Digital money and its impact on local economic variables: the case of Uruguay

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Abstract

The numerous digital means of payment that are currently operative in Uruguay are designed to target the general population and particular segments of it to a different extent. They are therefore expected to have a distinct impact on the local and the global economy development. Overall money flows may increase through the use of cards, particularly those that allow differing payments along several time periods while almost all the instruments and policies described generate increases in the number of transactions within the formal economy (diverting them from the informal sector). Many of them further seek to improve social and economic conditions of the poorest households by promoting their financial inclusion and promote the formalisation of MSMEs. Given the high concentration of poor households within specific geographical areas (both neighbourhoods and communities) and the creation of specific retailer network linked to many mobile systems, they should also increase money flows at the local economy level. It is important to acknowledge that the emission of digital means of payment adds direct purchasing power to the market, particularly those that are based on credit, and hence apart from increasing the overall level of economic activity they may also generate significant inflationary pressures.

Keywords: digital systems; local development; money flows.

JEL codes: E41, E51, E52
1. Introduction

The concept of ‘digital money’ encompasses all means of payment that only exist in electronic form - credit and debit cards as well as transfers and payments made through the Internet – online payments – or else by sending a text message from a mobile phone – mobile money (or m-money). The accelerated development of ICT tools has provided with additional varieties of electronic instruments that can be used for an enlarged range of transactions (e.g., pre-paid cards; electronic vouchers), a process that has turned them into most widespread physical money substitutes across the world.

The enhanced security and comparatively lower transaction costs inherent to digital money are a major reason explaining the increased demand observed at the household level. On the other hand, their far and wide acceptance among productive agents is also fostered by its improved operational and administrative efficiency. Both effects would lead to increases in the money velocity and also in total money flows (associated to a rise in real income and/or price levels).

Many of the novel forms of digital money are supplied at a much lower price than that of traditional financial products, a feature that renders them accessible for potential users that self-exclude themselves from the market due to budgetary restrictions. This is particularly so for m-money in the case of individuals from households within the lowest income strata and of micro, small, and medium enterprises – MSMEs – given they would be entitled to get access to the system simply by owning a mobile phone. The low operational costs associated to mobile money systems are also at the root of the economic feasibility of penetrating unattended markets, such as isolated and/or small communities as well as agents that lack any collateral. The ease of operating the system and the consequent decrease in transaction costs act in turn as attractors for other groups of interest, such as young individuals and a share of the elderly (Cassoni and Ramada-Sarasola, 2012 and references therein). Therefore, m-money is considered to outperform other alternative currencies as a vehicle to boost local development and to allow for reducing overall poverty levels through the financial inclusion of vulnerable sub-populations.

The increase in money flows at the aggregate economy level driven by the introduction of digital money in general, and especially in the case of m-money, would not be
necessarily matched to an expansion of the monetary base in the short-term, given that the new means of payment would partially substitute the existing instruments used by current banking customers (see the discussion in, e.g., Flores-Roux and Mariscal, 2010, or in Mas and Ng’weno, 2010). Instead, the cultural and idiosyncratic changes it drives would impact on the preference for cash relative to deposits (the propensity to retain cash goes down) and hence increase the money multiplier (Jack and Suri, 2011; Tak, 2002).

The entry of additional actors to financial markets as, e.g., new money issuers (Cernev et al., 2012), and the changes generated in the mechanisms through which money flows within a country (Jack et al., 2010) is in turn expected to rise the money velocity to an extent that depends on the degree of adoption of the alternative currency (Al-Laham. and Al-Tarawneh, 2009).

In contrast to the accumulated research on the role played by m-money at the macro-level (see the review in Mas and Radcliff, 2011), the literature has scarcely devoted attention to its impact on the local-economy development (which is also true for other digital means of payment). The issue was first raised by Jack et al. (2010) who also noted that its empirical study is hampered by the lack of the necessary data. Moreover, even though changes in money flows at the local economy level are most likely to differ from those registered at the macro-level, both in terms of the dynamics of the phenomenon and of its associated final impacts; the theoretical research on the topic is almost inexistent.

One notable recent exception is the paper by Ramada-Sarasola (2012), who departs from noting that even though the Kenyan system – known as M-PESA – has increased local trade flows and has partially changed consumption patterns in rural areas, its design, founded on the delocalization of monetary flows, largely prevents to distinguish overall from local effects. The author builds a theoretical rationalisation that suggests that in order to magnify the local impact of digital money, a necessary condition is to combine its introduction with the implementation of local-oriented arrangements (‘Alternative Currency Systems’ - ACS).

On the other hand, the empirical evidence shows that the feasibility of m-money systems critically relies on the fulfilment of some key pre-requisites. The widespread adoption of mobile phones in the country and the availability of high quality wireless connections are two necessary conditions of paramount importance while the adoption of high-tech innovations should not be disregarded in a second stage if the system is expected to have a
long-lasting success (Moore and McKenna, 1999). The pre-existence of a large network of non-banking agents that may act as intermediaries is essential to reduce infrastructure investment levels. Further, in order not to restrain the participation of non-banking actors in the market, the regulatory and institutional frame of financial activities should be revised prior to the implementation of the system.

One additional crucial aspect refers to the market penetration strategy adopted, the sequential launching of the system being suggested as the optimum approach, both with respect to the services supplied and to the outreach of new segments. The initial offer of some basic services - money deposits and withdrawals; payroll management; money transfers – should be shortly followed by the reception and sending of remittances or the payment of personal and household utilities. The next suggested phase would involve the access to credit and/or the use of m-money as cash within a network of retailers.

Even if the above-stated pre-conditions were granted, an economically feasible system has to overcome at least three additional obstacles that have been denoted by Mas and Ng’weno (2010) as scale, chicken-and-egg-trap, and trust.

The ‘scale’ effect, that is, the size of the potential market, is linked to the share of the population that needs to get access to financial services at a low-cost (Jack and Suri, 2011; Flores-Roux and Mariscal, 2010). Therefore, the system is most likely to be suitable for non-developed countries, where individuals from households within the lowest income-strata are a non-negligible share of the population while MSMEs are generally the bulk of productive units. A successful launching of digital money systems is hence expected to generate an increase in the degree of formality and financial inclusion at the overall economy level that would allow for significantly reducing poverty in the long run (see Mas, 2010 and references therein).

The ‘chicken-and-egg trap’ of attracting both users and stores simultaneously is closely related to the reach of a critical mass of transactions (Mas and Ng’weno, 2010) so that the creation of an attractive outlet network with merchants and other agents, among which financial entities may be included, is of utmost relevance.

The ‘trust’ barrier involves security issues related to the physical access to mobile phones and their content by third parties; and software-related risks such as viruses or the cracking of authentication and data encryption. The design of strategies that would allow
for overcoming the resistance to change that characterizes most populations is another dimension that has also been highlighted (Ngugi, Pelowski and Ogembo, 2010). The use of technologies linked to pre-existent structures and social systems is strongly recommended to sort out the latter (Heyer and Mas, 2009).

The acknowledgement of the existing means of payments in a particular country therefore stands as an unavoidable task to undertake prior to the design of the system that should also constitute a guideline for its promotion through public policies. The same analysis at the local economy level would in turn provide with additional insights of relevance.

The expected impact of digital money on inflows, outflows and through-flows would depend on its degree of acceptance among individuals in the target group and also on the degree up to which it would have compensatory and substitution effects. Thus, a key factor determining the likely impacts of the system on the behaviour of its users is the characterisation of the sub-population of interest. Analogously, the actual role that the new currency might play largely depends on the variety of money-substitutes that are already in use among the target population.

