



Development Results
Focused Research Program

Country Diagnostic: Colombia

By Bankable Frontier Associates (BFA) under the supervision of Beatriz Marulanda



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This diagnostic measures the current state of the transition to electronic payments by estimating volumes and values of payments made in Colombia, as well as assessing the likelihood of further movement by looking at payment use cases associated with each key shift. In so doing, the diagnostic also identifies specific examples of attempts to shift to electronic payments that could generate lessons for BTCA stakeholders in other contexts. It also identifies gaps in the available data — the filling of which could give valuable insights for designing and monitoring further efforts to shift.

INTRODUCTION TO THE BETTER THAN CASH ALLIANCE

The Better Than Cash Alliance is an alliance of governments, private sector, and development organizations committed to accelerating the shift from cash to electronic payments.

Shifting payment of salaries, social welfare, and relief payments, payments to suppliers, remittances, etc. from cash to electronic has the potential to improve the lives of low-income people, particularly women, while giving governments, the private sector, and the development community a more transparent, time- and cost-efficient, and often safer means of making and receiving payments.

The Better Than Cash Alliance:

1. Advocates for the use of all forms of electronic payments where they provide a preferable payment option to cash;
2. Collaborates with program partners to mobilize available technical expertise and resources to identify and implement the most effective approach to make the transition from cash to electronic payments; and
3. Conducts research, documents good practices, and produces knowledge products to address the barriers to adoption and drive the effective shift from cash to electronic payments globally.

BTCA's Development Results Focused Research Programme (DRFRP) accelerates the generation and dissemination of knowledge and tools for stakeholders transitioning part of their payments from cash to electronic. The DRFRP has three components: 1) Readiness diagnostics, which compile existing data on the volumes, values, and payment means for each kind of payment made by governments, the private sector, and development community partners, and assess the country's readiness to replace cash payments with electronic payments; 2) Case studies of ongoing shifts; and 3) Toolkits to provide practical steps for BTCA stakeholders to plan, measure, and implement shifts. BTCA has conducted four country diagnostics so far: Colombia, Philippines, Nigeria, and Malawi. This is the first diagnostic to be released in the series.

The DRFRP is managed, on behalf of BTCA, by a consortium led by BFA, a Boston-based consulting firm, with advice from experts from the World Bank Payments Group and the CGAP Technology Team, as well as local research staff.

COLOMBIA PROJECT TEAM

The diagnostic process involves desk research and an in-country mission by a team of experts to gather data, assess the incentives of participants in the local payments context, and survey the insights of local BTCA champions and stakeholders. Each diagnostic country team includes local researchers with experience in the payments system and knowledge of relevant institutions and individuals. Content and data in this document are based on information gathered during the third quarter of 2013, and therefore represent data prior to this date.

THIS REPORT WAS AUTHORED BY BANKABLE FRONTIERS ASSOCIATES (BFA)'S COLOMBIA COUNTRY PROJECT TEAM

- Country Director: Beatriz Marulanda, Marulanda Consultores
- Country Analyst: Mariana Paredes, Marulanda Consultores
- Measurement Expert: Caitlin Sanford, BFA
- Payments Expert: Xavier Faz, CGAP

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Shift indicators

Total # of payments
per month

828 million

% payments electronic
(by volume; by value)

9.7% 69%

Data Quality Index
(Scale of 5=highest; 1=lowest)

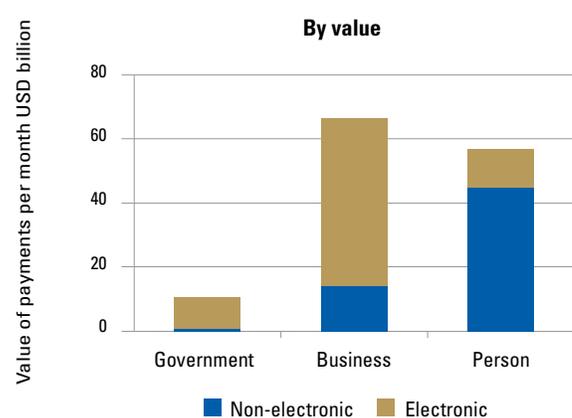
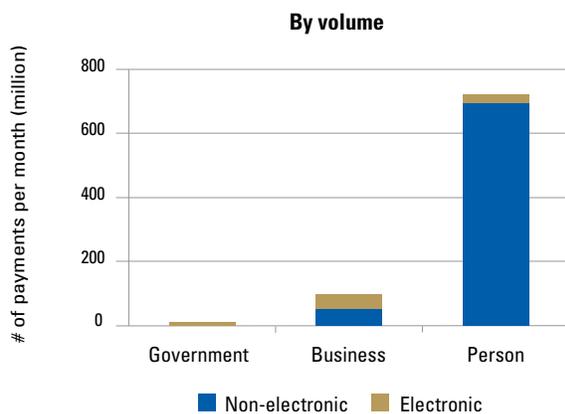
Quality: 3.25 | Availability: 2.5

Context indicators

Population (World Bank, 2012)	47.7 million	Visa GEAR ranking (0-100)	49.6
Country income category (World Bank)	Upper Middle Income	Corruption Perceptions Index (Transparency International, 2012)	Rank: 94/176
% adults with formal account (Findex, 2011)	30%	Mobile subscriptions/100 people (World Bank)	2003: 15% 2011: 98%

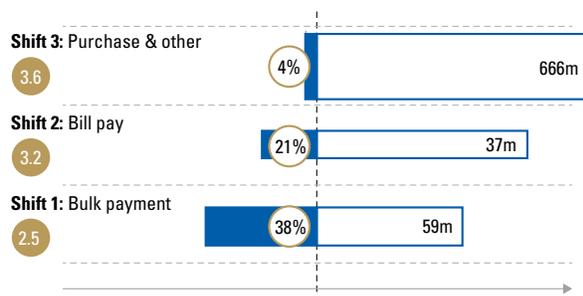
State of the transition to electronic payments

Payments by payer per month



The majority of government payments have already shifted to electronic; but large pools of non-electronic payments, valued at \$42 billion p.m., remain — especially among payments of smaller businesses and individuals.

Trajectories of the shift to electronic payments



The shift to an economy where e-payments are pervasive typically proceeds through three stages. These can happen concurrently but at different speeds. In Colombia, the **first shift**, of majority (one-to-many) payments, representing 11% of the total number but the majority of the value, is well underway at 38% and the trajectory is positive; the **second shift**, remote bill (one-to-many) payments, is at an earlier stage (21%) while trending upwards. The **third shift** involves the largest number of payments (626 million across P2B, P2P, and some B2B) and has much further to go than the other two.

Legend: 2.5 is the trajectory score for the use case connected to each shift; where 1=full shift very likely; 3=slow upward progress; 5=shift unlikely.

Note: 38% is % of total number of monthly payments in each shift (shown at end of bar) which are electronic as in 2012.

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1 Introduction

The BTCA diagnostic approach

The BTCA Country Diagnostic is intended to do three things:

1. Measure the baseline state of the shift from cash to electronic payments using the best available data;
2. Assess the trajectory of the shift in a way that can inform the country's decisions and priorities; and
3. Recommend case studies and measurement activities to support the development of toolkits in 2014 for BTCA stakeholders as part of the DRFRP.

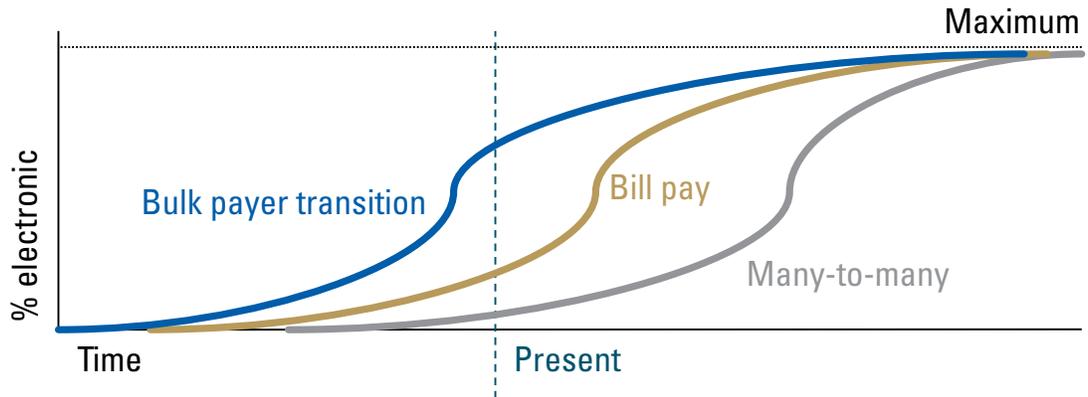
These three objectives are achieved in the following ways:

- **Measurement:** The payment grid (shown in Figure 1 below) compiles data on the volumes and values of payments in the country, as well as the proportion of those payments made by electronic means, for payments made by government (G), business (B), individuals (P, for person), and the development community (D). The full grid as well as the general methodology are in Annex B. That annex also includes a description of the Data Quality Index, which rates the quality (completeness and

FIGURE 1 The payment grid: types of payments by payer and payee¹

		PAYEE		
		Government	Business	Person (Individual)
PAYER	Government	G2G Budgetary allocations, Funding of programs	G2B Grants, Payments for goods and services	G2P Welfare programs, salaries, pensions
	Business	B2G Taxes, Fees for licenses and permits	B2B Payments for goods and services in value chains	B2P Salaries and benefits
	Person (Individual)	P2G Taxes, Utilities	P2B Purchases	P2P Remittances, Gifts
	Development partners	D2G Taxes	D2B Payments for goods and services	D2P Cash transfers

FIGURE 2 Shifts between stages from cash heavy to cash lite



reliability) and availability of payments data in the country. The measurement section in the body of this diagnostic (Section IV) presents the headline findings on the remaining pools of cash in the economy.

- **Trajectory:** Section III provides a narrative of the evolution of policy on electronic payments and Section V assesses the trajectory of the shift through the lens of particular use cases. A payment use case is an application of a certain type of payment instrument, using certain channels, to certain payment accounts. If the policy priorities, infrastructure, and market incentives are aligned in regard to a given use case, then shifting to greater use of electronic payments should be easier to accomplish.

The BTCA whitepaper identified three major shifts in the journey to pervasive electronic payments: 1) the bulk payer shift (affecting the G2P, G2B, and B2P cells on the payment grid especially), 2) the bill pay shift (P2G, B2G, and some P2B and B2B), 3) pervasive payments (especially P2B and P2P). Figure 2 shows how a country might progress through these shifts. The stages are not necessarily completed sequentially, and multiple shifts may occur simultaneously. In Colombia, bulk payers (governments and large employers) have already mostly shifted to electronic payments.

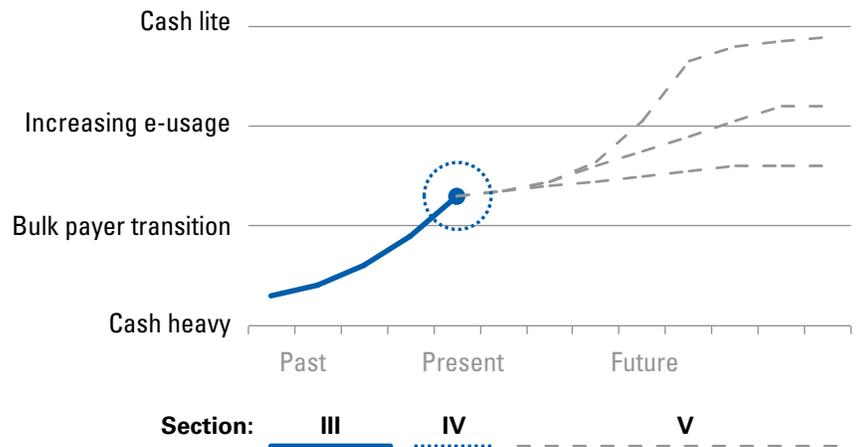
Two use cases are common across all the diagnostics: bulk EFT credits and remote bill payments. The first use case supports the shift between the

first and second stages; the second use case supports the shift between the second and third stages. In each country a third use case is chosen for analysis that captures the story of the barriers to shifting the cash pools identified in the payment grid. In Colombia, interviews with providers and users revealed major barriers to the adoption of card payments at merchants.

