdown of the number of DaviPlatas by transactions made during the month, ranges of the first half of 2014 by month



Note: The wallets without transactions are estimated as the difference between the number of devices that made monetary transactions according to figures reported by Davivienda and the total of DaviPlatas opened in each month. Source: DaviPlata and author’s estimates.

The desire to achieve more activity has led Davivienda to continue promoting other types of operations and uses for the DaviPlata. It expects to activate payments for international remittances, a business in which “the point” that originates the remittance pays for its reception, where Davivienda has a large market share in a country that annually receives remittances of US\$4.1 billion.⁵⁰ It has also explored mechanisms to leverage the knowledge of the financial group to which it belongs to design new products. In this vein, it has just launched a pilot program for microinsurance of Seguros Bolívar linked to the DaviPlata, very easy to access, with a modest premium and no exclusions, and it is exploring strategies to start promoting microsavings soon. A product especially designed for the FA program has already been offered to DPS.

⁵⁰ Davivienda has remittance agreements with Western Union, Viamericas, Trans Fast, Intermex, and Ria.

Micro life insurance—Seguros Bolívar through DaviPlata

- Coverage in the case of death from any cause.
- No eligibility requirements or exclusions.
- Includes payment of funeral assistance for the first person who dies in the basic family group (parents, children, spouse, or permanent companion).
- Premium of COP \$33,700 per year deducted in a single payment from the insured's DaviPlata.

5.5 Fifth challenge: Achieving a sustainable business model

The contract with FA has undoubtedly enabled DaviPlata to achieve substantial scale with the level of income needed to start the development of a payment ecosystem that facilitates electronic transactions.

To do this, the bank and its partners have had to make major investments in their platforms to ensure the quality and timeliness of the service. These investments can make sense only if they can be amortized over the long term, something that is contradictory to the term of the DPS contract, which covers only two years. The limited term of contracts had already been indicated in other studies⁵¹ as an element that could make it impossible for the DPS to get even lower commissions than those obtained in the second bidding. For this study it was not possible to analyze the investments needed and the percentage of them that could be recovered during the term of the contract; however, management considers that said investments could be recovered with the continued expansion of the business and the clientele (beyond FA). This study did not have the necessary information to estimate the financial margin achieved in the operation, but bank management considers that in general this contract has enabled the bank to pay some of the fixed costs related to the expansion to scale of its operation.

As for the direct costs of the FA contract, in addition to the costs arising from processing transactions on the Redeban platform,⁵² two elements are particularly important. The first of these stems from the fact that since this is a mobile wallet of a bank, the cost of the mobile platform is set by the service provider, the MOs. The second has to do with the high demand for cash that characterizes the payment of money transfers.

These costs have generally been covered by the commission paid to Davivienda by DPS, but in the case of the last two elements they are subject to significant variations, as will be explained below.

⁵¹ See CGAP (2011).

⁵² According to the document of the Communications Regulatory Commission (CRC) (2013-10-10), under the STK scheme “...the bank pays for chargeable and technically successful transactions a fee of \$50 per transaction to the low value network,” i.e. Redeban.

With respect to the first element, during the period of the FA contract there has been a substantial change in the rates charged by the principal MO for transactions made on its channel,⁵³ a process that clearly illustrates the factors that must be taken into account when a bank offers a mobile wallet. In September 2012 Claro announced to Redeban, and therefore to all the financial entities that use this platform, its decision to modify the tariff scheme that it had been applying according to the agreement signed with Redeban in 2007. The change involved switching from a charge per financial transaction to a charge per SMS used. Claro based its decision on the fact that the number of SMS per transaction had undergone substantial changes, due among other factors to implementation of DaviPlata's "dynamic menu" to simplify the cell phone menu and make it more understandable by the target segments. Claro argued that the number of SMS per transaction had increased from an average of six to 17 and up to 20 SMS each,⁵⁴ and that its proposal represented a volume discount of 42 percent of the minimum tariff at the time. The banking sector complained that the increase was equivalent to 700 percent and up to 1,300 percent of the tariff that had been applied per transaction, which did not even reflect the increase in the number of messages. This caused serious confrontation with the financial sector, with discussions that took place from the end of 2012 to the middle of 2013.