In this paper we contribute to the above-stated background knowledge by means of the description of the existent digital means of payments in Uruguay as well as of the role played by the government and other public entities in the launching and posterior development of these instruments. The focus is set on credit and debit cards; vouchers; online payments and transactions performed through mobile phones. Public policies that are overviewed encompass: the creation of an alternative nation-wide digital currency (C3U – ‘Circuito de Crédito Comercial’); the Uruguayan version of the ‘One Laptop Per Child’ programme of the United Nations - the ‘Plan Ceibal’; the creation of a public agency to design policies aimed at the digitalisation of public services (AGESIC - Digital Government and Information Society Agency); and the reduction in the VAT rate for transactions carried out through credit cards (to be launched soon).
2. Digital Money Instruments

2.1. Credit Cards

In its essence, a credit card is a set of agreements between buyer, seller, issuing bank and credit card label. The buyer agrees to pay at a later date for the products that the seller agrees to deliver today while the issuing bank guarantees that future payment. The credit card label organises all the intermediation, the creation of a large enough network of buyers and sellers and the contracts with all parties. Commercially speaking, it is the seller that gives the credit to the client, as it delivers goods now and will receive payment later. The issuing bank takes the risk over the payments while the credit card label handles the entire process.

Given the operation in its most basic form constitutes a loan to consumers (a claim on a future transfer of money from a buyer to a seller) credit cards add extra purchasing power to the market (that is at most equal to the sum of credit limits). As credit cards are mainly used in transactions between consumers and retailers, this extra liquidity enters the local market at the consumer level.

However, whenever the balance is fully re-paid in one instalment, free of any extra charge, such additional liquidity would be compensated within a month time. The role of credit cards in this case may be assimilated to that of an alternative means of payment since it enables to make a purchase prior to the effective disposal of an amount of money that will nonetheless be available almost immediately. A further use of credit cards as a substitute of money involves the automatic charge to their balance of monthly and annual expenditures related to home bills and taxes with no cost for the card holder (although a fee is charged to providers, regardless of their private or public character).

The process gets a bit more complex when buyers decide to pay for their purchases in several instalments, in which case they would be borrowing money from the bank (the unpaid amount due) and would be thus charged with interests. Within this frame, the generalised use of credit cards may lead, in the long run, either to an increased supply of goods or else to inflationary pressures, depending on the existence or not of excess production capacity.

Until recently, the rates charged to users that pay in instalments were extremely high in
Uruguay. However, in November 2007 an upper bound to these rates was established by law in at most 60% over the prevailing average level, as published by the central bank (Law 18.212).

The cost for sellers associated to the acceptance of payments through credit cards relates to both the monetary cost (that varies from 2% to 8% of the amount of the purchase) and the timing of the refund. In Uruguay this period varies depending on the type of business as well as on the terms of the purchase and the date of closure of the credit card (from 20 to 40 days when payments are in full and up to around 100 days depending on the number of instalments). This gives the bank/card issuer the opportunity to wait for the buyers to pay for their credits, at least partially, and only then hand this money over to the sellers. These conditions may, however, be too stringent for micro and small enterprises with a limited financial capacity.

Credit cards also provide an easy and secure means to get access to money at any geographical location. In particular, the international character of credit card labels renders unnecessary for holders to carry large amounts of cash when travelling abroad, even in light of the high cost associated to the service. The relatively low relevance currently assigned to this specific use contrasts however to its being basically the sole attractor for Uruguayan holders in the past, a fact that partially explains the extremely low demand levels observed until the late 1990s.

The first credit card in Uruguay - *Diners Club* – started to be commercialised a decade after its creation (in the 1960s) and was soon sharing the market with *American Express*. By 1980 only three additional labels had entered the market - *ArgenCard, Mastercharge* and Credencial – but neither of them was issued locally while the latter three were also administered abroad (in Argentina).

It was only in 1981 that the first local processing centre emerged as a joint venture of two private national banks (*Comercial* and *La Caja Obrera*) that started to handle *Visa* and shortly after also *MasterCard*. However, this increased supply was not matched by the demand for credit cards that only involved 2% of the adult population by the mid-1980s most of whom used them just for purchasing abroad.

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2 Although the card was created in 1950, its initial characteristics were those inherent to what is currently known as a ‘charge card’.
The creation of the first national credit card in 1985 – *OCA Card* – constitutes a milestone in the development of the market. Issued by a family-owned financial institution - *Organización de Crédito Automático* - the card acted as a perfect substitute for the product the firm had supplied since its foundation in 1966 (the access to credit for local purchases by means of checks). As a consequence, the local market gained some dynamism, particularly after the appearance of a second national credit card in that same year – *Plata Card*.

The process was further fuelled in the 1990s by the entry of *ArgenCard-Argentina* as an active player in the market. The firm started to handle MasterCard through its Uruguayan subsidiary but with the participation of local banks and other financial institutions as issuers. This increased competition resulted in higher rates of market penetration, to an extent that the share of users almost doubled in 10 years (from 17% to 30%) and has been spreading ever since (AEBU, 1999).

The major financial crisis that took place in 2002 forced a restructuring of the sector that was reflected in the disappearance of credit card labels (as is the case of Plata Card); the re-allocation of data processing centres (e.g., of Diners Club); and/or in their change of ownership (as, e.g., in the case of OCA, sold to Fleet Financial together with the BankBoston, that had acquired the company in 1998). In 2006 there were six credit cards labels operating in the country in alliance with local banks and other financial institutions – *American Express* (American Express Company); *Cabal* (Cabal Cooperativa de Provisión de Servicios Ltda. from Argentina, Credit Uruguay Banco S.A. and Banco Bandes Uruguay S.A.); *Diners* (Citigroup); *MasterCard* (MasterCard Worldwide Inc.); *Oca* (Itaú Unibanco Holding); and *Visa* (Visa Inc.).

As of today, these labels are still in the market together with *Argencard* (that re-entered the market after being acquired by Standard Bank Argentina S.A.) and other credit cards issued by non-banking institutions (‘administradoras de crédito’), such as *Creditel* or *Tarjeta D* (Créditos Directos S.A.). Institutions devoted to the administration of credit cards on behalf of banks and other institutions also joined the market (two examples are Sistarbanc SRL and FirstData, associated to MasterCard International, which has recently acquired the credit card label *Italcred*). Savings and credit cooperatives are additional relevant actors that offer similar services to those associated to credit cards, being *Fucerep*
and ANDA two of the most important firms.

It can be asserted that credit cards are currently of total acceptance and increasingly used in Uruguay. Even though they accounted for 36% of the total number of transactions in 2011, there is still a large unattended potential market (Banco Central del Uruguay, 2012). By the end of 2011 the number of credit cards has risen to more than 2.2 million while that of monthly transactions attained, on average, 5.6 millions. However, in contrast to the initially observed behavioural patterns associated to their use, the share of transactions that correspond to purchases outside the country is negligible (less than 2% in 2011). Similarly, only a minor proportion of credit cards are issued abroad (3.5%) while the majority of transactions (64%) correspond to cards issued by non-banking institutions. Nevertheless, the average amount spent by holders of non-banking card labels is less than half that associated to purchases using credit cards issued by banks (Banco Central del Uruguay, 2012).

The above figures are in line with the differentiated target population of these two subsets of card issuers (in terms of their banked/unbanked characterisation). A more profound study should be done on the kind of products and services that are mostly bought with both types of credit cards in order to study their impact on the local multiplier effect of money. These analyses would further serve to shed light on how far these expenditures would feed into local value chains and also on how they would differ from those to be observed on a later date if no credit cards were available.