- BTCA cases & measurement:** Finally, each diagnostic recommends 3-5 possible case studies of actual shifts implemented by the core BTCA stakeholder groups (governments, the private sector, the development community). Case studies document what happened, assess the costs and benefits, and draw lessons for the targeted BTCA constituency for BTCA.

Figure 3 integrates these components of past, present, and future of the journey to more electronic payments. Section IV of the diagnostic estimates the present status of the country along this continuum, and Section V suggests potential future trajectories. Section III traces the evolution of the shift to electronic payments and highlight specific cases of past attempts — successful or not — to shift.

FIGURE 3 Relation of diagnostic sections to the journey



Key findings: Colombia

The BTCA whitepaper proposed a definition for a cash-lite economy as one where more than half of payments are made using electronic means. Colombia offers a case anticipated in the whitepaper: Most payments by number remain in cash (just 9.7% of the 828 million payments that are made every month are paid through electronic means). But by value, Colombia may already be called “cash lite”: 69% of payment values are paid electronically. This puts Colombia in the midst of the first shift, where electronic payments are dominated by bulk (i.e., high value) payers.

This progress came thanks to a government that led, and a private sector that followed, the drive to create an electronic payments infrastructure

Most payments by number remain in cash, but by value, Colombia may already be called “cash lite”: 69% of payment values are paid electronically.

that supports high-value payments for corporates and the financial sector and distribution of social welfare benefits to the poor, but that largely leaves out the majority of Colombians — they continue to make consumer payments in cash.

The development of a centralized government payments platform, at the same time that two new ACHs (one from the government, the other from banks) allowed for interoperability, laid the groundwork for bulk electronic payments. And the government’s drive to provide services for Colombians online inspired the private ACH to launch an online platform used to facilitate social security payments and which now serves many other private sector entities, too.

The key, overlapping barriers to a more broadly based shift to electronic payments in Colombia are low levels of financial inclusion, a tax on withdrawals from the financial sector, and a high degree of informality that keeps so much of the economy hidden from view.

Outline of this diagnostic

Section II describes the macroeconomic context for payments in Colombia and the state of payments infrastructure. Section III presents a chronology of key policy initiatives, by government and the private sector, which have

propelled the shift from cash to electronic payments.

Section IV compiles existing data and calculations to quantify the number and values of payments made in each cell of the payment grid in Colombia, as well as the percentage of payments made by electronic means. Section V analyses the Colombian payments system’s propensity to shift more payments to electronic, through the lens of three specific use cases: mass electronic credits, remote bill payment, and debit card payments at merchants. Each of these use cases corresponds to one or more of the types of payments categorized in the payment grid.²

Section VI draws on the Colombian case to offer insights on the whitepaper’s hypothesized sequence of shifts from cash heavy to cash lite. The diagnostic concludes with a country plan for additional research as part of the 2013/14 DRFRP: three case studies of efforts to shift certain payment types to electronic and proposed additional measurement activities to better understand the barriers to shift.

Neither this section nor the diagnostic as a whole constitutes a plan or set of recommendations for Colombia to follow: This diagnostic creates a new framework and lens through which the relevant stakeholders can consider the actions to be taken.

2 Country context

Fiscal policy drives a high demand for cash

The financial crisis in Colombia in the late 1990s had profound consequences on the financial sector and led to a drastic reduction in deposits in the formal financial system. By fighting to protect the exchange rate, monetary policy led to high interest rates, which stifled the mortgage sector and caused the quality of mortgage assets as well as public financial sector assets to deteriorate.

The government was forced to use public funds to support the mortgage sector, prevent the collapse of financial institutions including savings cooperatives, and strengthen the deposit insurance scheme (called Fogafin). One of the sources of these funds was a new tax, the Gravamen a las Transacciones Financieras (or GMF, described in Box 1 below), introduced as a temporary measure in 1998 but still in existence today.

Box 1 The GMF tax: A temporary measure with permanent impact³

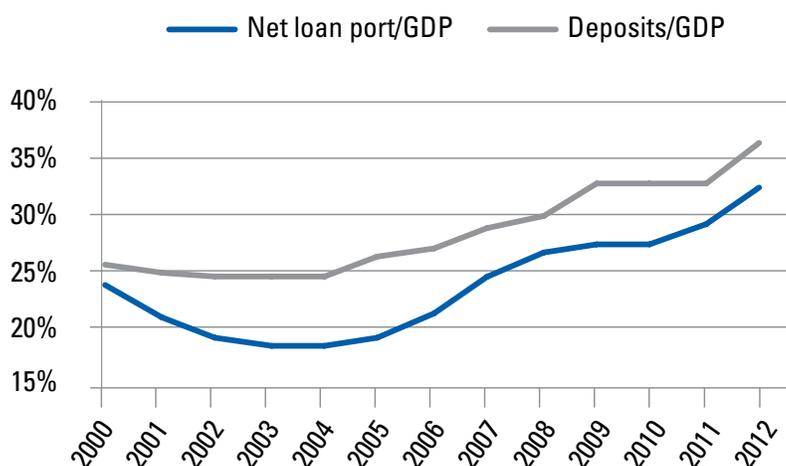
GMF is an indirect and instantaneous national tax on all financial transactions out of the financial system. Initially, the tax was set at 2 x 1000 (0.2%); in 2000 it was made a permanent general-purpose tax; and in 2003 increased to 4 x 1000.

Transactions involving the use of funds deposited in checking or savings accounts by individuals or businesses, including those in the central bank, are subject to the tax. This includes all withdrawals (debits and cash-out), regardless of the instrument or channel.

Individuals are given a USD 5,219 monthly exemption, from one “marked” account per person. (Loan payments are also exempt.) Coordinating the data on marked accounts is tasked to the Banking Association-run credit bureaus (called CIFIN), and the statistics are used by the Banking Association (Asobancaria) and Banca de las Oportunidades to calculate and report the number of people with financial services.

The tax now collects funds equivalent to almost 1% of GDP annually, despite taxpayers’ avoidance efforts, which include shunning formal financial services. The 2012 tax reform will reduce the GMF by one percentage point per year beginning in 2014, ending the tax in 2018.

FIGURE 4 Financial deepening ratio (deposits/GDP)



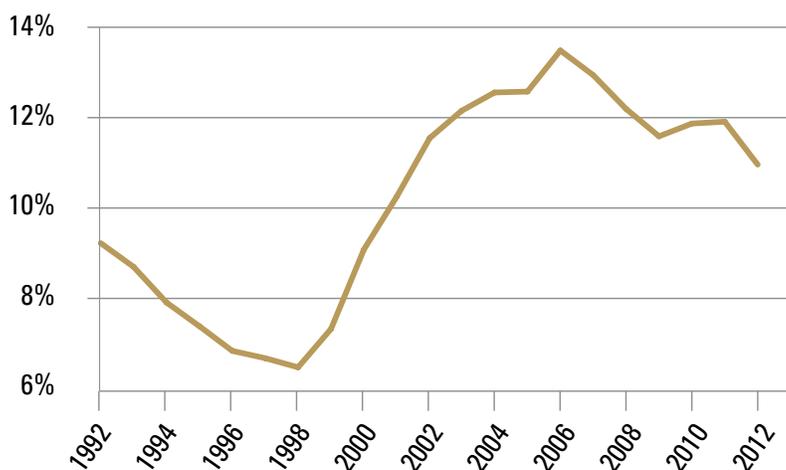
Source: Based on data from Banco de la República

The aftermath of the crisis and the new tax meant that by 2000, the financial deepening ratio (deposits/GDP) was down to 25.7% from a pre-crisis level of 30% in 1995, as shown in Figure 4. The ratio continued to decline until 2004, rising steadily to 36% by 2012.

At the same time, the preference for cash increased sharply before declining from a peak in 2006: cash was 11% of M3 (a subset of the money supply) as of December 2012, compared to 9% starting the nineties, as shown in Figure 5.

Gains in economic growth since 2004 are reflected in the GDP per capita, which has grown steadily in recent years to reach USD 7,933 in 2012.

FIGURE 5 Cash preference (cash/M3)



Source: Based on data from Banco de la República

Financial inclusion led by government policy

Banking association Asobancaria's measure of financial inclusion, based on the number of adults with access to at least one financial product (either an account or a credit) indicates that the proportion rose from 55% in 2007 to 66% in 2012.⁴ These gains came mostly from new savings accounts (86% of the newly included), where the role of the government's conditional cash transfer program Familias en Acción was significant — in 2009 it began paying its 2.2 million subsidies into accounts opened for beneficiaries. The other 14% of the newly included gained access to credit cards and other types of consumption credits (66%) and microcredit loans (33%).

According to the World Bank's Global Financial Inclusion (Finindex) Database, on the other hand, only 30% of adults report having an account at a formal financial institution. The difference could stem from the fact that Finindex's definition does not include loans, and Asobancaria's definition includes inactive accounts (which are 42% of total accounts). Because this BTCA diagnostic is concerned with payments, therefore, the Finindex figure will be the one used when referring to financial inclusion in Colombia.

The increase in financial inclusion has been possible because of the government's financial inclusion

policy, known as Banca de las Oportunidades and explained in Box 2 below, as well as by the private sector's endorsement of this policy.

BdO's efforts, with backing from the financial institutions, resulted in 98% of Colombian municipalities having a point of access to financial services by 2010, up from 72% in 2006. There were 28,100 agents throughout the country by December 2012, three times the number of bank branches (7,100); ATM networks and the number of point-of-sale (POS) devices have also grown, as Table 1 below shows.



Box 2 Banca de las Oportunidades role in coordinating financial inclusion⁵

Banca de las Oportunidades (BdO) is a national program, begun in 2006, to execute the financial inclusion policy set by the Colombian government. It combines elements of a think tank, a coordination mechanism for other government agencies, a promoter of an enabling regulatory environment, and a distributor of government funds to subsidize and incentivize quick and effective responses from the financial system.

The program is administered by Bancoldex (a second-tier public bank) under the guidance of an advisory committee including the Ministry of Finance, the Ministry of Commerce and Industry, and the Ministry of Agriculture.

The program led to changes in the regulatory framework, such as when financial institutions and cooperatives were authorized to offer services through agents (called Corresponsales Bancarios) and banks were authorized to offer basic savings accounts; the latter policy included a simplified know-your-customer (KYC) procedure and an exemption of the GMF tax described above.

Banca de las Oportunidades asked the financial sector to subscribe to a set of goals, covering the number of adults with access to at least one financial product, the number of microcredit loans disbursed, and the reach of access points like agents.

In 2007 BdO began financing part of the expansion of banks' agent networks⁶ and the infrastructure of small financial institutions, NGOs, and cooperatives to small municipalities without financial delivery channels.

Since then the program has focused on facilitating the introduction of new methodologies to provide small savings and microcredit and the use of mobile banking, resulting in important changes in the financial inclusion landscape. In 2012 it launched a challenge fund to promote electronic transactions, chiefly in rural areas, as a result of the Ministry of Finance's interest in combining financial inclusion with formalizing payments in the economy.



TABLE 1 Financial and mobile infrastructure and transactions

	2007	2009	2012	UMIC 2011*
Cash Handling Points/10,000 Adults⁷	6.9	7.3	15.4	
Branches	2.2	2.2	2.3	1.6
Agents	1.7	1.9	9.1	Na
ATM	3.0	3.2	4.0	4.2
POS/10,000 Adults⁸	39.6	47.4	71.0	
% of Financial Transactions done in Cash⁹	n.a.	71.1%	65.7%	
% of Electronic Financial Transactions¹⁰	n.a.	28.9%	34.3%	
Mobile penetration (subscriptions per 100 people)¹¹	64.6%	82.4%	106.8%	87%
% of Individuals using the Internet¹²	21.8%	30.0%	48.9%	

* Averages for Upper Middle Income (UMIC) countries for 2011 from World Development Indicators.

Access to electronic payment services is high, but acceptance is still low

Despite the government's push for greater access to financial services, this access is distributed unevenly. Though 220,000 POS devices were installed by 2012, only 70% were active, and they provided coverage to 53% of municipalities, concentrated in formal commercial businesses.¹³ Just 46,000 businesses had a POS device, while estimates suggest there are 450,000 commercial outlets in the "traditional" economy, typically "mom and pop" stores called "tiendas," which account for about 56% of household consumption in the country.

