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The limited use of non-cash payments in Moldova: Diagnosis and policy options

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About the German Economic Team Moldova

The German Economic Team Moldova (GET Moldova) advises the Moldovan government and other Moldovan state authorities such as the National Bank on a wide range of economic policy issues. Our analytical work is presented and discussed during regular meetings with high-level decision makers. GET Moldova is financed by the German Federal Ministry of Economics and Energy. Our publications are publicly available at our website (www.get-moldova.de).

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The limited use of non-cash payments in Moldova: Diagnosis and policy options

Executive Summary

In this policy paper, we review possible causes for the limited use of non-cash payments by consumers in Moldova and discuss possible policy interventions. We focus on assessing the relevant incentives for everyone affected by non-cash transactions: consumers themselves, merchants, acquiring and issuing banks – and, last but not least, tax authorities. On this basis, we identify bottlenecks to the wider use of non-cash payment instruments and prioritize possible policy interventions.

From the point of view consumers, we find a large potential to use non-cash payments more extensively, even under current conditions. The necessary infrastructure is quite widely available, at least near urban areas (bank accounts, payment cards, internet banking, ATM"plus" terminals, POS terminals in many stores, etc.). While non-cash payments are more expensive to consumers than withdrawing cash from an ATM, the convenience of non-cash payments should make up for the extra monetary cost for many. However, it appears that a major shift towards non-cash payments depends on consumers overcoming persistent payment habits that are no longer appropriate, given the growing availability of new payment instruments. This calls for long-term efforts by both the National Bank of Moldova and commercial banks to popularize non-cash payments and publicize their advantages.

From the point of merchants, the cost of offering card payments through POS terminals gives rise to concern. Merchant service charges (and the interchange fees that they pay for) are high by international standards. In fact, they appear to be so high as to make card payments unattractive to merchants relative to cash on the basis of the transaction cost only – quite apart from any informal activities that some merchants may engage in. As a result, reportedly, consumers are often told by merchants that "the POS terminal does not work".

In the European Economic Area, persistent efforts by competition authorities since the early 2000s, culminating recently in Regulation (EU) 2015/751, have brought down interchange fees and merchant service charges to a level where merchants should now be indifferent, in terms of transaction costs, between card and cash payments. In a small market like Moldova (similar to other East European countries where interchange fees are also high), the cost of processing card payments is probably higher than in the EU. Nevertheless, authorities may wish to reflect on how they can use the momentum created by Regulation (EU) 2015/751 to reduce interchange fees – without making the business of processing card payments and expanding the related infrastructure unprofitable for commercial banks.

From the point of view of commercial banks, the "acquiring" business – provision and servicing of POS terminals to merchants – appears to be in need of further consolidation to realize the inherent economies of scale. It may be useful to explore the option of setting up a unique service company, owned by all interested stakeholders, that would provide POS terminals to merchants and sell its services under transparent conditions to all interested parties.

From the point of view of tax authorities, if consumers insisted on using card payments more widely, this might create pressure on businesses to regularize informal economic activities. Tax collections might increase – which might justify fiscal incentives for card payments such as a partial VAT refund or a tax lottery in which receipts for card payments would automatically participate. Although such incentives have been tried out in several other countries, we have not found a clear success story where tax collections were enhanced in a lasting way.

If the Moldovan authorities want to explore a VAT refund in detail, they may usefully focus on targeting it closely to sectors with a high share of informal transactions; in this way, the inevitable deadweight loss from giving incentives to transactions that are already taxed would be limited.

Furthermore, the immediate fiscal cost may be kept low, for example, by raising the general VAT rate when the partial refund on non-cash transactions is introduced.

While a tax lottery would have the advantage of keeping the fiscal cost (prizes) under control, it would raise political economy concerns. Arguably, citizens should learn to pay taxes as a matter of civic responsibility, not to win a free ticket to participate in gambling. A crucial concern would therefore be to communicate a tax lottery in a way that does not undermine citizens' tax morale.

As an alternative (or complement) to fiscal incentives, coercive measures have also been proposed - such as a maximum limit on cash transactions (which Moldova currently does not have, in contrast to many other countries); a lower turnover threshold above which merchants are required to provide a POS terminal for card payments by customers; or making it illegal for consumers to leave a store without a fiscal receipt. We take a sceptical view of the effectiveness of such coercive measures – especially whether they are appropriate in Moldova where authorities are struggling to maintain the confidence of the population in the currency and the financial sector. In any case, many such measures have little to do with promoting the use of non-cash payment instruments to realize network externalities, reduce transaction costs, and increase economic efficiency. We suggest that the authorities focus on helping consumers to recognize and make use of the new opportunities that non-cash payment instruments offer; and on bringing down the costs of processing non-cash payments so that merchants as well as commercial banks can benefit from the business opportunities inherent in a future expansion of non-cash payments in Moldova.