2.2. Debit Cards

In Uruguay, as in many Latin American countries, there is a more widespread use of credit than debit cards, at least among the banked sub-population. Where credit cards offer extra room for spending, and have traditionally been seen as a status symbol, debit cards offer only a technological variation for existing money. There is also a certain resistance for accepting debit cards from the side of retailers that is mostly related to the fact that they make purchases more traceable and thus more easily taxable. Although the same holds for credit cards, the underlying rationale seems to be that credit cards in most cases create a sale that otherwise would not have happened while the use of a debit card is only possible

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3 Given the total adult population is less than 3 million, the figure is not as small as it may seem at first sight.
when the client does have the amount of money needed, in which case the shop might prefer to have it in cash.

Debit cards started to be used two decades ago mainly as a means to withdraw cash and deposit money (cash and checks) from ATM cash machines and hence without being forced to attend to a bank branch. Cashiers in Uruguay became available at the beginning of the 1990s, when the Banco República (BROU) started supplying a limited number of services during the weekends through the RedBrou network. The 24-hours service was in turn first provided by the RedBanc network that involved a group of private banks, soon followed by the remaining private institutions through another network – Bancomat. In 2005 both networks merged into one – Banred – that thus became the largest in the market (gathering 15 institutions).

Ever since 1997, when a new enterprise – Red Cabal - joined the process, the number of ATM cashiers have increased, particularly those located at spots of easy access for large flows of people. The 131 cashiers that operated in 1996 became 711 in 2004 and 1040 by the end of 2011, while the number of transactions grew at a similar pace, from to 5.3 million to 13.8 and 32.5, respectively (Fried and Trujillo, 2006; Banco Central del Uruguay, 2012).

One factor at the root of the above trends relates to the progressive supply of additional services through cashiers. The inherent nature of some of these transactions, such as the possibility to pay for several public and private services, has further turned debit cards into an alternative means of payment of generalised usage.

Moreover, they are currently one most widespread channel used by private firms and public agents to handle payrolls (debit cards are provided to their employees regardless of whether they are already holders of a bank account or not). The system was first adopted by a few public entities (e.g., the University) but its use was soon extended to other agencies. It also became the mechanism through which retired workers got access to social security benefits, a strategy that was aimed not only at reducing the associated management costs but also at allowing for the financial inclusion of a large share of the elderly.

As of today, debit cards have further become an additional means of payment at retail stores, a role that is promoted by both banks and the government through diverse channels. The strategy undertaken by banks is rooted on the user’s access to discounts in sales values
within particular commercial campaigns while the government has favoured their use by linking it to tax exemptions.

One constraint that is still binding for a large share of retail stores relates to the unavailability of the necessary technological conditions to operate with cards (POS machines, e.g.). Nevertheless, the number of transactions through debit cards has steadily increased during the last years (more than 40% in 2011 with respect to 2010 according to the Uruguayan central bank) and so has the total amount spent through them, particularly when they are locally issued (Banco Central del Uruguay, 2012).

The unbanked are not eligible as debit cardholders, except in the case of pre-paid cards. To date, there exists only one card with these characteristics in Uruguay: the AlfaBrou. Launched in 2007 by the BROU in association with Visa (and later on also MasterCard), the AlfaBrou allows for disposing of funds, both locally and abroad, that should be virtually deposited in advance. Deposits can be done at BROU branches; at the payment retailer network Abitab; online (through the electronic service of the BROU – eBrou); or by sending a text message from a mobile phone provided by the public telephone company – ANTEL. It is thus a perfect substitute for money at local and international stores and it also serves to pay for purchases done through the Internet.

Further uses of AlfaBrou include the worldwide withdrawal of cash and the transfer of funds to any location through any ATM cashier that accepts Visa or MasterCard (and in Uruguay also at any BROU branch). All these transactions have costs that are added to the amounts spent. In the case of debit cards linked to savings and current accounts, in contrast, the service is free of charges.

The substantial reduction in transaction costs associated to the use of debit cards is one major reason explaining their still increasing acceptance. The consequent growth in the degree of liquidity of money deposits, that implies a decline in the preference for cash with respect to deposits, would in theory lead to an increase in the money multiplier. In contrast, given that debit cards are just a technological variation for existing money; their use need not have an impact on money flows, at least in the short run. However, it may be argued that once the use of debit cards becomes sufficiently generalised, there are several scenarios under which they may actually be the trigger of transactions that would not take place otherwise and hence result in a diversion of savings towards consumption. This could be
the case of unplanned purchases made by cardholders that are unexpectedly short of cash or by potential consumers with no access to other forms of money (as e.g. children to whom their parents provide an extension of their card). Similarly, a share of actual sales may be just the result of the incentives (price discounts) granted only to debit cardholders. Even though each of these circumstances in isolation would not be necessarily matched to significant increases in money flows at the economy-level, the impact may become non-negligible once they are jointly considered.

Pre-paid debit cards would have a positive effect on the number of transactions observed through additional channels, such as those linked to online purchases. The fact that personal data that enters the web can eventually go public is one major reason that discourages a large share of credit card holders to participate in this sub-market that is further inaccessible for unbanked individuals. Pre-paid debit cards are however not subject to neither of these two binding characteristics since they allow for setting the amount of money exposed to online hacking to a minimum while holders are not required to have a bank account. Therefore, increases in money flows within the economy would be observed whenever the purchase involves a local seller. An analogous effect would be associated to the online transfer of funds among local users. Inflows/outflows would be instead linked to the reception/sending and/or the sale/purchase of local/foreign goods and services.

Even if no effects at the overall economy-level were driven by the use of debit cards (i.e., were no otherwise unobserved transactions registered), it would nonetheless generate some changes in the behaviour of specific sub-populations that may in turn become relevant triggering factors of economic growth and development in the long-term. The financial inclusion of key groups associated to the access to wages or social security benefits through ATM cashiers is one dimension that may boost the process. Two generally observed mechanisms are the consequent reduction in informality levels and the increased opportunities to invest in human capital that are brought forth, particularly in the case of youngsters. The progressive financial inclusion of young individuals would also generate spillovers (multiplier effects) among their peers that would be further magnified by the almost nil costs associated to debit cards (particularly if compared to those inherent to credit cards); by their low transaction costs; and by the access they grant to purchases through the Internet.
2.3. Conditional Cash Transfers: Tarjeta Uruguay Social

Conditional cash transfers programmes are intended to promote poverty reduction through the provision of income support to poor families (mainly aimed at improving nutritional standards and their access to health-care service); and also of incentives to invest in human capital. In the case of Uruguay, one key tool designed to achieve these goals is the Tarjeta Uruguay Social (TUS). The TUS is a pre-paid debit card issued by the Banco República and financed by the Ministry of Social Development (MIDES) that can be used for purchasing food and other basic consumption goods related to the personal and domestic hygiene. The target population is that of actual (or that are likely to become) indigent households (around 100,000), particularly those with members under 18 years old.

The identification of cases that match these criteria is done based on an index (the ICC) built by the Instituto de Economía of the Universidad de la República. The indicator takes into account diverse socio-economic dimensions of households that reflect their degree of vulnerability and that are also used to determine the total amount of the subsidy. The correct management of the system is controlled by the MIDES through the use of software provided by Scanntech (CICCA, 2012).

Once households are selected, household-heads become holders of a bank account at the BROU in which funds are deposited monthly by the MIDES and to which they gain access through the TUS. The card cannot be transferred and can only be used by its holder (who is required to show identification to shopkeepers) within a retailer network - Comercios Solidarios – the members of which are registered at the MIDES. Supermarket chains have no access to the network while MSMEs located in low-income strata neighbourhoods are strongly encouraged to participate in the programme. The only eligibility condition they have to fulfil is to be formally registered at the Tax Office (DGI).