The explanation is not a lack of debit and credit cards in the market: Debit cards per capita in Colombia increased 2.4 times between 2001 and 2012 (from 0.44 to 0.91), and credit cards per capita increased five times in the same time period, from 0.05 to 0.27, ending 2012 with 28.6 million total active cards in the market.

Rather, while the GMF tax is part of the explanation, at least as important is the predominance of the informal sector and of merchants' resistance to accepting card payments.

A report by World Bank¹⁴ finds that informality in Colombia is higher than would be estimated based on its GDP per capita; that 74% of the labour

There were 7,100 bank branches, 28,100 agents, and 220,000 POS devices throughout the country by 2012.

74% of the labour force and 43% of the businesses in Colombia are informal. Electronic payments would likely help the formalization of the economy, bringing tax benefits for the government and economic opportunities for SMEs.

force is informal; and that 43% of the businesses are also informal, only surpassed by Peru (56%) and similar to Brazil (42%).

Two additional factors work against card acceptance. First, when a purchase is made with a debit or credit card, the acquiring bank must retain 10% of the VAT (which is 16% on average, resulting in a retention of about 1.6% of the purchase value), 1.5% for income tax, and another 0.414% for local tax. This reduces the merchant's revenue by 3%, apart from the merchant discount fee. Even though merchants can deduct these payments at the end of the year, it reduces their working capital at the time of the sale; for merchants who do not pay taxes, it reduces their income. A measure pushed by banks to eliminate the tax retentions and hence to promote merchant acquiring, was analysed as part of the tax reform effort in 2012 but not approved.

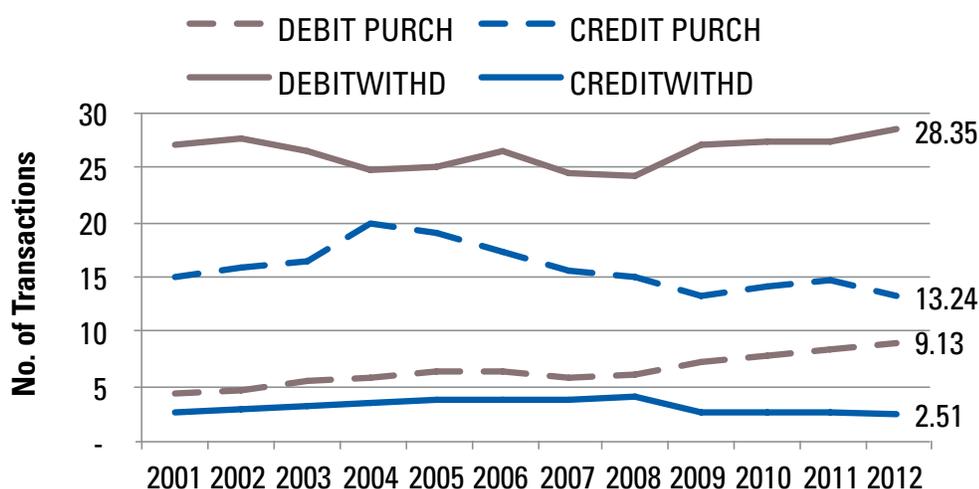
A VAT rebate for purchases made with cards (2% of VAT of an average of 16%) instituted in 2004¹⁵ had little impact on consumers' motivations to pay with cards, so merchants did not see any added value in accepting card payments.

Second, the acquiring procedures are burdensome on merchants. Once a shop is preselected, it has to go through a pre-screening review and pay a flat fee of USD 220. It also has

to comply with risk mitigation policies. Once approved, the merchant must pay the discount fee, which ranges from a maximum of 5% of a sale to less than 1% in the case of the big supermarkets. Not considering the effect on the level of transactions, and assuming an average 3.5% discount rate combined with other taxes, a merchant would receive 6% less value when accepting card payments than with cash.

The result has been a slowly increasing but still modest use of debit cards for purchases, as shown in Figure 6 below. Consumers mostly use debit cards for withdrawals and credit cards for purchases, though the gap has narrowed in recent years.

The use of payment cards for purchases has increased as a result of the dramatic expansion of the number of credit cards available in the country, largely due to efforts of big retailers such as Exito, the biggest supermarket in Colombia, with the Tuya card in an alliance with Bancolombia (issued approximately 1.5 million cards); Codensa, an electricity utility that sold its portfolio to Banco Colpatria in 2011 (750,000 cards); and Falabella, a bank owned by a department store (900,000 cards), to issue credit cards. All of these schemes use non-franchised cards (except 40% of Falabella cards). As of 2012, there were 10 million credit cards issued in Colombia, twice as many as there were in 2008.

FIGURE 6 Purchases and withdrawals per type of card per year, 2001-2012

Source: Author's calculations based on data from Banco de la República, Reporte Sistema de Pagos 2012.

Use of electronic payments in value chains is mixed

The reluctance of merchants to accept electronic payments has consequences throughout the value chains (56% of consumption is made at “mom and pop” stores). Most medium and large enterprises (i.e., the formal economy) pay their suppliers using bank transfers. But when large manufacturers of consumer products, such as Alpina (dairy products) and Bavaria (the Colombian beer company acquired by Sab Miller), distribute their products to small merchants, they are paid in cash. To mitigate the risks this entails, companies either install safes in their distribution trucks (still a risk for drivers) or make

agreements with banks to allow for periodic deposits at special windows in their branch networks.

Big supermarket chains also pay their providers electronically, but take in 75% of their sales in cash. They then take the cash to one of the several security companies that offer cash-holding services, skirting the GMF tax. The supermarkets argue that the costs of this arrangement are high (though presumably lower than paying the GMF tax).

One successful penetration of a value chain by electronic payments has been the case of the coffee industry. The Colombian Coffee Growers

Federation buys coffee growers' crops and distributes subsidies and credits. Prior to 2006, these payments were made in cash, which entailed high costs and complex logistics, especially in rural areas. Then the Federation began issuing prepaid cards in place of cash. The prepaid cards used a special chip technology that can operate offline, and they could be

used at proprietary POS networks that included 2,500 establishments throughout the coffee-growing regions of the country and Banco de Bogotá's ATM network, mainly in urban areas. As of 2013, there were 445,000 coffee growers (out of a total of 550,000), who on average owned less than five hectares, with an active "cédula cafetería."



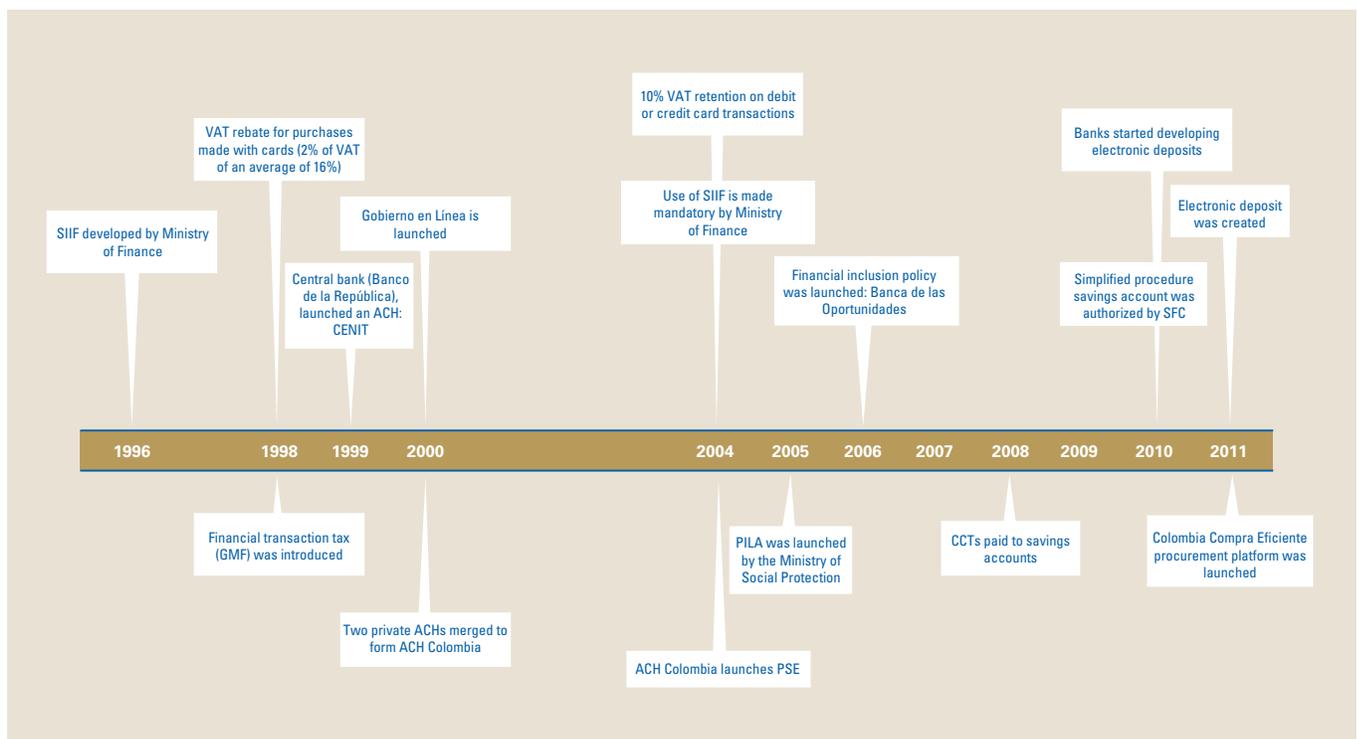
3 Evolution of policy toward electronic payments

A fifteen-year view: 1998-2013

Two government actions in the 1990s laid the foundation of the infrastructure that would later

support the financial sector's investments in electronic payments during the first decade of this century, during a fifteen-year journey summarized in the timeline below.

FIGURE 7 Timeline of key developments



By 2012, the Treasury made 1.5 million payments electronically to suppliers, with a daily average value of USD 388 million, about 80% of government payments to suppliers.

Centralized government payments and a government-led ACH

Driven by concerns for control and transparency and for efficiency, the Treasury Department at the Ministry of Finance started the Sistema Integrado de Información Financiera (SIIF) in 1996 to process and control government payments. Prior to SIIF, the Treasury and all government agencies had accounts in almost all the commercial banks for receiving bill payments and making expenditures, an arrangement with high opportunity costs as funds sat idle in accounts for 15-20 days, during a time when inflation rates were on average 20% per year.

At the same time, and in response to the interest from Treasury, the central bank (Banco de la República), launched an automated clearing house (ACH), called CENIT, to which all the commercial banks had to connect if they wished to participate in government payments. Even though Banco de la República's focus had been in high-value payments, it argued that its involvement in an ACH was justified in order to move the market toward a more efficient payment system.¹⁶ Commercial banks themselves were slow to develop an ACH but finally did so soon after CENIT became operational.