In the case of DaviPlata, this change meant a nine-fold increase in the amount that had been used to bid for the FA payments. Put another way, if a beneficiary made 10 transactions in the two months after a payment, the cost of the mobile channel would consume the commission that the bank received for managing the FA payments. In October 2013 this led DaviPlata and Claro to agree to record a special menu on the new SIM cards, so that the clients who got SIM cards after that date would have a menu with lower consumption of SMS. This reduction also applies to persons who have replaced SIM cards for loss, theft, or other reasons.⁵⁵

The telecommunications regulatory agency in Colombia intervened in the dispute of the banking sector with the MOs and issued a resolution in March 2014 that limited the tariff MOs could charge for financial services to US\$0.005, which with the average of 17 SMS made the average cost for transactions on a DaviPlata US\$0.080, 1.2 times the initial cost. As of the date of this report the discussion is continuing, because the MOs have challenged this regulation and base their claim on the fact that their tariff covers not only the costs of generating an SMS, but the costs of operating the mobile platform for the financial transactions,⁵⁶ which is six times greater than the one it charged when Davivienda submitted its proposal for the FA payment.

The other basic element is the cost of handling the cash for the payments, given the beneficiaries' preference for getting their subsidy almost immediately, a behavior that will take time and effort to modify. In the case of the DaviPlata this cost varied depending on the channel used and the

⁵³ See Asobancaria (2014).

⁵⁴ The applicable tariff at the time was US\$0.035, and it was charged per transaction. See Portafolio (2012).

⁵⁵ Replacing the other SIM cards of DaviPlata users implies a cost of US\$0.66 per SIM (without considering their distribution cost), which would permit a substantial reduction in the average number of messages.

⁵⁶ The current tariff is the amount indicated by the resolution until the process is over and there is a final ruling on it.

number of withdrawals made by a beneficiary. The original model of DaviPlata was based on the hypothesis of a significant volume of transactions between devices or to and from Davivienda accounts, using as “cash out” points the bank’s ATMs. To meet the needs of FA, it contracted a network of CBs that in practice was 3.5 times more expensive than an ATM withdrawal and represented a significant proportion of the commission paid by FA to Davivienda for each payment.⁵⁷ Given this cost, Davivienda encouraged withdrawals from ATMs rather than using CBs. An implication of this is that as the beneficiaries develop greater confidence in the mobile wallet and use it to store their resources and make more sporadic withdrawals, the business model would be seriously impacted, especially if correspondents were used, which in other countries has proved to be the basis for the most active wallets. One way to reduce the cost per transaction of the CBs would be to channel the bank’s transactions (all the bank’s clients), which would increase the use of CBs and could provide a better bargaining position.

It is clear then that two basic elements of the business model for payment of CCTs are determined by the cost of the transaction on the mobile platform, a cost that in the case of the banks is not controlled by them, and by the cost of the network available to disburse cash to the beneficiaries. If this cash-out network is only fed with this type of transaction, it will certainly have a high tariff, suggesting the need to populate these points with a much greater volume of payments and collections so that with a lower tariff it would still be sufficiently profitable for the network.

In the case of DaviPlata, bank management considered that the benefits achieved could not be measured solely by their financial profitability. The benefits must include reaching a scale of clients that could form the basis of an ecosystem, financed with commissions from the FA payments. Participating in the FA payments also enabled Davivienda to finance the cost of the service to expand the bank’s network and coverage. Something even harder to quantify was being able to better understand the transaction habits and needs of persons with low income, which enabled them design other offers of financial products.

6. Challenges and Opportunities Ahead for DaviPlata

For the Bolívar Group, particularly for Banco Davivienda, DaviPlata has provided many lessons and insights, because of insights into this new market segment, the financial reality in the most remote areas, the problems in accessing financial services, and the potential of new communications technology with new financial opportunities and challenges to develop appropriate financial products and services.

The FA contract has been vitally important for the DaviPlata operation, not only for the opportunity to make the payment of a contract of the FA dimensions and support the government’s strategy for financial inclusion into the banking system, but also because it has

⁵⁷ According to data provided by Conexred in the seminar “Latam Mobile Money 2014” (October 2014, Bogotá), its basic tariff is COP 2,500 per payment, and it can be increased depending on the type of municipality. The basic tariff is 48 percent of the commission paid by DPS to DaviPlata.

taught lessons on how to make partnerships, construct new client service channels, and use technology and mobility to develop new financial products and increase penetration in areas that are underserved financially. The contract has also enabled them to cover other programs offered by DPS.

As the authors of this study see it, the DaviPlata team currently faces various challenges:

To achieve the critical mass of natural clients for the product that will create the ecosystem for making electronic transactions and finance the operation's growth. As of June 2014, more than half the clients affiliated with DaviPlata do not make transactions or have an available balance, a behavior that resembles that of other mobile banking services around the world, which can be explained because a percentage of them bought the product in commercial promotions and did not find it useful for transactions, so they stopped using it. The challenge is not only to grow from payrolls, but also to reactivate the current clients and generate incentives for use of additional products, such as microinsurance, programmed savings, and microcredit, as well as expand the coverage of points to facilitate the cash in and cash out of the mobile wallets.