Incentives for their inclusion relate to the increased number of prospective clients associated to the use of the card and to the possibility of getting immediate access to the banking system (they are prompted to open a current account at the BROU). Further, the amounts spent through the TUS are deposited in the retailer’s current account within a period of 48 hours without any financial cost for the account holder. The government also provides a subsidy to retailers for the acquisition of the technology necessary to operate with cards (POS machines).
Therefore, the TUS is designed so as to promote the purchase of food products with a high nutritional component among members of the poorest households; to provide incentives for increasing formalisation among MSMEs; to enable the financial inclusion of its users; and to create new communication channels between the most vulnerable segment of the population and government bodies. As such, it constitutes one suitable tool to reduce poverty and to allow for turning economic growth into development.

As of today, around 70,000 households have been included in the programme while the retailer network is composed by 751 establishments (CICCA, 2012). Transfers in 2011 reached an amount of nearly 55 million dollars of which 98% was effectively spent by TUS users. Regarding the type of goods purchased, around 60% of the funds were spent on those categorised as embedding the highest nutritional value while 30% corresponded to the second highest category. Its proven versatility is thought to enable its use for additional purposes in the near future, such as granting the access to other products and services.

A parallel experience has begun in recent weeks with a segment of beneficiaries of the National Food Institute (INDA in Spanish), starting with a pilot among students mostly coming from countryside to study at the Universidad del Trabajo del Uruguay (UTU) – a technical institute that provides secondary and tertiary education in Montevideo. The pilot would involve a group of 200 students for the primary evaluation but the goal is to reach a total of 15,000 students in the short-medium term. The INDA credited in the students’ mobile phones the value of a daily breakfast which allows them for paying their bills at any of the restaurants or cafeterias near their study centres using this virtual balance. In this way the INDA would ensure that low-income youth would have a good feed (at least at this initial stage) in the morning.

The restaurants/cafeterias and students participating in this program have been previously identified and selected by the authorities of the education centre. This entire system is technical and operationally supported on the STRO’s Cyclos/IT platform.

In both social programs the follow up of the transactions is guaranteed by design, partly due to the ease with which information flows among public and private actors. Such immediate traceability of purchases may further be taken to a higher level when considering both those of the receiver at the retailer and also subsequent transactions in the local value chain. In this way, a government that issues conditional cash transfers can
define not only on which items these transfers should be spent but also how this money flows through the local value chain. In that sense, the instrument offers new opportunities for influencing the secondary impact driven by these new money flows.\(^4\) In doing so, they could maximize the local economic development impact of these expenditures.

Although money flows would be unchanged at the overall economy level, the system would certainly increase the number of those within the formal economy (mainly through the inclusion of those MSMEs that participate from the retailer network). Overall impacts are however expected to effectively take place in the long-term driven by the progressive social inclusion of the target population.

On the other hand, increases in money flows would be observed even in the short-run at the local economy-level as a result of the money transfers in which the programme is founded but also associated to the incentives it provides to local retailers to join the network.

### 2.4. Vouchers

Vouchers are an emblematic and well known example of a formally established “alternative currency” that may be offered by employers either exceptionally (as annual premia) or regularly (as a percentage of monthly wages). Although the most frequently used types of voucher are by far those exchangeable for food and groceries, they have also at times involved other items, such as transport costs (e.g., taxi fares or fuel); clothing: stationary products; books; etc.. They do not generate any cost neither to firms nor to employees, except for those that may stem from their use within a particular network of retailers, as is generally the case. The system is administered by private companies that charge retailers a certain percentage of the value of sales associated to vouchers (that varies between 2.5% and 7%).

Given that they are generally not subject to labour taxes and social security contributions, their use implies a reduction of labour costs for the firm and an increase in net wages for employees. This is however not the case in Uruguay since 2011 regarding employers’ social security contributions (7.5% of nominal wages) while the low level of tax rates renders the unpaid amounts for this concept negligible. Nevertheless, the substitution

\(^4\) This is the subject of one of the other case studies in this project.
of cash by vouchers still generates benefits for employers derived from the fact that they are recorded as an expenditure for the firm and are therefore subject to the deduction of indirect taxes (the amount corresponding to VAT is equal to 9.1% of nominal wages).

Within the new regulatory frame enforced by the Tax Reform, vouchers are assigned the same status of monetary payments. They are thus included in the corresponding receipt and are taken into account to calculate the amounts to be paid during the annual leave. They are also subject to income taxes and included in the calculus of severance pay in case the worker is fired. The law further limits their value to at most 20% of the total monetary pay received by employees. Given the composition of household expenditures, food vouchers would not result in a diversion of any share of the total budget towards this type of goods (on average, 23% of the household budget is spent in food according to INE, 2008).

Since vouchers are not subject to personal social security contributions, they do generate an increase in net wages. However, the associated gains for employees cannot be measured in a straightforward manner since future social security benefits will be proportionally lost and hence the reception of vouchers implies an intertemporal substitution of future by current consumption.

In principle, this kind of payments would not generate extra liquidity in the short run or changes in the consumption behaviour of employees, except for those linked to the increase in disposable income levels. In the long-run, however, the reduction in labour costs driven by the use of vouchers as a means of payment may result in an increase in the demand for labour, further fuelled by the rise in the demand for goods and services associated to the higher level of net wages. The reduction of public income levels (due to the exemption of taxes) would be consequently counteracted, at least partially, by the enhanced dynamism of the overall economy.

On the other hand, since a share of the food budget of households within the lowest income strata is spent at informal MSMEs, the substitution of cash by food vouchers would certainly increase the number of money flows within the formal economy. This would in turn reduce the amount of uncollected taxes and generate extra liquidity. The formalisation driven by vouchers is the major reason why governments have generally encouraged their use and restricted them to involve basic consumption goods.

STRO Uruguay is currently discussing the benefits driven by the replacement of paper-
vouchers by virtual credits with one of the leading provider of vouchers in the market. The system would enable officials and employees to pay their bills using their mobile phones obviating the cumbersome administration of papers while improving traceability and avoiding losses or re-commercialisation of vouchers thereof. However, some adjustment to present legislation is still needed in order to allow the total replacement of vouchers by payments *via* SMS. In order that vouchers cannot be used to evade taxes, the Social Security authority (*Banco de Previsión Social*) currently forbids that food vouchers are paid for through any instrument payable to the bearer and/or transferable to third parties (R.D. 43-44/2005). In contrast, the new law on VAT rebates that also includes cellular telephony (using SMS) as means of payment for canalising the tax benefit is a strong incentive giving impulse to this adjustment.

### 2.5. Online Payments

Home banking and other forms of digital bank transfers have had a late start in Latin America, including Uruguay, where the delay is partially explained by its small potential market (due to the size of both the general and the banked populations). Further, since 1993 there exists a payment retailer network in the country – *Abitab* - that handles a wide variety of cash flows and transfers that involve individuals, firms and public agencies. The entry of a second network - *RedPagos* – in 2005 has meant an almost full coverage of the market granting an easy access for individuals and firms regardless of their geographical location. Services provided by these agents include the transfer of funds, payments to public and private entities (such as taxes, public fees, social security benefits, wages, credit cards instalments, shared expenses); the collection of donations and deposits for particular individuals or organisations; and even the purchase of tickets for all sorts of shows. Their highly efficient performance and the services' low associated costs are in turn at the root of their universal acceptance. The feasibility of business for these payment networks would be therefore largely jeopardised once online banking activities and other forms of digital money become of generalised acceptance. Nevertheless, there is still a long way to go given the recent introduction of these systems.

The first available online options were related to the transfer of funds from and to accounts within the same bank (including those that involve different currencies) as well as
the payment of credit cards balances (for those issued by the bank where users have a savings or current account). A large number of additional online payments have gradually but increasingly become available along the last five years, such as the transfer of funds to accounts in other banks; the payment of taxes as well as Customs Office charges or other fees involved in foreign trade transactions; private services (e.g., monthly dues to institutions related to sports, health-care or education; contributions to ONGs and other associations; Internet services; etc.); or, in the case of firms, payments to providers. Other services demanded in a non-regular basis (e.g., the purchase of tickets for certain shows, catering services, etc.) are also available within a certain range that varies across banks.