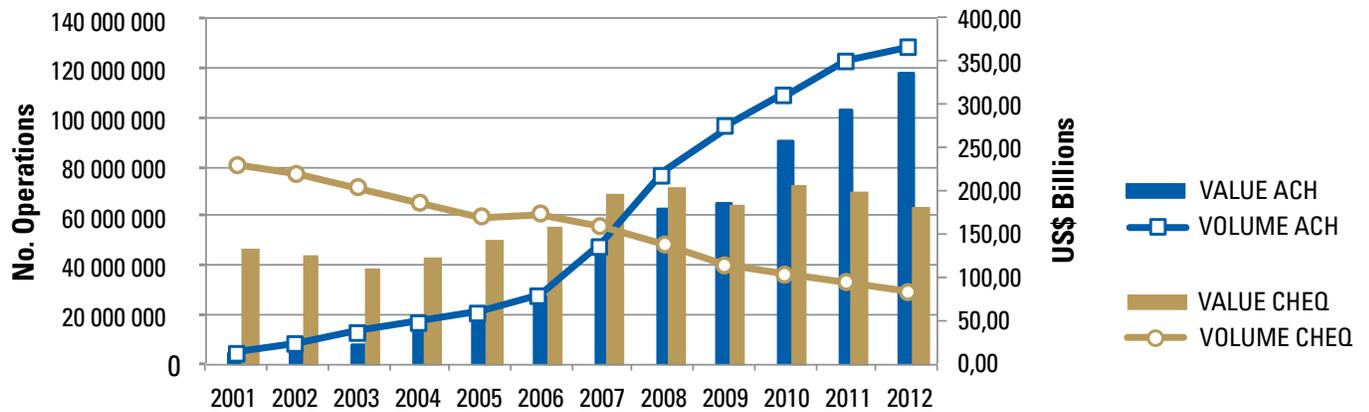
So with SIIF, each government institution makes an electronic budget

request to the Treasury, indicating the funds and the account of the recipient (the system has 500,000 registered accounts), and when the Treasury issues an authorization, payments are processed from its accounts at the Central Bank, through CENIT, to the accounts of providers or beneficiaries at any of the commercial banks.¹⁷

In 2000, all 170 federal government institutions were required to process all their payments through the SIIF platform.¹⁸ By 2012, the Treasury made 1.5 million payments electronically to suppliers, with a daily average value of USD 388 million. The Treasury estimates these represent 80% of government payments to suppliers. Salaries for the more than 1.5 million federal government employees are paid bi-monthly into each agency's account at a commercial bank, from which disbursements are made to employees' individual bank accounts. However, unlike with payments to suppliers, salary and pension payments are not yet made directly from the Treasury's accounts at the Central Bank because of the challenges of designing an IT platform which can process 2.8 million payment orders bi-monthly.

The commercial banks, seeing CENIT as a harbinger of electronic payments and as a threat to their investment in branch networks, acted quickly to create two private ACHs (one owned by the big banks and the other by the

FIGURE 8 Annual transactions at CEDEC (Checks), CENIT and ACH Colombia



Source: Banco de la Republica

Note: ACH figures include value and volume of CENIT (public) and ACH-Colombia (private) clearing houses.

small ones), which soon merged to form ACH Colombia, which is today jointly owned by 18 banks. By 2012, CENIT and ACH Colombia processed 510,000 transactions worth USD 1,300 million in transactions daily (compared to 8,200 transactions with a value of USD 21,000 million processed by CUD, the real-time gross settlement system, or RTGS).

As Figure 8 shows, the rise of the role of ACH transfers has led to a steep decline in the number of check transactions: In 2001 80 million checks were processed at the check clearinghouse (CEDEC), and by 2012 there were only 29 million processed. Meanwhile, transactions at both ACHs increased by 24 times from 5 million to 124 million in 2012.

The proportion of all transactions processed in the financial system that involve paper (cash or check exchange) whether at branches, ATMs, or agents, has declined to 66% in 2012, down from 71% in 2009, while those involving electronic payments (including Internet, ACH, IVR, and POS) have increased correspondingly from 28% to 34%. By 2012, electronic payments accounted for 42% of all transactions recorded by financial institutions.

CENIT processes many fewer transactions than does ACH Colombia — only 8% of total ACH transfers. But it remains valuable for both the government and the central bank. The Ministry of Finance, as a payer, gets a preferential rate

80% of social security contributions, on behalf of 7.4 million workers, are paid electronically.

for its transactions (USD 0.08 per transaction), lower than they would likely get from ACH Colombia. CENIT also plays a role in terms of competition. It has allowed the public bank, Banco Agrario, to establish special fees and rates that reflect its cost of cash handling in remote rural areas of the country in a tiered structure for six types of municipalities where the transaction is received, an approach that would not be possible at ACH Colombia, where banks charge a fixed amount based on the volume of transactions made by each institution.¹⁹ An agreement has finally been reached, allowing Banco Agrario to become part of ACH Colombia, a move that some suggest will provide a new impetus to electronic payments toward rural areas.

Government initiative leads to private investment in online payments

Soon after the development of the ACHs, the government launched an initiative called Gobierno en Línea, or Government Online. The goal was to allow access to many government procedures online and increase transparency for citizens. The initiative itself had little impact on payments, but, in 2004, it spurred ACH Colombia to launch Pagos Seguros en Línea (PSE). PSE is an Online Banking Push ePayments service (OBPeP) that allows people to pay businesses or government

through the Internet, debiting their accounts at financial institutions.

Yet it was not until 2006 that PSE took off, due again to government action. The spark was a government push to simplify the way social security contributions were made and distributed. The social security system is run by private operators including ones for health, pensions, insurance, a family subsidy fund, social services for children, and a national employment fund.²⁰

Through a new system called Planilla Integrada de Liquidación de Aportes (PILA), employers could go to the website of any one of the operators; enter their registration information; fill out a single form with the details of their contributions to all of the operators; and then they would be directed, through PSE, to submit a single payment from their designated bank account. (Businesses without a bank account or an Internet connection, if they have fewer than 30 employees, could pay in cash at their nearest bank branch, using a code provided by a call center).²¹ PILA ran on the rails of ACH Colombia, since payments were sent from employers' banks to the operators' banks. (In the case of cash payments, transactions also passed through ACH Colombia, but not the PSE button.)

By mid-2008, 390,000 social security contributions were

processed per month; today the number is 2.2 million, which represent the contributions of 9.2 million workers. And today 80% of those contributions, on behalf of 7.4 million workers, are paid electronically through the PSE button. Of the more than 10.2 million transactions made monthly through the ACH by 2012, 56% were social security payments, although they only accounted for 14% of the total value (USD 265,000 million).

Many of those interviewed for this diagnostic said that despite the modest values involved, linking PILA to PSE has been an important factor in promoting electronic payments because it built consumer trust in the system and built payment habits that could be applied to new services offered through PSE. PSE accounted for just 4% of transactions through ACH Colombia in 2007, and by 2012 it represented 12% of transactions.

As of April 2013, 46% of PSE transactions came from PILA, reflecting increased usage for tax payments (13%) and bill payment to telcos (26%) and other sectors (15%). E-commerce is a recent focus: Approximately 10,000 businesses can now accept online payments; many do so through aggregator services that intermediate between the businesses and PSE.²²

Government focus emphasizes efficiency and inclusion

Recent government initiatives have deepened the avowed commitment to transparency and efficiency. In 2011 the government launched a renovated platform for procurement called Colombia Compra Eficiente,²³ used by both the federal and local levels. And the government's attempts to digitize all interactions with citizens led to its recognition as one of the "Emerging leaders in e-government development" in the United Nations report on E-Government: Colombia was ranked 4th in the Americas after the United States, Canada, and Chile, and in the top 20 overall for online service delivery.²⁴

Government has also pushed for greater financial inclusion at different levels, particularly through access in rural areas. As part of the program of Banca de Las Oportunidades (see Box 2), in 2012 the Ministry of Finance and BdO launched a specific challenge fund to encourage electronic transactions, with an emphasis on rural areas. Three banks were awarded USD 1.7 million (by requirement, at most 50% of the investments required) to develop projects.²⁵

The inclusion objective was part of the Ministry of Finance's motivation for a proposed new law allowing non-bank regulated institutions to

“Approximately 5.6% of GDP is driven by illegal activities, flourishing on the economy’s heavy use of cash.”

The Colombian Banking Association

issue electronic deposits (similar to e-money issuers). The draft law has yet to be presented to Congress, but it has spurred interest in new business models by the traditional financial institutions, which feel threatened by new entrants to the market.

The government has been particularly keen on advancing inclusion by advocating access via the mobile channel, taking advantage of the high mobile phone penetration in Colombia (98 subscriptions per 100 people in 2011). After its most recent tender, the conditional cash transfer program, now called Más Familias en Acción, as well as the rest of the Departamento para la Prosperidad Social (DPS)’s transfer programs, now makes two-thirds of its payments into beneficiaries’ savings accounts at Banco Agrario and the other third into mobile wallets at the bank Davivienda.²⁶

Providers, once reactionary, are promoting the shift

Where they once saw electronic payments as competition, banks now see them as ways to cut costs. In a recent speech at the annual convention of the Banking Association, the association’s president said that approximately 5.6% of GDP is determined by illegal activities, which can flourish because of the economy’s heavy use of cash. To combat this illegal activity, but

also to promote economic activity and financial inclusion, he proposed a national initiative to reduce the use of cash, an endeavour which he recognized requires the participation of the government and the commercial and financial sectors.²⁷

Even for the public bank, Banco Agrario, the high costs of cash handling have forced changes. Banco Agrario transports cash by air to 150 of its 750 branches. The bank’s new strategy revolves around reinforcing its agent network through partnerships with Servientrega, a postal service provider, and Solidda, a network with more than 6,000 points mainly for top-ups and utility payments.

The banking sector estimates that in 2012 it spent the equivalent of 0.06% of GDP transporting money, while the Central Bank spent 0.03% of GDP printing it.²⁸ Like Banco Agrario, many banks are focusing on developing a low-cost agent network to manage cash transaction, and promoting electronic payments as a means to reduce costs. This effort at improving efficiency is further motivated by political pressure to reduce fees,²⁹ as well as increased competition in the payments sphere from non-banks.

Competition is particularly intense from postal service providers, which offer remittance services and in

2009 were formally recognised as “associates” of the Official Postal Operator, 4-72. As a result, 12 companies (of which two manage 92% of all payments made by these postal service providers) began promoting their network of 17,000 cash handling points, resulting in an average of 3.4 million monthly remittances by 2012. These remittances are sent and received in cash, meaning there is never an electronic store of value from which payments can be made (cash-to-cash); their fees do not generate VAT (remittances fees through banks charge 16%); and have much less strict and costly AML/AFT requirements. Banks recognize they will be able to compete only if they reduce costs dramatically, which can only come through electronic remittances.

Banks also recognize that they must redefine the card acquiring model to increase electronic payments. The two card switches, Redeban and Credibanco, with a network of fully interoperable POS devices since the late 1990s, have historically operated as exclusive switches for each of the franchises, MasterCard and Visa, respectively. But in 2013 the franchises decided to work with both switches; and VISA is in the process of beginning its own operation in Colombia, acting as a low-value payment network, while Credibanco launched its own non-franchised debit and credit card, called Socia. It remains to be seen

how these circumstances will impact the business case of the acquiring business and the acceptance market, and how the competition authority will view these adaptations.³⁰

In the low-income sector, banks have turned to the mobile channel to cut costs, resulting in innovative products for savings and microcredit.

The bank AV Villas offered a basic savings account operated exclusively on the mobile channel. The product evolved into the Colombian division of the Transfer service (a mobile solution from America Mobile and CITI bank for Latin America), which has the biggest network of agents in Colombia — close to 14,000. Transaction levels are low, though.

Davienda’s electronic deposit product Daviplata is used for the Más Familias en Acción beneficiaries. Those 900,000 accountholders, and 1.1 million others, forced the bank to redefine its channel strategy and come to an agreement with an agent network operator to scale up to 2,500 agents in fewer than six months.

And in 2013 Bancolombia launched a savings account available only through mobile devices, with no fixed fees, Ahorro a la Mano. In its first six months, it had 60,000 clients, of which 70% are first-time clients.

Banks have turned to mobile technology to cut costs, resulting in innovative products for low-income clients.

These products allow mobiles to be used for “non-card” withdrawals at ATMs, by issuing a token that can be entered at the ATM. This service is now available at most of the country’s ATMs. A similar service aims to use mobile phones as POS devices at small merchants, though the process is cumbersome for low-value payments. Redeban, linked to the Maestro franchise, has recently

launched a Near Field Contact (NFC) card, called PayPass, to address this issue.

If future government policy favors more formality over the long run, as opposed to a short-term vision directed at capturing more taxes, providers may increasingly see a business case for electronic payment products and channels.



4 Current state of payments

Headline indicators

The analysis of available data on payments made in Colombia (using different approximations explained in Annex B) indicates that the majority of the payments made in Colombia are still made in cash: Just less than 10% of the 828 million payments that are made every month are made through electronic means.

High-frequency, low-value payments account for a large percentage of payment volumes; these are the payments made at small and medium businesses that are often informal and rarely accept cards.