To take advantage of technological and operational capacity and the DaviPlata team of personnel sized for a volume of payments as currently handled for FA, whose contract is about over, to define alternative segments in case the contract is not extended. The weight of the FA clients, which in June 2014 accounted for 80 percent of all active clients of DaviPlata, creates concern about the expiration of the payment contract, which is currently scheduled for December 2014. The challenge for DaviPlata is to try to reactivate the current clients that do not use the product or create new strategies to attain the critical mass of clients that will make it possible to maintain the operation without having to reduce it.

The product's potential as a means for transactions generating an electronic ecosystem has not yet been fully developed. A very small number of clients execute transactions other than withdrawals or cell phone recharging; there is therefore a vast potential for greater use of transactions such as transfers, payments, remittances, deposits, payments, and purchases, in an effort to attain the ecosystem needed to create the product and the profitability of the other cash out point.

The capillarity of points achieved by the development of the CB channel and leveraged by the FA payments contract is one of the most important efforts but it also represents a challenge in the need to make full use of it and reduce its cost. The potential of the CB channel is enormous, and it is in the process of being better used not only for DaviPlata but also for Davivienda, as a transaction channel for deposits, withdrawals, and more savings, purchases, and payments. While the ecosystem for electronic transactions is being created and the use of cash is gradually phased out, the CB channel is the most effective means inspiring the greatest confidence in clients as cash-in and cash-out points. The CB channel can also be used to promote opening of accounts, the collection of microinsurance premiums, the reception of loan applications, and the collection of loan payments. As of now, Davivienda has already opened the opportunity for the CBs to receive payments for bank's current agreements, which number more than 6,800 around

the country, and it is in the process of implementing and launching domestic payments. Establishment of a cash in operation is essential for generating the coverage necessary to inspire clients to use it so that it is truly a valuable service for them.

The greatest technological challenge is to reduce the dependency of the product linked to the cell phone operator's service. Dependence on MOs, and the change in the charges per transaction have been great lesson for DaviPlata, and if an agreement is not reached on the tariffs, it may be impossible to continue to provide a product without cost to the clients. The challenge is not only to solve the current problems with the mobile operators but also to find different technological alternatives to support the product. DaviPlata is developing an application that will work with smartphones, which would make it possible to manage the product without SMS. The success of this initiative for DaviPlata will require middle- and low-income users to shift to this type of device and have easy access to data plans, which will require enabling collect calls so that the persons who use the cell phone to access DaviPlata do not need to have a data plan, but the cost of the session can be paid by the bank, in packages negotiated in bulk with the cellular operator. However, the option will come later for beneficiaries of massive programs such as FA, where the population does not use smart phones. As a temporarily alternative, the shift is under way to a new SIM.

The learning curve that DaviPlata has experienced in these 3.5 years of operation and in the contract for FA payments places it in more favorable conditions than its competitors to offer mobile banking products and receive new contracts for massive payments. DaviPlata already has a track record and can capitalize on many lessons compared with banks that already offer products linked to mobile banking and new operators that start up in the context of the authorization of the new electronic deposits law, with which it will have to compete in any new bidding process for the contract for FA payments.

The greatest challenge for the DaviPlata team is to ensure that the product is financially sustainable, which calls for taking fuller advantage of the product, making the processes and channels more efficient, and seeking alternatives to reduce the dependency on the mobile operator.

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APPENDIX 1: Requirements for making FA subsidy payments as of 2012

DPS established some minimum characteristics for the delivery services:

- a) Opportunity to access the resources and funds from any part of the country when using electronic financial products.
- b) Prohibition from requiring beneficiaries to go en masse to collect in a municipality near the one in which they reside, unless it is impossible to deliver the resources for reasons of force majeure (floods, earthquake, riots) or problems of public order, situations that must be coordinated previously with the DPS - FIP
- c) To receive the incentives, all the beneficiaries must sign up in their region.
- d) Exemption from the GMF tax (4*1000), for all beneficiaries who have signed up for the first time for this type of financial product. For beneficiaries that already have an established account, the procedure to be followed will be established for the purpose by the competent authorities.
- e) Free balance inquiries.
- f) Ensure that the business establishments with which there are agreements permit free access to deposits and withdrawals of the financial incentives without restrictions of any kind or additional charges.
- g) Delivery times for reissuance of any means of payment within 30 calendar days from the report or request for reissue.
- h) Ensure that the networks permit free access to deposits and withdrawals of the monetary incentives, without restrictions of any kind or additional charges.
- i) When the product permits purchasing operations, which shall not be considered as cash withdrawals, business establishments that are affiliated or sub-contracted by the authorized entity must accept them without restrictions and they shall be without cost for the beneficiaries.
- j) The authorized entities shall not charge the beneficiaries for unsuccessful transactions.