In order to promote the use of online payments by firms and also to attract new clients, some banks have recently started to offer a new service – ‘cash management’ – through which the bank is in charge of handling cash flows that involve employees (wages), providers (delayed payments) and clients (debt collection) on behalf of the firm. Once the system is operational (that is, the necessary information and authorisation from the firm have been provided and the actors involved have open an account), all transactions would be executed by the bank while the firm can transfer the funds and control all movements online.

As it stands, this alternative means of payment would not be related to changes in money flows neither at the global, formal or local economy levels. However, the ease of access to products offered by retailers all around the world implies an enlargement of the supply side of the goods’ market that may result in an increase of money outflows, although to an extent that cannot be currently estimated. Further, even if no changes in the overall number of transactions were observed, the existence of online banking is most likely to rise the money multiplier given it drives a decline in the cash preferences of users.

2.6. Mobile Money

Mobile money systems involve the provision of and the access to banking products and services by means of mobile telephones that are associated to virtual and/or bank personal accounts to which deposits are done through pre-existent banking and non-banking agencies. In the case of virtual accounts the system works analogously to those that involve pre-paid cards.
SMS payments are one of the mobile banking products that are slowly picking up in Uruguay. The services are available for clients of at least one of the three mobile phone companies – ANTEL, Movistar, and Claro – and may or may not involve financial agents. A private national company - *Micropagos* – operates the system.

The recharge of pre-paid mobile phones is one of the services provided by all three companies while the payment of parking space in Montevideo is available for ANTEL and Movistar clients (by sending a text message with the number of the licence plate). The payment of any of these two products is debited on the phone-bill.

Movistar also allows the recharge of pre-paid mobile phones through most of the credit cards (issued by both banking and non-banking agents) by sending an SMS. The service is also available for recharging a mobile phone on behalf of a third person.

Credit cards bills may also be paid through a text message regardless of the mobile phone company that supplies the service. Included credit card agents are Visa, MasterCard and Oca while banks that participate from the system are *Santander, Itaú* and *Scotia Bank*, as well as two non-banking institutions - *Pronto!* and *Creditel*.

Taxi fares and the delivery of cooking gas are also subject to SMS payment. *Celeritas* taxi company and the cooking gas provider *Riogas* are available for holders of savings or current accounts at Banco Santander while holders of OCA credit card within the programme *OCA cel* have access to the competing firms - *Radio Taxi* and *Acodike Supergas* - and also to Riogas. A wide range of additional products/services are included for OCA cel members, such as deliveries from stores within a retailer network that involve a variety of fields (e.g., pharmacies; restaurants; flower shops); cinema tickets; pay-per-view services from the cable TV system *Montecable*; as well as purchases at stores within a network. The largest retailer network to date is however linked to *Créditos Directos S.A.* through the programme *Comcel* that is available for holders of Tarjeta D.

SMS payments are also a substitute for corporate taxi vouchers supplied to employees. They not only reduce the cost of vouchers but they further render the service much easier to supervise given it generates real-time information that is accessible for the taxi company, the taxi owner and the corporate client. The taxi company *Radio Taxi Patronal* is running the first operating model in Uruguay to which STRO has delivered technological inputs and know-how.
Another service that can be paid sending a text message involves deliveries from suppliers to retailer stores. Until recently, payments were done through a magnetic card (held by the retailer) and a POS reader (carried on delivery trucks). Such technology has many downsides (POS readers are expensive to acquire, costly to maintain and operate, while the logistics of emitting cards are also costly), as opposed to the use of mobile money. A rollout of this system considers a ‘prepaid’ variant where the shopkeeper, that has cash money to pay for the delivered goods, can ‘digitalise’ this by making a deposit. The actual system is carried out using a card issued and administered by a non-banking national institution - *Microfin* – focused on providing financial services to MSMEs. The firm has received technical support from a Peruvian bank (Mibanco) since its foundation in 2008. As of today, the system is being re-designed in order to substitute the card by mobile money, a project that is also being supported by STRO that has provided with technology and know-how. SMS payments would render unnecessary for all actors within the chain of delivery to carry cash, which is not only important from a safety point of view but also in terms of efficiency, transparency and control (real-time information on transactions is available for the microfinance agency, the shopkeeper, the truck-driver and the supplier).

A last programme that launched in 2011 by ANTEL - *Bit$* - enables its clients to transfer money from a mobile phone and to use SMS payments. A ‘digital through a pre/paid wallet’ must be created as a first step to access the system. The user must send a text message with her/his personal data in order to link the digital wallet either to a mobile phone bill (and thus the funds will be re-paid within at most a month time) or to a current or savings account at the BROU (in both cases the user should be the registered holder). Users that are also clients of the BROU may create their digital wallet at an ATM cashier, through online banking services (*eBrou*) or at a bank branch. The system is designed to be rolled-out gradually and, since its ultimate goal is to provide a market-wide digital wallet, it is expected that all financial institutions are soon enabled to participate. Similarly, it is important to keep in mind that the fact that ANTEL can offer to back the mobile wallet with other sources could potentially open the door for innovative sources of digital money. In this sense, the fact that there is a nationwide platform for transfer of payments that can realise transactions for any system it is linked to, means that other banks besides BROU could be “plugged” into this platform. It also means that, in theory, other digital systems of
means of payment (including digital voucher models and alternative or complementary currencies) may participate while accounts that involve alternative currencies may profit from the communication channels and data structure that are already at work.

At this initial stage, only two products can be purchased (with no additional costs) by users that are not clients of the BROU - parking space in Montevideo and mobile phone recharges. Holders of an account at the BROU may use the system to recharge AlfaBrou cards (regardless of who is the holder) by sending a text message and also to transfer money to other users of ANTEL mobile phone service. The beneficiary will immediately receive an SMS with the code that enables the withdrawal of the funds from any BROU cashier without using a card of any sort. The funds are deducted from the sender’s bank account together with the associated fees (2.5 dollars plus a 1% of the amount sent)\(^5\). The amount of each transfer may vary between USD25 to USD100 ($u500 to $u2000) while total daily transfers cannot surpass USD500\(^6\). Given that the access to funds is done through cash machines, the system only accepts transfers in multiples of $u100.

Besides the fact that the system is easier and cheaper than other options for money wires, it is a most suitable mechanism for agents within rural and other isolated areas to get access to the service given the large outreach of the RedBrou. The generalised use of m-money is further considered as a likely and feasible means to reduce violent crime associated to money robbery.

The generalised use of m-money would generate an increase in money velocity and a reduction of the cash to deposits ratio (a rise in the money multiplier). The enlarged money supply and the higher money velocity would both imply an increase in the number of economy-wide transactions. Such enhanced dynamism is expected to act as a driver of growth and development by means of enabling the financial and social inclusion of specific sub-populations as well as the reduction of informality. Significant impacts at the local economy level would in turn rely on the suitability of the system’s design to promote the creation of local networks, particularly within poor and/or isolated communities.

\(^5\) These fees are the same as those charged by, e.g., Abitab.
\(^6\) The daily limit is the same as that imposed for withdrawals through ATM cashiers.
3. Uruguayan Public Policy towards Digitalisation

The introduction of new digital money systems and the promotion of those already at work have become of increasing concern for Uruguayan policy makers along the last decade. The role these instruments play as drivers of financial inclusion suggests they are one suitable means for turning sustained economic growth into development, particularly when noting that the unbanked are 45% of the population (BROU, 2011).