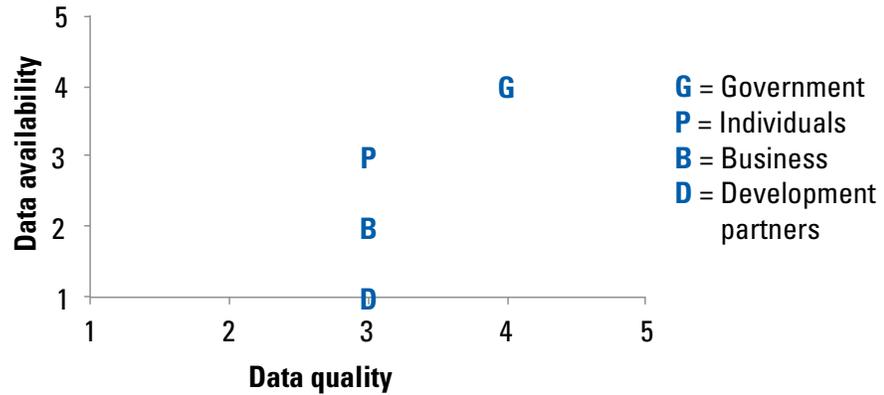
In contrast, high-value payments are generally paid electronically in Colombia: 69% of payment values

are paid through electronic means, reflecting the emphasis of public policy and financial sector initiatives.

Data Quality Index (DQI)

Quantitatively mapping the payments landscape is a necessary first step to a targeted effort to convert cash to electronic payments. However, with large segments of transactions taking place in cash, aggregate estimates — especially data on payment volumes — are not available and need to be constructed from multiple sources. The Data Quality Index (DQI) provides an at-a-glance indication of the quality (completeness and reliability) and availability of payments data, and hence the country team's confidence in the overall calculations.

FIGURE 9 Depiction of the Data Quality Index for Colombia



Source: Country team evaluation based on sources accessed.

As Figure 9 shows, the DQI is 3.25 for quality and 2.5 for availability, on a scale of 1 to a maximum of 5 for high quality, widely available data. However, data from government sources has a DQI of 4 for quality and 4 for availability, reflecting greater availability of recent and credible data. For business payments, the DQI is 3 for quality and 2 for availability, and for individuals 3 and 3, as estimates had to be assembled from various data sources and assumptions were required, especially for B2B and B2P payments. Development community data was given a DQI of 3 for quality and 1 for availability: Although the diagnostic team has a high degree of confidence in the data from development partners, only two development partners with operations in Colombia shared their detailed payment information.

Payments data by payer and payee

As Table 2 below shows, government entities, businesses, and people together make an estimated 828 million payments per month and nearly 10 billion payments per year in Colombia. Of these, consumption by individuals (P2B) accounts for the lion’s share of the number of payments. Over 96% of the overall number of individuals’ payments are made in cash. An estimated 47% of the volume of transactions originating from businesses are made using electronic means. By volume, 75% of government payments are now paid electronically.

The total value covered by this data is much greater than Colombia’s USD 369 billion GDP, because this analysis follows payment streams through multiple transactions.

TABLE 2 Payments by payer in Colombia

Payer	Total payments per month	% volume electronic	Total value COP mill	Total value US\$ mil	% value electronic
Government	11,701,194	75.9%	24,915,163	13,184	94%
Business	93,372,734	47.1%	178,402,818	99,112	80%
Individuals	722,712,617	3.8%	45,962,078	25,534	13%
Donors	311	95.0%	539	0	94%
Total per month	827,786,856		249,280,598	137,830	
Total per year	9,933,442,272		2,991,367,176	1,653,964	
Weighted avg		9.7%			69.0%

TABLE 3 Number of monthly payments by payer and payee type

		PAYEE		
		Government	Business	Individuals
PAYER	Government	2,437	284,769	11,413,988
	Business	527,739	36,875,224	55,969,771
	Individuals	291,806	710,336,783	12,084,028
	Development partners ³¹	na	112	311

The data suggest there is still a cash pool of USD 42 billion in monthly payments yet to be converted to electronic payments. Of this, Colombian individuals make about USD 22 billion in cash payments to businesses, the government, and other individuals each month, accounting for 87% of the value of their total monthly spending. Another large pool of cash (USD 19.7 billion per month) is business payments, mostly in the form of

supplier and salary payments, as well as in taxes paid to the government.

Table 3 shows the volume of monthly payments for each payer-payee combination.

Payments from individuals to businesses (P2B) account for the largest volume of payments. Businesses also make nearly 36 million monthly payments to suppliers and

TABLE 4 Percentage of electronic payments by volume³²

PAYER	PAYEE		
	Government	Business	Individuals
Government	100%	90%	75%
Business	40%	56%	41%
Individuals	30%	4%	17%
Development partners ³³	na	86%	100%

There is a cash pool of USD 42 billion in monthly payments yet to be converted to electronic payments.

as social security contributions (B2B), and nearly 56 million salary and pension payments (B2P) each month. In the government space, G2P payments as salaries and social transfers represent the largest share of payment volumes. As mentioned above, data on donor payments was not readily available, but interviews suggest those payments are marginal in the Colombian context.

Tables 4 and 5 show that for both volume and values of payments, government payments are the most cash lite in percentage terms, followed by business and then individual payments, which are

progressively more cash heavy. For both payment volumes and values, government payments — especially government-to-government (G2G) and government-to-business (G2B) payments — are largely paid through bank transfers and other electronic instruments.

One area of government payments where data is lacking is on transfers made by local authorities. Government offices do not have or are unable to share information on average payment size, number of payments, and mechanisms used in making transfers to sub-national levels of government.

TABLE 5 Percentage of electronic payments by value

PAYER	PAYEE		
	Government	Business	Individuals
Government	100%	99%	95%
Business	28%	57%	64%
Individuals	6%	12%	21%
Development partners ³⁵	na	86%	100%

Comparing values and volumes for all payers and payees, for B2G, G2P, P2B, and P2P payments, a higher percentage in value than in number of payments is paid electronically. This suggests that all payers tend to make larger value payments electronically;³⁴ but smaller payments, which are paid in cash, account for a larger share of the overall payment volume. The low prevalence of electronic payments in

P2B, P2B, B2G transactions is likely driven by persistent informality in the Colombian economy as well as the effect of the GMF tax on the use of financial services and the preference for cash.

Colombians make an estimated 3.4 million domestic remittance payments a month, with a value of USD 321 million. The majority of these



payments are made through transfer companies such as Efecty, Super Giros, 4-72 (the postal service network), and others. Banks are marginally used for person-to-person payments, but the payments included in this analysis involve depositing cash for a transfer, as opposed to transfers from one's account. Therefore, all domestic remittances in this analysis are cash-to-cash. Domestic remittances represent a concentration of cash in the P2P space, and innovative solutions that convert these payments to electronic form have the potential to benefit the

consumer in terms of greater security and links to other formal financial services such as savings products.

According to Banca de las Oportunidades and Asobancaria, about 8.6 million international remittance payments flow into Colombia each month, accounting for a total value of USD 4.1 billion. Of these, 23% are paid electronically. Both domestic and international P2P payments represent an opportunity for converting cash-to-cash to purely electronic transfers.

5 Trajectory of shift: payment infrastructure and incentives

Relevant use cases

BTCA country diagnostics seek to assess the trajectory of the shift to electronic payment, through the lens of particular payment use cases (see Annex B for more information) which are particularly relevant to the stage of the journey of the country. This section explains the current state and momentum of the shift to electronic payments in certain cells of the payment grid.

The use cases selected for analysis provide a general view of the forces

driving the shift in Colombia today:

- A. Mass electronic credit (or mass bulk payments)
- B. Remote bill payment (or bulk payment collection)
- C. Debit card payments at merchant

These use cases (color coded as per the footnote) apply to the different cells of the payment grid as highlighted in Figure 10 below.

FIGURE 10 Use cases and payment types

		PAYEE		
		G	B	P
PAYER	G	G2G Central government disbursements to local level	G2B Supplier payments, Utility payments, Social security contributions	G2P Welfare programs, Salaries, Pensions
	B	B2G Taxes, Fees for licenses and permits	B2B Supplier payments, Utility payments, Social security contributions	B2P Salaries and benefits
	P	P2G Taxes, Utilities, Debit card payment of taxes	P2B Utilities, School fees, Credit card payments, Social security contributions, Debit card payment at stores	P2P Remittances, Gifts
	D	D2G Taxes	D2B Utility payments	D2P Cash transfers

Note: A. Mass electronic credit (or bulk payments); B. Remote bill payment (or bulk collections); C. Debit card payments at merchants.
 G = Government; B = Business; P = Individuals; D = Development partners

TABLE 6 Overview of use cases

	Bulk payers (G, B, D)	Non-bulk payers (P, B)	
Use case defined	A. Mass electronic credit – Mass fund transfers	B. Remote bill payment	C. Debit card payment at merchants
(a) Store of value from/to which payment is made	From any to any regulated electronic account	From any regulated electronic account to bill issuer	Regulated deposit account with debit card
(b) Payment instrument category	Credit transfer	Credit transfer	Debit card payment
(b1) Transaction type	Batch transfer (but real time for small dispersions)	Bill pay (batch)	Authorized in real time against balance, settled overnight
(c) Channel used to initiate and authorize	Internet banking (for firms) Treasury system and ACH (CENIT) (for government)	ATM, Mobile, Internet, POS, Bill payment Kiosks	Card, POS
Is there a range of providers who offer this?	Yes	Yes, both financial institutions and non-financial providers	Yes
Time to credit value received	Next day	Same day or next day if done at banks. Typically 3 to 7 days in non-banks	Typically 1 day
% of all accounts at any bank which can use this instrument	100%	100%	% of bank accounts with debit cards ~ 96%
Indicative cost range per average tx size	Gov't : USD 0.08 Bank : USD 0.38 - 0.83	Free for users. Bill issuer pays ~ COP 700 for bills collected in cash	1.5%-5% discount
As % of average transactions amount	0.003 % for G (Av.USD 2,400) 0.04% for B (Av. transaction in ACH USD 2,150)	2.5 – 5.5% Average utility bill payment of USD 15	Average Purchase with Debit Card USD 30

Note: A. Mass electronic credit (or bulk payments); B. Remote bill payment (or bulk collections); C. Debit card payments at merchants.

G = Government; B = Business; P = Individuals; D = Development partners

Table 6 presents a high-level review of the availability and costs of electronic payments for each of the three use cases.

The remainder of this section is a rating of the propensity for a further shift to electronic payments in these use cases. In each case, several factors are assessed: the overall

country environment and conditions to promote shift; the interest of service providers; and incentives from different user groups. The rating methodology can be found in Annex B.

The factors that generate the ratings vary somewhat by the use case, but each is rated according to the categories in Table 7.

TABLE 7 Use case ratings

Rating	Conditions & incentives are such that it is:
1	Highly likely to achieve full shift
2	Possible to achieve a real shift
3	Likely to lead to slow incremental progress
4	Likely to drift without clear upward direction
5	Unlikely to lead to shift

Use case A: Mass electronic credits

Trajectory assessment:
2.5
Trending upwards

Mass electronic credits refers to the disbursement of funds from one entity to multiple individuals or firms through a single payment transaction (one-to-many) and it exemplifies the main mechanism of payments behind Shift 1, illustrated in Figure 2 of the introduction. The most common examples of this use case are:

- Salary payments (G2P, B2P);
- Conditional Cash Transfers, other government/social programs or subsidies (G2P);

- Supplier payments (B2P, G2B);
- Payment of pensions (G2P); and
- Disbursement of fiscal resources from federal government to state-level and municipal-level governments (G2G).

In percentage terms, G2G and G2B are the most cash lite of these transactions: G2G payments are 100% electronic by value and volume through the first disbursement to the regional level, and government supplier payments (G2B) are 98% electronic by volume.³⁶

As described in Section III, the Treasury has succeeded in enabling government-initiated bulk electronic credit payments, facilitating a massive conversion in government spending

G2G payments are 100% electronic by value and volume, government supplier payments (G2B) are 98% electronic by volume, and 86% of Más Familias en Acción payments are now paid through electronic means.

from paper-based to electronic payments.

The government has also converted the majority of social transfer payments from cash to electronic form. By volume, 86% of Más Familias en Acción payments are now paid through electronic means. The need to reduce cash transfers and costs together with pressure to promote financial inclusion by paying beneficiaries into simplified accounts contributed to this shift.