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1 Introduction

Non-cash payments now account for the lion's share of consumer payments in many countries at different levels of economic development. Not just consumers, but also businesses and financial intermediaries find non-cash payments from consumers more convenient and cheaper than cash: cash earns no interest, it must be kept safe, it has to be moved around physically at some risk to its owners and at considerable cost.

In Moldova, the use of non-cash payment instruments by consumers has also increased rapidly since 2010. However, since the increase is recent and started from a low base, the share of non-cash payments in total consumer payments is still small by international standards.

In this policy paper, we review the adoption of non-cash payment methods by Moldovan consumers (Section 2) and discuss the main reasons for the limited up-take. We find that persistent habits and lack of information affect consumer behaviour to a surprisingly large extent: Many consumers pay cash for transactions like utility payments by first withdrawing cash from their bank accounts through an ATM and later lining up at a bank's cash window in order to deposit the same cash into their utility company's account – although they could have made a direct transfer to the utility company at any enhanced ATM (Section 3.1).

Furthermore, merchants in Moldova whose turnover exceeds MDL 2 m are required to offer consumers the option of paying by bank card at a POS terminal. However, the merchant service charge that they have to pay to the "acquiring" bank is so high that card payments become unattractive compared to cash. The merchant service charge is high largely because of the high interchange fee that the acquiring pays to the issuing bank. We discuss possible reasons related to the market power of banks and unrealized economies of scale in the "acquiring" business (Section 3.2). Finally, we review the extent of informal activities across sectors of the Moldovan economy and reflect on the resulting preference of economic agents for cash transactions (Section 3.3).

In terms of policy interventions to promote non-cash payments, "converting" consumers to the use of non-cash payments when the infrastructure is available and the benefits are transparent is akin to harvesting "low-hanging fruits" (Section 4.1). Along these lines, the National Bank of Moldova has recently organized a public campaign to advertise the advantages of non-cash payments. We discuss options for continuing financial education to assist consumers in overcoming outdated payment habits.

A second set of possible policy interventions focusses on the infrastructure for non-cash payments and their cost. We discuss the role of competition authorities in bringing down down interchange fees in the European Economic Area as well as options for streamlining the acquiring business (Section 4.2). In a similar vein, we also reflect on how limited access to financial services affects efforts to popularize card payments (Section 4.5).

Finally, we discuss how either coercive measures such as an upper limit on cash transactions (Section 4.3) or fiscal incentives (VAT refund or lottery for card payments; Section 4.4) can induce a shift towards non-cash payment instrument.

Our main conclusion is that policy interventions to increase the use of non-cash payments should be based on a thorough analysis of the incentives faced by all parties involved: consumers, merchants, acquiring and issuing banks. On this basis, bottlenecks may be identified (currently, high merchant service charges and interchange fees) and priorities may be set for policy interventions.

2 The low share of non-cash payments in Moldova: International comparison and recent developments

Moldova lags behind most Central and East European countries in the use of non-cash payment instruments (Table 1). This is the case not only for a relatively new instrument like the direct debit (hardly used in Moldova, but ranging from 0.5 transactions per head annually in Romania to 13.5 in the Czech Republic). It is also true for traditional credit transfers (which are mostly used in BtoB transactions and may be paper-based as well as digital) and even for cash withdrawals from ATMs (as opposed to bank cash windows). A similar situation exists for card payments, which are the main non-cash payment instrument for CtoB transactions and therefore at the center of this policy paper: Moldova registered less than 2 card payments per head in 2015, whereas across the region the corresponding figure ranged from 9 payments (Bulgaria) to 59 (Lithuania).

Interestingly, the infrastructure in Moldova was comparatively more developed than the low use of non-cash instruments might suggest. With 273 ATMs per 1 million inhabitants, Moldova was not far behind the Czech Republic (421) or even Poland (533). Similarly, the number of POS terminals in Moldova (3.4 per 1 million inhabitants) was not much lower than in Romania (6.5) or the Czech Republic (9.6).