Even though the informality and poverty degrees in Uruguay are not high compared to other Latin American countries, they are still a hindrance for attaining the desired level of social welfare (ECLAC, 2010; ILO, 2011). Moreover, (self) exclusion from the banking system is not restricted to these sub-populations as it also involves formal young workers and MSMEs that are frequently non-eligible as clients, or else cannot afford the operational costs associated to banking services. Their self-exclusion is at times linked to them being miss-informed (a phenomenon that is also found among the elderly) or to the fact that they consider that transaction costs are excessively high. Rural communities are a further unattended sub-market given the insufficient or inexistent local infrastructure renders their supply non-profitable.

The government’s active policy to stimulate the digitalisation of the country involves the provision of the infrastructure needed (e.g., investment in optical fibre); the progressive supply of digital public services (that is being instrumented by a recently created agency - AGESIC) and tax exemption programmes (linked to the use of cards, e.g.). Furthermore, currently active policies oriented to specific target populations involve: the development of inclusion plans for the poorest households in terms of Internet connections (providing the necessary infrastructure and hardware) and of their access to financial products (through conditional cash transfers and tax exemptions); to MSMEs, in particular to informal establishments (through the creation of alternative currencies to be used in predetermined retailer networks and by offering access to cheap credit); or to particular sub-populations, such as young students (through subsidies).

According to Cassoni and Ramada-Sarasola (2012), mobile money systems are most likely to be a suitable channel to overcome all the above obstacles. The introduction of the system would not be hampered by the existing characteristics of both the potential demand and the physical and institutional entourage while the odds that the provision of m-banking
services is economically feasible are sufficiently high. Indeed, wireless connections and infrastructure needs are non-binding conditions for Uruguay and neither are the mobile phone penetration rates, that are above 100% since 2008 (URSEC, 2011), or the illiteracy levels.

Further, the results obtained from a survey performed on households within the poorest income strata reveals that a large share of them found that the system is easy to handle and quite reliable, as opposed to the apparent lack of interest shown by micro-entrepreneurs (most likely linked to their high degree of informality). The creation of a retailer network from the start (that is largely attractive to potential users according to the survey); the inclusion of saving opportunities in the system’s design; and the provision of enhanced security mechanisms to deposit funds are suggested by the authors as most recommended strategies to attain success.

The introduction of m-money in Uruguay is currently an ongoing phenomenon that is framed within some of the lines suggested by the above report. In 2009, the government launched a joint initiative with STRO to create a retailer network known as ‘Commercial Credit Circuit’ – C3U – that involve MSMEs but also all government-owned companies, such as ANCAP (gasoline, oil), ANTEL (telephone), UTE (electricity), the Tax Office (DGI) and the Pension Fund (BPS) as well as their corresponding suppliers.7

The C3 Uruguay project aims at creating a nationwide digital alternative currency in which the government commits itself to accept this alternative digital currency as payment for taxes and services. It is hosted on secure servers controlled by the national post agency – Correo Uruguayo - and runs on the Cyclos software developed by STRO. The programme is further intended to reinforce the commercial capital liquidity of MSMEs and their linkages with other economic agents and to promote their access to cheap mutual credit that would allow for expanding business. These incentives are aimed at counterbalancing the ‘benefits’ that these agents would lose from exiting the informal economy. Possibilities are in turn being studied to connect the network to conditional cash transfer programmes (such as the Tarjeta Uruguay Social above described).

The government’s involvement in the design of C3U is most likely to minimise some of

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the trust barriers inherent to the system while it also serves to grant money-traceability and transparency. Further, deterrents associated to the loss or theft of mobile phones are also set to a minimum since 2011, when the three mobile-phone operators jointly granted the immediate disabling of devices reported as stolen or lost. In contrast, there is still much work to be done with respect to the privacy and software-related dimensions of security.

3.1. The Digitalisation of Public Services

The AGESIC – Electronic Government and Information Society Agency –, that was created in December, 2005 (Law 17.930), became operational between June and October, 2006 as a body within the Presidency (Decree 205/006 and Law 18.046). It is in charge of setting in motion a reform of the channels through which users get access to the services provided by the central government so that they all become available in digital form. The new system is also aimed at strengthening the linkages between economic and social agents and the public sector. The availability of online information on the activities undertaken by the diverse government bodies (decrees, laws, programmes, activities, rights and duties, etc.) is one clear output of such process.

The government, through the AGESIC, is in turn committed to provide with access to ICT tools in a homogeneous and universal manner to all citizens, organisations and economic agents. A major goal of the AGESIC involves the planning and operation of the diverse mechanisms through which communication flows would be materialised. As such, it is in charge of the design of public policies and of giving permanent advice on the matter to both users and authorities. It is also responsible of monitoring the system’s performance as well as of security-related features that should be granted to all actors involved.

Further roles of the agency relate to the establishment of linkages with other countries and international organisations; the provision of advice to the government on the necessary infrastructure and technological tools that should be available so as for the system to be operational; and the continuous evaluation of the adequacy of technological standards and degree of availability of resources. The management of financial and human resources is also an inherent task of the AGESIC.

The agency is in charge of the design of the regulatory frame needed to warrant the correct functioning of the ‘digital government’ and of controlling the fulfilment of all
regulations. One key aspect relates to the users’ acquisition of identification in electronic form that should be provided by the national Post Office.

The Uruguayan Post Office is considered to be the suitable entity to certify the identity of agents due to its being the public agency with widest outreach in the country. It has more than 900 agencies distributed along around 200 geographical spots. A large share of them has become interconnected through the Internet, using approximately 500 personal computers. As a consequence, the share of total mail services provided to firms is currently 65%, which represents a huge increase with respect to the percentage that it represented in the past (around 5%).

The Post Office is also unanimously considered as most trustworthy in handling private information services at the national and international levels, a characteristic shared by most post services in the world. Moreover, the fact that post offices in other countries are also becoming key actors in the digitalisation process of governments is an additional advantage (e.g., the Royal Post (UK); the Australia Post Corporation; the United States Postal Service; the Canada Post; the Deutsche Post; among others). A further benefit relates to the Universal Post Union (UPU) having established an international certificate that guarantees the safety of international money transfers all around the world. The Uruguayan post office is currently one of the 15 agencies in the world that also provide with the follow up of messages and/or packages using bar codes and it was the second that started to offer Internet tracking services (in 1997).

Electronic records have increasingly become of widespread international use, allowing for sending letters and other documents through the Internet with the follow up being done by national post offices (in the case of Uruguay, by the Correo Net). The Internet mailing system operation implies that messages/letters sent via e-mail are downloaded, printed and put into envelopes at local offices that deliver them through traditional channels.

Commercial electronic transactions have also become the rule worldwide, mainly due to the enhanced security they provide with respect to the identity of senders and receivers, granted through the use of electronic identities. The Post Office in Uruguay is the body that is entitled to provide with such identifications in the form of passwords (private and public in nature). There are two types of certifications to date - for users and for servers. In the case of individuals (persons and firms), a basic type of certification involves just the
authenticity of an electronic mail address that is granted through the web or by e-mail and allows for receiving encrypted e-mails (X.509, with a 1024 bits RSA length). Certifications with high security levels may be obtained in person, at a branch of the Post Office, where solicitors are required to exhibit identification (e.g., the identity card). The second service supplied refers to the certification of the authenticity of web pages that are hence granted a safety protocol to navigate in (as, e.g., an SSL). There is a directory of these websites available at the Post Office webpage as well as a list of those certifications that have been revoked.

As part of the above digitalisation process, the Tax Office (DGI) launched a programme through which retailers would issue electronic invoices instead of in paper form. An ongoing pilot test started to be carried out in August, 2012 jointly with a major supermarket chain (Tienda Inglesa). The evaluation of the new system is hence still pending.