As development partners have shifted to direct budget support, development partners in Colombia do not provide direct cash transfers to beneficiaries at this time (D2P), although some in-kind benefits are still provided to displaced persons and those living in extreme poverty.³⁷

An estimated 41% of the approximately 56 million salary and wage payments are made electronically into a bank account, although more research is needed to produce a more accurate estimate.³⁸ Colombians employed in the informal sector are still overwhelmingly likely to be paid in cash.³⁹ Because of the large values involved, and the potential to bring employees into the digital economy, B2P salary payments represent the biggest opportunity for a shift in bulk payments. Also potentially important are B2B payment streams that link formal firms with informal providers.

The key findings of the analysis of this use case are:

1 Regulatory and market conditions fully support the shift of bulk payments from both the private and public sector to electronic form.

The extent at which the shift has already happened has begun to touch the limits in the capacity of established infrastructure to process electronic payments.

2 The federal government has already driven a massive shift to electronic in government-originated bulk payments.

There is no law or mandate driving this shift, but the benefits seem enough to continue driving this change.

3 The advantages of making bulk payments to employees and providers is not evident for medium- and small-sized firms, which usually pay in cash.

The GMF tax is a strong disincentive to handling funds within the banking system, and the costs implied in formalization continue to incentivize smaller businesses to remain informal. The gradual dismantling of the GMF might entice broader usage by small firms, but may not be sufficient to lure smaller firms into formalization, therefore many transactions are likely to remain cash-based. This barrier involves a large fraction of the population economically linked to MSMEs.

4 People do not seem opposed to receiving payments through bank accounts, but there is not quite a demand for it, either.

The continued perception of risk associated to debit cards is not likely to build the demand for this shift.

5 Two important barriers seem to prevent a further shift: difficulties in driving formalization of MSMEs, and driving the trust of individuals in the formal banking sector.

Addressing these barriers would increase the demand for further shift of bulk payments to electronic.

6 The capacity of established infrastructure is probably not a barrier in itself,

but an important aspect that needs to be actively understood, managed, and addressed in order to support the shift.

Use case B: Remote bill payments

Trajectory assessment:

3.2

Relatively slow but upward progress

Remote bill payments are typified by a firm, such as a utility company, issuing individual invoices massively to a number of customers

(individuals or organizations), and customers paying through some pre-defined infrastructure. This use case, which includes both government and business as the payee, can be considered many-to-one. The use case represents the main flows which need to be transformed into electronic in order to make the second shift a reality.

Some examples of this use case are:

- Collection of taxes (P2G, B2G);
- Utility payments (P2B, B2B, D2B, G2B);
- Collection of school fees (P2B);
- Credit card payments (P2B); and
- Social security contributions (G2B, P2B, B2B).

Both banks and nonfinancial companies offer the ability to collect payments in cash; banks, however, also offer the option of paying electronically (by debiting an existing bank account). Ultimately, individuals and firms are free to choose which mechanism they use to pay.

In Colombia, utilities are operated by commercially-oriented companies (some of private ownership and others partly owned by the state), so the utility bill payments are not different than any other private business collecting payments for goods or services. Taxes and social

A large source of cash payments, and thus a large opportunity, lies in tax contributions (B2G and P2G).

security contributions both involve mass collection of money that is accrued at the end of specific time periods.

PILA payments (representing social security contributions) amount to 7.9 million payments per month (including contributions and dispersion to all operators), worth USD 5 billion, of which 80% are paid electronically, using PSE, as described in Section III.⁴⁰

The PSE system has also enabled individuals and businesses to pay a number of vendors, as well as the revenue authority, DIAN, seamlessly and electronically online. While businesses are taking advantage of the PSE to pay communications, utility, travel, and other retail costs, electronic payment of taxes and usage of the PSE by individuals remains low. Taking utility payments as an example, businesses make 2.4 million monthly utility B2B payments (valuing USD 308 million) all electronically, largely through the PSE system. Individuals, however, could use the PSE for utilities to a greater extent: Only 2% of the 34 million utility payments (10% of the USD 501 million in value) are paid electronically. Although individual electronic remote payments by volume remain low, the PSE is still a major success, as this tool is responsible for creating a secure environment in which payers can

make electronic transfers, and the impact on business payments has been significant.

A large source of cash payments, and thus a large opportunity, lies in tax contributions (B2G and P2G). Data from DIAN, Citibank, and the Ministry of Finance suggest that 30% of the volume of individual taxes and 40% of the volume of business taxes were paid electronically in Colombia in 2012. However, only 6% of individual taxes by value and 28% of business taxes by value were paid electronically. The estimated cash pool in government tax collection is USD 2.065 billion in business taxes (B2G) and USD 2.012 billion in individual taxes (P2G), not to mention the additional costs of missed revenue and leakage that may occur in a cash-based revenue collection system. The potential efficiency gains and cost savings from shifting tax payments from cash to electronic are likely to be large.

The key findings of the analysis of this use case are:

1 Low financial inclusion is a key factor limiting the demand for electronic bill payments. On the supply side, the lack of a robust bill payments infrastructure strongly limits the potential benefits in shifting to electronic, minimizing the drivers for change.

2 A variety of providers offer cash-based remote payments with broad coverage, low cost, and offering the service as part of a broad portfolio of services, making it difficult for banks to compete against cash payments.

3 There is little awareness in the government of the benefits in promoting a shift to electronic, and no plans for promoting this change are on the horizon. Left as is, the limiting factor for increasing use of electronic payments is the penetration of banking accounts.

4 Bill issuers use diversified networks for collecting bills, which would not necessarily pass on savings if customers shifted to electronic. Even if there was a massive shift to electronic, bill issuers are likely to be at the end of the line in monetizing the benefits.

5 Widespread, convenient, cost-free payments infrastructure is available for cash-based bill pay, while electronic payments is only available for a fraction of the population (those who already have a bank account). For those who have the option, cash payments often feel more secure, convenient, and bear no cost. These conditions create disincentives to migrate to electronic.

6 In sum, all actors involved in this use case seem to have a reason not to shift to electronic payments. Key barriers to address are: low financial inclusion, lack of robust bill payments infrastructure supporting electronic bill pay, lack of awareness of benefits in receiving electronic payments, and distortions in the business case for providers caused by fiscal norms.

Use case C: Debit card payments at merchants

Trajectory assessment:

3.8

At risk of drifting

This use case consists of an individual who chooses to pay for goods or services at a store using a debit card, instead of paying with cash. The focus is on the debit card, since as a payment instrument it replaces cash 1-to-1. Debit card purchases exercise the value of money previously stored in a stored value account at a prudentially regulated institution. Credit cards are not considered under this use case, since most credit card purchases exercise the value of a credit line where the only means for disbursement is the card, so the choice of paying with a credit card does not necessarily reflect the choice of replacing cash with electronic transactions (though in some cases it can⁴¹). This use case is one of

the many types of payments which, if converted into electronic, drive the third shift.

Colombians currently make only 3.6% of 710 million monthly consumption payments and social security contributions electronically (because of the availability of data, this figure includes both debit and credit card payments). By value, 12% is paid electronically, meaning that individuals make 685 million payments, worth USD 16 billion, in cash every month. Individual-to-business payments represent the largest payment volume and the largest cash value in absolute terms in this analysis. P2B payments clearly represent the biggest sticking point for massive conversion of payment volumes to electronic form. More research is needed on the barriers to adoption of electronic payments from both the business and customer perspectives.

The key findings of the analysis of this use case are:

1 The existing fiscal norms for inline retention of taxes (as each transaction is processed) and the costs of formalization make it difficult to expand the acquiring business to the next tier of smaller merchants, limiting the coverage of the acceptance networks and the possibility of broader shift to electronic.

2 Existing conditions tend to limit the attractiveness of the acquiring business models for banks.

Without a clear business proposition, banks are not likely to make the necessary investments to expand the POS network, and the value proposition of debit cards as a payment instrument (as opposed to a means to withdraw cash) will remain low.

3 Given low financial inclusion and limited demand for using cards for payments from those who do have an account, merchants do not see the need to accept card payments, and the costs associated with cards seem to easily outweigh the benefits for merchants.

4 Despite the broad issuance of debit cards, people perceive cards as a means to have access to their cash. There is no value proposition of cards as a payment instrument given the limited size of the acceptance network.

5 Emerging barriers: high cost of receiving card payments by merchants; weak business case for banks in acquiring small merchants; relatively small footprint of acceptance network.

6 Lessons about sequencing and prioritizing the shift

The journey to cash lite proceeds through three shifts ...

The BTCA whitepaper hypothesized three shifts on the journey to pervasive electronic payments, called “cash lite” world, shown earlier in Figure 2. This analysis of Colombia shows that these shifts are underway in the sequence hypothesized, but they also overlap and proceed at different speeds and trajectories.

The first shift, related to bulk payments, is well underway. Electronic bill payments, which support the second shift, have gone electronic to a much lesser extent. And clearly the move toward a generalized adoption of electronic payments by the majority of the population, leading toward cash lite, has been slow to occur.

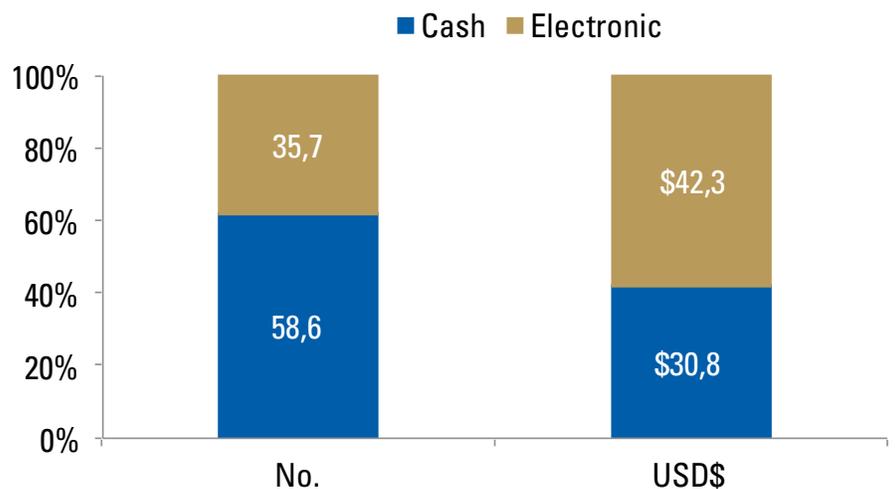
Shift 1: Bulk payments (one-to-many, covering G2P, G2B, B2P, & some B2B)

This first shift is well advanced in terms of value, since more than 58% of the estimated value is already made through electronic transactions, yet incomplete in terms of volume, since

62% of the number of transactions are still done in cash. As much as the government has driven important initiatives toward a major shift to electronic, it has also established regulations that place a big burden and de-incentivize the transition. (This is also an opportunity because the government could impact the transition of the market by removing those barriers.)

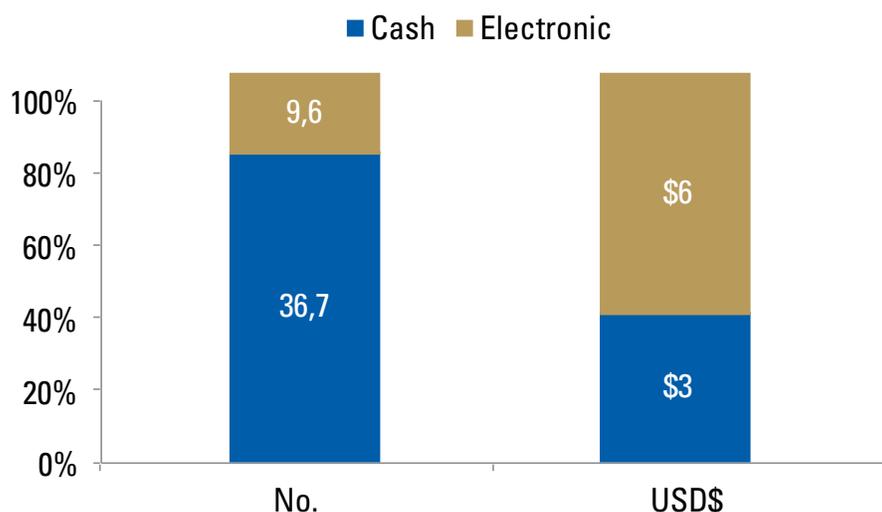
Government initiatives have driven shift of bulk payments to electronic

FIGURE 11 Status of shift 1



Source: From measurement estimates based on the Payment Grid included in Annex B.

FIGURE 12 Status of shift 2



Source: From measurement estimates based on the Payment Grid included in Annex B.

in a big way, while private sector shift to bulk electronic payments seems to have happened mostly for large corporations and businesses, and less so for small and micro businesses.

Thus far, this shift has touched the extremes of the population: on one hand, the poor who receive CCT payments, and on the other, middle/high income segments who are providers for governments and businesses and formal salaried workers who work for larger formal firms.

A large fraction of the population (economically linked to micro, small,

and medium businesses) remains untouched by this shift. An important part of Colombia's population still is economically dependent on very small businesses that are still not part of this shift to electronic, and these segments are not convinced that formalization makes sense for them.

Nevertheless, momentum seems to be gathering in favour of driving the shift through if the main difficulties — facilitating formalization of MSMEs, increasing access to financial services, and driving the trust of individuals in the formal banking sector — are addressed adequately.

Shift 2: Bill payment (many-to-one; covering P2G, B2G, remote P2B)

Once many people have formal accounts and pervasive access to electronic payment infrastructure, the whitepaper suggests electronic bill payments can take off.

The evidence suggests Colombia has not yet been able to accomplish this shift while it is still in the process of completing the previous one, and that in this context bears out the notion of a sequential process. In terms of values of transactions, 62% of bill payments have already shifted to electronic, yet only 21% of the volume has done so.

Low financial inclusion remains an important barrier limiting the

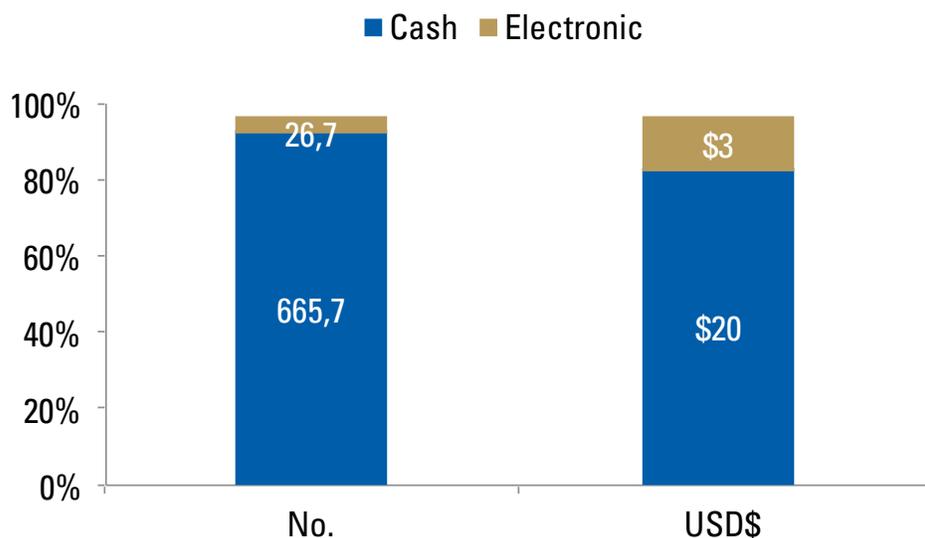
demand for electronic bill pay. The major expansion of infrastructure in Colombia has been driven from the supply-side, where banks are trying to drive cash transactions out of branches. It is not driven by the need to serve a larger fraction of the population having bank accounts. Specialized, more effective and reliable systems that provide customers the confidence of adequate bill payment processing could significantly impact the demand for electronic bill pay, as could the phase-out of the GMF tax.

Shift 3: To pervasive electronic usage (many-to-many; P2B and P2P, some B2B)

The information gathered during the diagnostics affirms that the biggest and hardest shift is related to the pervasive usage of electronic payment mechanisms for daily purchases and is largely yet to happen in the case of Colombia. Only 3.9% of the volume of transactions and 14% in value in this category are taking place in electronic format.

Using the debit card as an example of a typical P2B scheme, existing market conditions make it costly to acquire low-end merchants, limiting the interest of banks to further expand POS infrastructure. And online retention of taxes imposes a high cost for merchants in accepting cards payments. Even more important, it is still early to expect a shift in

FIGURE 13 Status of shift 3



Source: From measurement estimates based on the Payment Grid included in Annex B.

consumer payments to electronic, due to low levels of financial inclusion – a primary precondition.

The possibility of continuing the shift to electronic payments in Colombia will depend not only on a greater financial inclusion but critically on the path toward formality since the biggest cash pools that still are present reveal a desire by customers to remain in the shadow economy. P2B payments clearly represent the biggest sticking point for large-scale conversion of payment volumes to electronic form.



ANNEX A: LIST OF ACRONYMS

ACH	Automated Clearing House
ATM	Automatic Teller Machine
BdO	Banca de Las Oportunidades
CEDEC	Cámara de Compensación de Cheques en Banco de la República
CENIT	Automated Clearing House - Banco de la República
CUD	Sistema de Cuentas de Depósito
DCV	Deposito Central de Valores en Banco de la República
DPS	Departamento para la Prosperidad Social
DRFRP	Development Results Focused Research Program
EFT	Electronic Financial Transactions
GMF	Gravamen a las Transacciones Financieras (tax on withdrawals)
OBPeP	Online Bill Presentment and electronic payment
PILA	Planilla Integrada de Pago de Aportes
POS	Point of Sale Device
PSE	Pago Seguro en Línea - Service provided by ACH Colombia
RTGS	Real-Time Gross Settlement System
SIIF	Sistema Integrado de información Financiera

ANNEX B: COUNTRY DIAGNOSTIC COMMON METHODOLOGY

B1. Measurement and data quality

The measurement approaches use all available data to compile the payments grid as accurately as possible. This process involves finding and analysing a wide range of different data sources of different time intervals and quality. In some cases, extrapolation or interpolation is necessary to make up for gaps in data availability. For this reason, and to be explicit about the basis from which data is drawn, each payer is given a score for data quality which ranges from 1 to 5, as shown in Table B1 below.

TABLE B1 Data quality index scoring

Rating	Data quality	Data availability
5	Complete, recent, and from credible sources	Available from one or few up-to-date websites or online publications
4	Recent and from credible sources. 1-2 components of estimate based on expert opinion or assumptions.	Available from disparate websites or from a combination of scholarly and popular publications
3	Incomplete, recent, and based on expert opinion or available data. Few assumptions are required.	Available in-person through simple records requests or interviews with public-facing officials
2	Incomplete and/or outdated, and informed by local sources, ad hoc research, and international heuristics. Some assumptions required.	Available from proprietary sources through non-disclosure agreements
1	Incomplete and/or outdated, and informed by local sources, ad hoc research, and international heuristics. Multiple assumptions are required.	Additional measurement activities required to capture meaningful data

B2. Trajectory of shift

To understand the trajectory of the move toward electronic payments in a country and the likelihood that the momentum may change, the diagnostic focuses on selected payment use cases; and then considers the infrastructure and incentives supporting each.

Use cases

A payment use case is a cluster of characteristics (the store of value, the nature of the instrument itself, and the channels through which it is initiated) around a common payment application. For example, bulk credit transfers involve transfers across bank accounts under rules particular to the automated clearing house involved, which can be initiated in branch or via channels such as Internet or dedicated line.

Ratings

The trajectory score for each use case is assigned using the scale shown below in Table B2.

TABLE B2 Use case ratings

Rating	Conditions & incentives are such that it is:
1	Highly likely to achieve full shift
2	Possible to achieve a real shift
3	Likely to lead to slow incremental progress
4	Likely to drift without clear upward direction
5	Unlikely to lead to shift

To get to an overall rating for each use case, a process of interviews and analysis seeks to assess the infrastructure and the incentives of each of the key constituencies in the payment ecosystem — government, business, financial providers, and consumers — to use this shift. The overall score for each use case averages the scores across each category of user.

Glossary of general payment terms used⁴²

The diagnostic uses a variety of common payment-related terms which are defined here for those less familiar with them.

Term	Definition
ACH/Automated Clearing House	An electronic clearing system in which payment orders are exchanged among financial institutions, primarily via magnetic media or telecommunications networks, and handled by a data processing centre
Gross Settlement System	A transfer system in which the settlement of funds or securities transfer instructions occurs individually (on an instruction-by-instruction basis)
Large Value (wholesale) Payments	Payments, generally of large amounts, which are mainly exchanged between banks or between participants in the financial markets and usually require urgent and timely settlement
“Not on us” & “On us”	Payment terms which refer to whether a payment is made in the accounts of the same financial institution (on us) or across financial institutions (not on us)
Payment Instrument	Any instrument enabling the holder/user to transfer funds
Payment Scheme	A term used for a payment system which includes a brand and set of rules licensed by the owners to the participants, such as the international card association schemes
Payment Service Provider (PSP)	Entity that does not participate directly in a payments system but specializes in managing payment transactions for the public
Payment Stream	A cluster of payment use cases
Payments System	A payments system consists of a set of instruments, banking procedures and, typically, interbank funds transfer systems that ensure the circulation of money
Payment Use Case	A description of an individual payment that identifies the payment’s store of value, the payment instrument used, and the channel through which payment instructions are issued
Real-Time Gross Settlement (RTGS) System	The system used to effect continuous (real-time) settlement of funds or securities transfers individually on an order-by-order basis (without netting)
Switch	In payment context: an electronic software program which enabled different devices and financial operating systems to connect for the purpose of exchanging information

TABLE B3 BTCA Colombia Measurement Grid

	# of payments	% volume electronic	# of payments Electronic	Total Value COP Monthly	Total Value USD	Total Value Electronic COP	Total Value E (USD)	% value elec.
GOVERNMENT								
G2P total	11,413,988	75%	8,616,001	7,598,513,391,737	\$3,564,034,107	6,070,489,951,947	\$3,372,494,417.75	95%
G2B total	284,769	575%	1,636,806	9,371,156,393,762	\$5,206,197,997	9,365,577,660,753	\$5,203,098,700.42	100%
G2G total	2,437	100%	2,437	7,945,493,784,701	\$4,414,163,214	7,945,493,784,701	\$4,414,163,213.72	100%
Government Total	11,701,194	88%	10,255,244	24,915,163,570,200	\$13,184,395,317	23,381,561,397,401	\$12,989,756,332	94%
BUSINESS								
B2G total	527,739	40%	209,027	5,187,699,663,767	\$2,882,055,369	1,469,088,651,592	\$953,275,199.41	28%
B2B total	36,875,224	56%	20,761,849	158,115,128,660,265	\$87,841,738,145	131,734,409,462,721	\$73,185,783,035	57%
B2P total	55,969,771	41%	23,012,506	15,099,990,266,070	\$8,388,883,481.15	9,607,716,089,846	5,337,620,050	64%
Business Total	93,372,734	47%	43,983,382	178,402,818,590,102	\$99,112,676,994.50	142,811,214,204,159	\$79,476,678,284.17	80%
PEOPLE								
P2G total	291,806	30%	88,089	3,858,461,334,561	\$2,143,589,630.31	236,734,355,591	131,519,086	6%
P2B total	710,336,783	3.53%	25,083,315	34,144,193,830,248	\$18,968,996,572.36	3,976,589,170,022	2,247,345,815	12%
P2P total	12,084,028	16.70%	2,017,880	7,959,422,998,062	\$4,102,457,221.15	1,697,400,000,000	943,000,000	21%
People Total	722,712,617	4%	27,189,284	45,962,078,162,871	\$25,215,043,424	5,910,723,525,612	\$3,321,864,901	13%
DONORS								
D2B total	112	86%	96	368,323,200	\$204,624	316,757,952	175,977	86%
D2P total	199	100%	199	539,261,625	\$299,590	539,261,625	299,590	100%
Total Donors	311	95%	295	907,584,825	\$504,214	856,019,577	\$475,566	94%

ANNEX C: REFERENCES

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- World Bank. 2010. *Informality in Colombia: Implications for Worker Welfare and Firm Productivity*. Report No. 42698-CO. Available at <https://openknowledge.worldbank.org/handle/10986/2889>
- United Nations. 2012. *E-Government Survey 2012 E-Government for the People*. Available at www.unpan.org/e-government.