### 3.2. The Plan Ceibal

A critical dimension of the above-described process relates to granting access to digital public services and information to citizens on a universal basis. Therefore, the provision of nationwide infrastructure and ICT tools to vulnerable sub-populations has been a major concern for policy makers.

Even though Internet services have been available for more than two decades now, a major advance is being currently registered in terms of the velocity of data transmission for users at the household and firm levels: starting in 2011, ANTEL has invested in the installation of optical fibre cables in the capital city and its metropolitan area, a project that foresees the outreach of all locations in the country.

Nevertheless, members of low-income households would not have been benefitted from the above improved infrastructure had not the Plan Ceibal been carried out.\(^8\) The Plan Ceibal is aimed at fostering the access of all children (starting at the age of 7), particularly those from the poorest households, to information and social networks. By extension, all members of the household are enabled to access computing services through at least one device. In narrowing the digital gap among Uruguayan citizens, especially in educational...
terms, it is expected to act as one driver of social and inclusion as well as to provide all individuals with more similar opportunities (both at present and in the future) to get access to the labour market.  

The programme consists in the free provision of laptops furnished with wireless connections (the *ceibalitas*) to a progressively larger share of individuals that lack, and are unlikely to get, access to personal computers. It was launched in 2007 and initially involved children attending a reduced number of primary public schools in the Florida department (as well as to their teachers). During that first year, all public schools in Florida became part of the programme that was expanded to the rest of the urban Interior along 2008 and to Montevideo and its suburbs in 2009. Starting in 2010, students in secondary public institutes became eligible while in 2012 public schools without electricity, mainly within rural areas, were also included, being its current rate of outreach 91%. This same year the first laptops became exchangeable for new ones, based on the results of a survey performed during the first semester of 2012 over the total population of owners all along the country (urban and rural areas). The percentage of *ceibalitas* that were still working was 80%. Teachers from private schools and their students can purchase a laptop at their cost value. In doing so they are enabled to participate from all the benefits provided within the Plan Ceibal. Private schools may also be included in the programme paying the corresponding fees and would therefore become entitled to fully participate from the benefits offered by the Plan Ceibal: connectivity; reduced monthly cost of Internet services provided by ANTEL; free training for teachers; and discount in the price of the laptop for their students.

Actors involved in the Plan Ceibal include the Ministry of Education and Culture; ANTEL; the National Public Education Board (ANEP) and the Technological Laboratory of Uruguay (LATU). It is in essence an educational sub-programme included within the Digital Information Equality Programme (PEAID). As such, one of its goals is to improve the quality of education and the qualification level of teachers that are expected to use additional educational resources to be provided through the new available technology. It is

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9 The ability to handle personal computers and to handle web services is by now a generalised requisite needed for most formal jobs while the demand for labour is largely and increasingly advertised through the Internet.

10 The equivalent to the ‘One Laptop per Child’ programme of the United Nations.


also intended to serve as a means of strengthening the linkages child-teacher-family as well as of promoting the involvement of other household members, particularly the parents, in the adequate use of ICTs.

After five years of its launching, the overall evaluation of the Plan Ceibal is quite positive. More than 70% of children in households within the lowest income strata got in touch with a personal computer for the first time in their lives through the ceibalita, in line with the tiny 13% of households within the lowest income strata in the Interior that had a personal computer prior to the Plan Ceibal. In contrast, by the end of 2009 (when the programme had attained full coverage of public schools in all urban centres), the National Institute of Statistics reported that all households in which there was at least one member attending primary school within this sub-population had got access to the technology. Moreover, the percentage corresponding to individuals across the whole country (that is, including small rural communities) rose to 66% in 2010. However, there was still a large deficit in terms of the access to Internet services at home (only 9% of households in the lowest income stratum according to the evaluation report “Impacto del Plan Ceibal en el Acceso y Uso de las Tecnologías de la Información y la Comunicación”).

The ceibalita has promoted an enhanced degree of socialisation among children through, e.g., a teaching-learning process around its use. Indeed, 87% of children declared to have taught their peers and/or other members of the household to use the laptop. It has also had a positive influence on attendance rates, motivation and learning abilities of the children, particularly at schools located in the most unfavourable contexts.

The most intensive users of the laptop among the child’s relatives are their older siblings and their mother, with the purpose of searching for general information and in particular on health-related topics. Regarding the behavioural patterns at school, around 20% teachers reported to use it almost every day in 2009, for both individual and/or team assignments while once or twice a week they also send homework that involves the ceibalita for at least one every three tasks.

As of today, the degree of acceptance of the programme is very high (over 75%)

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13The documents in which these data are reported are available at the webpage of the Plan Ceibal according to the links: http://www.ceibal.org.uy/docs/evaluacion_educativa_plan_ceibal_resumen.pdf; http://www.ceibal.org.uy/docs/Segundo-informe-nacional-de-monitoreo-y-evaluacion-del-Plan-Ceibal-2010.pdf.
among teachers and principals as well as among children and their parents.

3.3. Tax Exemptions

Policies that involve tax exemptions to all or some individuals (persons and/or firms) have traditionally been used as a means to promote specific activities (e.g., reductions in tax rates for imported equipment when there is an exogenous shock originated in a foreign country); as a counter-cyclical fiscal policy (e.g., when aimed at increasing consumption levels during an economic slowdown through a reductions in value-added tax rates - VAT); to benefit certain sub-populations (e.g., income tax reductions restricted to those that earn up to a pre-specified amount and that are hence intended to improve the overall income distribution); and/or as a means to alleviate a transitory situation (as would be the case of farmers facing a natural disaster). The focus may be set on tax rates linked to the value of diverse goods and services depending on the goal of the policy (production factors; financial services; intermediate consumption goods; final products).

In the case of Uruguay, the instrument has been frequently used to provide incentives for firms to increase labour demand, mostly through the reduction of social security contribution rates (on a general basis or else for certain groups, such as young or inexperienced workers) and also for promoting sales of specific products, by means of reducing the rates of VAT and other indirect taxes (e.g., specific taxes - IMESI - for automotive parts; VAT of certain primary products). Given VAT collection has always accounted for the largest share of total tax-related resources for the public sector regardless of the prevailing rate, the impact of the above-stated policies has been substantial whenever linked to reductions on VAT rates.\footnote{The largest and lowest shares along the last decades were registered in 1984 (82\%) and in 2009 (63\%), respectively (González et al., 2011).} The sources of such regularity have varied in time, from the excessive reliance of public sector revenues on indirect taxes that prevailed in the past, when the VAT rate was between 14\% and 18\% (1973 to 1982), to the extremely high level attained in 1995 (23\%) that is just 1pp below the current basic rate, one of the highest in the world and at the top of the Latin American ranking.

At present, some goods and services are subject to lower VAT rates. The minimum level
- 10% - corresponds to several activities that are essential, by definition, to grant the well-being of individuals, such as those related to health-care services; some basic food products; or transport services. A special regime, either on a temporal or permanent basis, is also given to sub-sectors considered key for the economic performance of the country, as for example those associated to tourists, as is the case of a number of lodging services that pay the minimum rate; or the full exemption that applies to hotel fees for foreign passengers all along the year as well as for Uruguayans during the low season. Another example is the 0% rate granted since 2007 (and up to December, 2012) to transactions that involve certain types of chicken, lamb and pork meat, a policy aimed at promoting the substitution of red meat given the substantial increase of international prices and the consequent diversion of the meat industry production from the local to the world market.\(^{15}\)

Since 2005, an additional differentiated VAT rate (13%) has prevailed for a subset of economic activities that are characterised by a high level of evasion - gastronomic services and those related to the organisation of parties and other social events; car rental services; and local tourism housing (Law 17.934; Dto. 537/005). In order to discourage the evasion of taxes, the benefit only applies when these services are paid for by credit or debit card (or any equivalent means of payment) and hence become fully traceable. The expected mechanisms through which this goal would be attained involve the diversion of consumption from informal to formal establishments; the increased incentives provided to productive units to abandon informality in order not to lose their share of the market; and the increased competition among financial agents (both banking and non-banking) to capture new potential clients of their services. Further, this enhanced competition would generate incentives for them to provide new financial products in order to attract the new demand that is expected to arise from the differentiated treatment of customers according to them being or not cardholders. Given the range of covered activities, the instrument is not expected to act as an incentive for entering financial markets but to increase the demand of certain products by existing participants instead.

In contrast, the initiative launched at the beginning of 2012, that involves the reimbursement of 2pp of the VAT, can indeed perform as a driver of financial inclusion

across individuals who belong to at least medium-low income strata.¹⁶ The fact that the benefit applies to purchases of any product/service that is paid for by credit and debit cards, through the web or using other types of electronic money (such as digital wallets and most likely m-money, even though it is not explicitly said in the text currently under debate), would render these means of payment more attractive to an enlarged group of individuals. According to the government, the generalised access to financial services is one mechanism through which to reduce the degree of uncertainty and volatility embedded in consumption decisions that would in turn allow for an increased demand that would involve several activities within value chains.¹⁷

On the other hand, the regressive character of consumption taxes in Uruguay, implied by the larger relative burden they represent for individuals with a low capability to save part of their income (Grau and Lagomarsino, 2002; Perazzo et al., 2002), was one key argumentation supporting the 2007 Tax Reform. However, the substitution of indirect by direct taxes has been poorly reflected on the VAT rate (that is only 1pp below its initial level) and hence the current initiative is also partially though of as a further stage of the process. Moreover, framed within the government digitalisation programme, the instrument would contribute to reduce tax evasion rates.

The initiative is still under debate. One prominent opposing view is that of IMFs, who argue that those non-banking financial agents that do not issue any card would be excluded from the benefit and therefore partially lose a proportion of their market share in favour of international bank consortia and credit card labels.¹⁸

### 3.4. Targeted Transfers

There are currently several programmes at work that constitute in essence a transfer of funds from the government to specific sub-groups of interest. One of them, that has been only recently released, involves the full reimbursement of VAT included in the price paid for any good or services whenever the purchase is done using the *Tarjeta Uruguay Social*,

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¹⁶ Due to MSMEs’ lack of infrastructure and equipment (such as POS machines), the programme is not expected to be set in motion at least until the beginning of 2013.  
¹⁷ Minister of Finances Fernando Lorenzo’s speech at the Retail 2012 seminar that took place in August in Montevideo. Available at: [http://www.mef.gub.uy/noticias/noticia_20120827.php](http://www.mef.gub.uy/noticias/noticia_20120827.php).  
the *BPS Prestaciones* card (also known as AFAM, for *Asignaciones Familiares*) or others determined by the government (Law 18910).

The AFAM is a debit card that allows for the withdrawal of social security funds for workers with children in low-income strata and also children and youngsters belonging to households considered to belong to vulnerable sub-populations. The full exemption of VAT also is granted in the case of purchases done with funds that do not stem from the above sources provided they are deposited in the account linked to these cards.

In order to render the system operative, accounts are created with no cost for their holder while in the case of MSMEs the government is entitled by law to provide a fiscal credit for the full amount due for POSs’ rental. In contrast to the delayed reimbursement of the amount of purchases that corresponds to the deductable VAT (done through the cards’ balances), users of the TUS and AFAM are discounted from the sales price instantly. Retailers are in turn granted a fiscal credit for that amount within 48 hours.

The instrument is therefore a further stage within the overall financial inclusion policy targeting members of low-income households and also within social programmes intended to improve the welfare of most vulnerable sub-populations by promoting the access to food products with high nutritional value and of hygiene-related goods. Formalisation and financial inclusion of MSMEs as well as the increased substitution of cash by digital means of payment (partially aimed at enhancing security) are further goals pursued. Lastly, as a means to promote the government digitalisation process, the application to the programme can be done online using e.g. the *ceibalita*.

The programme was launched in September, 2012 and its target population includes 290,000 households. During this first month, the total number of BPS-P cards requested was 26,000 of which 12,000 were delivered. The retailer network was in turn composed by around 14,000 MSMEs of which near 7,000 were ready to participate of the system. The observed behaviour of agents involved suggests there are several bottlenecks to be sorted out. The meagre share of cardholders that benefitted from the incentive (around 10%) reveals the crucial role played by disposing of adequate information channels, not only word-to-mouth and institutional directives but mostly the advertising of the list of establishments that belong to the retailer network (the use of stickers to identify the stores is one key task that is yet to be accomplished).
Retailers in turn have claimed that the process that allows for accessing the fiscal credit equivalent to the VAT exemption has not worked properly thus generating unexpected financial costs that they have been unable to bear.\(^{19}\)

4. Concluding remarks

It is apparent that there is a broad range of digital means of payment that are currently operative in Uruguay. Their use is expected to have a quite distinct impact on the local economy development, in line with them targeting to a different extent the general population and/or particular segments of it.

One goal that is consistent with characteristics shared by all the above-described alternative currencies is the progressive digitalisation of money systems in Uruguay with its consequent increased traceability of transactions. The latter phenomenon is also linked to the use of recently released cards for individuals that are members of the poorest households that enable the full reimbursement of VAT from all purchases.

Several debit and credit cards also promote the financial inclusion of large segments of the population. This is the case of the Tarjeta Uruguay Social or the BPS Prestaciones, as well as the Alfabrou and those issued by non-banking institutions (e.g., Tarjeta D, Creditel). The same can be said of online payments, vouchers and SMS transactions.

Many of these new means of payment also seek to improve social and economic conditions of the poorest households by focusing on particular dimensions. This is the case of the TUS and BPS-P that may only be used to purchase food and hygiene-related items. Markets unattended due to the non-profitability of business, such as rural areas or small communities, are also the target of policies and alternative currencies, such as the Plan Ceibal, mobile money systems or pre-paid cards.

An additional aspect shared by all the described means of payment and public policies relate to the generation of formalisation incentives provided to MSMEs. This is particularly so in the case of policies related to focused or general VAT exemptions as well as to the use of the TUS and BPS-P.

Regarding monetary processes, overall money flows may increase through the use of

\(^{19}\) See: [http://www.montevideo.com.uy/notnoticias_182143_1.html](http://www.montevideo.com.uy/notnoticias_182143_1.html)
cards, particularly those that allow differing and/or distributing payments along several time periods. The same effect is also driven by the rise in the level of disposable income associated to policies that allow for the total or partial exemption of taxes. The divergent rates of discount, in turn, imply that the largest impacts are associated to those that are used by members of the poorest households. The expected impacts are however different in the short, medium and long terms.

Even if no changes in money flows were observed at the economy level, almost all the instruments and policies described would generate increases in the number of transactions within the formal economy (diverting them from the informal sector). Further, the generalised use of the TUS and BPS-P by households of the lowest income strata as well as mobile money systems are both expected to increase money flows at the local economy level. This is due not only to the creation of specific retailer networks but also to the fact that there is a high concentration of poor households within specific geographical areas (both neighbourhoods and communities).

Given the recent character of many of these new phenomena as well as the lack of available data at the local level, the measurement of these impacts cannot yet be undertaken. However, the task is most relevant to evaluate the pros and cons of on going processes and should be taken in mind for future work.

Systems that emit a digital means of payment that adds direct purchasing power to the market, particularly those that are based on credit, may increase the overall level of economic activity but they may also generate inflationary processes. Therefore, it is most important that both policy makers and suppliers of alternative means of payment explicitly address their potential development in order to be able to focus on maximizing their positive effects while controlling for negative externalities.
5. References