ANNEX D: ORGANIZATIONS AND INDIVIDUALS INTERVIEWED

Organization	Individuals
ACH	Gustavo Vega, Juan Carlos Flechas, Luis Alberto Fernández
ANDI	Carlos Pinto
Asobancaria	Margarita Henao
Banco Agrario	Marjory Avila
Banco de la República Junta Directiva Subgerencia de Pagos y Operación Bancaria	Ana Fernanda Maiguascha, Joaquin Bernal, Carolina Merlano, Clara Lía Machado Franco, Carlos Arango
Departamento de Estabilidad Financiera	Dairo Estrada, Nancy Zamudio
Bancolombia	Juan Camilo Velez; Carlos Rodriguez; Juan Agudelo; Alejandro Toro Villa.
BRINKS	Wilmer Torres
Carvajal Tecnología	José Fernando Astrálaga, Oscar Velásquez
Citibank	Jaime Mantilla
Credibanco	Gustavo Leañó Concha, Francisco Javier Navarro, Luis Fernando Sierra, Luis Ignacio Suarez, Luz Marina Concha, Fabiola Jurado, Manuel Camilo Vial Figari
Daviplata	Juan Carlos Rojas
Departamento de Impuestos y Aduanas Nacionales-DIAN	Christian R. Jaramillo Herrera, Cecilia Rico Torres, Javier Bravo
DPS	Natalia Escobar
Econometría	María Gloria Cano
Fenalco	Juan Parra
Fedesarrollo	Leonardo Villar
Ipsos – Napoleón Franco	Javier Restrepo Palacio, María Paula Molina
MasterCard	Marcela Carrasco, Carlos Iván Villegas
Ministerio de Hacienda	
Dirección General de Tesorería	Jorge Alberto Calderon, Omar Sánchez
Dirección de Regulación Financiera	David Salamanca, Ma. Del Pilar Galindo, José Ramiro Sanin
Dirección General de Regulación de Seguridad Social	Gonzalo Casas
Ministerio de Salud	Edgar Mariño
Ministerio de Telecomunicaciones	Yesika Padilla
Ministerio del Trabajo	Juana Paola Bustamante
Raddar	Camilo Herrera , Fabián García Guauque
Redeban	Valentín Echeverry
Solidida	Hernando Rubio
Superintendencia Financiera	Jorge Castaño, Diana Castañeda, Miguel Angel Villalobos,
USAID	Amy Meyer, Angela Arévalo, Edgar Muñoz, Fabiola Sloan
Visa	Humberto Guihurt, Valerie Jaimes, Carlos López, Ernesto Cervantes, Rafael de la Vega
WFP – Programa Mundial de Alimentos	Riaz Lodhi

End Notes

- 1 G: Government. B: Business (non-financial private sector). P: Person (individuals). D: Development community partner. For further explanation of the payment grid, see Better Than Cash Alliance (2012), *The Journey Toward 'Cash Lite'*, available at <http://betterthancash.org/wp-content/uploads/2012/09/BetterThanCashAlliance-JourneyTowardCashLite.pdf>.
- 2 For readers less familiar with the payment-related terminology, Annex B provides more background to this methodology and a short glossary.
- 3 Based on Gómez Restrepo, C., Recio Calero, X. (2011), *El impacto de la reforma tributaria en la demanda de efectivo*, Ministry of Finance, Notas Fiscales No. 8, available at <http://www.minhacienda.gov.co/portal/page/portal/MinHacienda1/haciendapublica/CentroEstudios/publicaciones/notas/Boletin%20E1%20Impacto%20de%20la%20reforma%20tributaria%20en%20la%20demanda%20de%20efectivo.pdf>, and Banco de la República.
- 4 Superfinanciera and Banca de Las Oportunidades (2012), Reporte de Inclusión Financiera, available at <http://www.bancadelasoportunidades.gov.co/contenido/contenido.aspx?conID=921&catID=1&pagID=929>.
- 5 Summary of public information; see <http://www.bancadelasoportunidades.gov.co>.
- 6 CGAP (2013), *Incentives for the Introduction of Agents by Banca de las Oportunidades in Colombia*, Marulanda Consultores, available at http://www.cgap.org/sites/default/files/colombia_agent_subsidy_english.pdf.
- 7 Data for 2007 corresponds with information for 2008. Superfinanciera and Banca de Las Oportunidades (2012).
- 8 Ibid.
- 9 Monetary transactions undertaken at an ATM, agent or bank branch. Author's calculations based on data from Superfinanciera.
- 10 Monetary transactions undertaken through ACH, internet, IVR, automatic debits, and mobile. Author's calculations based on data from Superfinanciera.
- 11 World Telecommunication/ICT Indicators Database, available at <http://www.itu.int/en/ITUUD/Statistics/Pages/publications/wtid.aspx>.
- 12 Ibid.
- 13 Average of the data given by the two switches.
- 14 World Bank (2010), *Informality in Colombia: Implications for Worker Welfare and Firm Productivity*, Report No. 42698-CO, available at <https://openknowledge.worldbank.org/handle/10986/2889>. This report uses two concepts to define Informality: (i) "A worker is considered informal if he or she does not make contributions to Colombia's contributory health insurance and pension programs as part of their job;
- 15 Decreto 428, February 2004.
- 16 During the 1990s the Central Bank of Colombia undertook various investments in terms of infrastructure which enables it today to have the CUD, an RTGS which supports high-value transactions, an electronic clearinghouse for checks (CEDEC), a central securities depository which administers de-materialised securities (DCV), an electronic trading system in which securities are traded between financial institutions (SEN), and lastly the CENIT, the ACH which today could support up to 300,000 transactions per cycle. Apart from these, it also administers the Central Counterparty Clearing House and the Foreign Exchange Clearing House; which its monetary operations are settled through the CUD. See Banco de la República (2012), *Reporte De Sistemas De Pagos*, Subgerencia de Operación Bancaria, available at http://www.banrep.gov.co/sites/default/files/publicaciones/archivos/prsp_jun_2012.pdf.
- 17 See <http://www.minhacienda.gov.co/HomeMinhacienda/siif>.
- 18 Decreto 2806 de 2000.
- 19 The discussion about rates at the ACH between private banks and Banco Agrario has been especially difficult with respect to electronic transfers that are cashed out in towns where only Banco Agrario has a branch (a total 481 of the 1,102 municipalities), with Banco Agrario arguing that transporting cash to these regions is very expensive, and that the cost was not recognized in tariffs at ACH Colombia. Until July 2013, electronic transfers to towns where Banco Agrario is the only bank cost 1.5% of the amount sent, a rate that many argue has curtailed dramatically the use of electronic transfers to rural areas. Banco Agrario has now come to an agreement with ACH Colombia to create a new category of locations, mainly those where only Banco Agrario has a branch, and establishing a higher fee for receiving payments there. This new arrangement is still lower than fees received through CENIT but Banco Agrario hopes to recover revenue through the increased volume of transfers it will make since.
- 20 In Colombia, private and public providers coexist under a government-regulated system. The pension system was reformed in the mid 1990s, and today a private savings model (based on individual savings accounts and managed by five funds) coexists with a public solidarity fund; workers are allowed to choose between them. Health social security was reformed in 2002, allowing private and public providers called Empresas Promotoras de Salud (EPS) to operate as insurers. Workers can choose between 24 providers. Additionally, employers have to contribute to professional risk insurance and choose between 10 insurance companies.
- 21 In 2007 a special service called "planilla asistida" was added to offer assistance to employers or independent workers in certain centers with completing the electronic forms.

- 22 After shopping at a merchant site or choosing to pay a bill or a tax online, the consumer selects PSE as the payment option. The consumer then identifies his or her bank from a list of participating financial institutions and is redirected to the bank's site, where the consumer authenticates his or her identity using the existing online banking credentials. The consumer is presented with details of the transaction, confirms payment and is redirected back to the merchant site to receive a payment receipt. The merchant receives immediate authorization and is guaranteed payment. The bank sends the payment to the merchant in a batch transaction in one of the cycles that are established at the ACH, which now operates 5 cycles each day.
- 23 See <http://www.colombiacompra.gov.co/es/colombia-compra-eficiente>.
- 24 United Nations (2012), *E-Government Survey 2012 E-Government for the People*, available at www.unpan.org/e-government.
- 25 See <http://www.bancadelasoportunidades.gov.co/contenido/contenido.aspx?catID=1&conID=1064>.
- 26 Recent studies have shown that although the savings accounts opened at Banco Agrario did provide better quality of the payment mechanism, it has not resulted in an increase of saving patterns nor in more electronic transactions since the recipients tend to withdraw almost the total amount of the subsidy in their first transaction at an ATM, an attitude that seems prevalent in other types of clients, such as payroll accounts. See CGAP (2011), *CGAP G2P Research Project: Colombia Country Report*, Marulanda Cosultores, available at <http://www.cgap.org/sites/default/files/CGAP-G2P-Research-Project-Colombia-Country-Report.pdf>, and IEP and Proyecto Capital (2011), "Promoción de la Cultura de Ahorro en Familias en Pobreza," available at <http://www.proyectocapital.org/index.php/en/iniciativas-del-proyecto-2/familias-en-pobreza-colombia>.
- 27 Perdomo, Santiago (2013), *Discurso ante la XLVIII Convención Bancaria*, Presidente de la Junta Directiva de Asobancaria, available at http://www.asobancaria.com/portal/page/portal/Eventos/eventos/XLVIII_CONVENCION_BANCARIA/Tab5/Discurso_de_Santiago_Perdomo.pdf.
- 28 Ibid.
- 29 In April 2013, Congressman Barguil promoted a session to denounce fees charged by banks, as a means to justify his initiative to put restrictions on bank fees. See <http://www.caracol.com.co/judiciales/bancos-siguen-cometiendo-abusos-contra-los-usuarios-david-barguil/20130904/nota/1874592.aspx>.
- 30 In 2012 the competition authority (Superintendencia de Industria y Comercio) accepted a model whereby the interchange tariff is fixed according to a weighted average of the bids offered by acquirers in a process which will take place periodically. This model began operating in June 2013.
- 31 Of the two donors that responded to BTCA requests for payment information.
- 32 This analysis does not include bilateral aid transfers in the D2G space, as the focus is on payments for which the sender is in the country, with the exception of international remittances. See Annex A for definitions.
- 33 Of the two donors that responded to BTCA requests for payment information.
- 34 For some variables, values and volumes were assumed to be equal; so actual differences may be greater than what is reflected here.
- 35 Of the two donors that responded to BTCA requests for payment information.
- 36 Once value has been transferred electronically to the regional level, further payments to suppliers are likely sometimes made in cash. This analysis may be missing intra-government payments at the department and municipal level that are paid in check or cash, as detailed statistics about how payments are disbursed once transferred to the local level were not available.
- 37 World Food Program. Interview: June 5, 2013.
- 38 The National Statistics Department reports that 32% of workers have a formal contract, likely to be highly correlated with being paid through a bank account. A survey of banks in Colombia carried out in partnership with Asobancaria revealed that 33% of active bank accounts are payroll accounts, and that 22% of all adults have a payroll account.
- 39 World Bank (2010).
- 40 Social security contributions are mandated by the government and administered through the Ministry of Health. However, the payments enter the accounts of private or public pension funds, health care operators, and insurance providers (as elected by the individual contributor) that operate as businesses. Therefore social security payments are treated as B2B and P2B (not G).
- 41 A segment of credit card customers may opt to make purchases on a credit card and then settle the balance completely during the billing period, as a means to ease the process of payment, rather than making use of the credit line. This segment may arguably be willingly substituting cash for electronic payments, though the assumption is that the large majority of credit card users behave differently.
- 42 Drawn from glossary in *Introduction to the National Payments System*, available at www.nps-institute.com.

About the Better Than Cash Alliance

The Better Than Cash Alliance is an alliance of governments, private sector, and development organizations committed to accelerating the shift from cash to electronic payments. The Better Than Cash Alliance is funded by the Bill & Melinda Gates Foundation, Citi, Ford Foundation, MasterCard, Omidyar Network, USAID, and Visa Inc. The UN Capital Development Fund serves as the secretariat.



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