Although non-cash payments in Moldova have grown since 2010 (Figure 1), cash payments continue to dominate Moldova's retail payments' market. This is reflected in the large stock of cash in circulation, comparable only to Ukraine (Table 1). Not only are the ratios of cash to M1 and to GDP far higher in Moldova (and Ukraine) than in our comparator countries. A full analysis would also have to account for the use of foreign exchange cash (not included here) as a vehicle for both transactions and savings

Table 1

Indicators of non-cash transactions and related infrastructure: Molodova and selected transition economies, 2014 (Moldova: 2015)

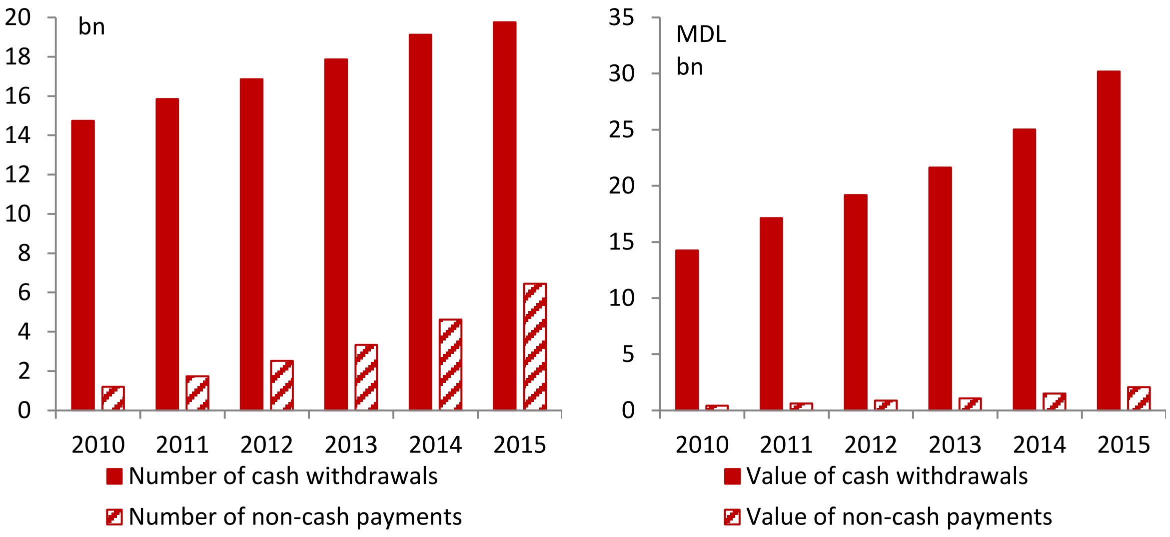
	Croatia	Lithuania	Hungary	Czech Rep.	Poland	Bulgaria	Romania	Ukraine	Moldova
Credit transfers per inhabitant	68.5	60.3	55.4	54.3	51.4	26.6	10.1	-	4.6
Direct debits per inhabitant	4.7	4.8	6.7	13.5	0.6	0.8	0.5	-	0.02
Card payments per inhabitant	51.4	58.6	36.4	46.0	48.7	9.0	11.5	19.7	1.8
Cash withdrawals at ATM per inhabitant	23.3	22.8	10.8	17.2	19.7	12.6	11.0	15.6	5.6
ATM terminals per 1 million inhabitants	992	438	494	421	533	777	577	744	273
POS terminals per 1 million inhabitants (thousands)	23.0	13.4	10.6	9.6	10.4	10.5	6.5	4.6	3.4
Cash in circulation (percent of M1)	19.3	11.2	33.0	15.4	21.4	32.7	33.6	65.0	66.0
Cash in circulation (percent of GDP)	5.6	3.7	11.0	10.1	7.5	12.2	5.6	17.7	15.6

Source: National Bank of Moldova, European Central Bank, National Bank of Ukraine

While still small, non-cash payments have become more popular with Moldovan consumers since 2010 (Figure 1). In particular, the number of card payments (not including ATM withdrawals) has grown, whereas the nominal value per card transaction has remained roughly constant (so the total value of transactions has grown as fast as their number). Since there has been noticeable inflation in

Figure 1

Card payments in Moldova



Source: National Bank of Moldava; Note: Cards issued and used in Moldova

Moldova since 2010, consumers (those that use payment cards, in any case) have used card payments for ever smaller transactions (in real terms) over time. By contrast, the value of the average ATM cash withdrawal grew by more than half between 2010 and 2015.

In sum, not only is there a lot of room for non-cash payments in Moldova to continue growing, given the experience of other transition economies. Our international comparison also suggests that non-cash payments by consumers are smaller than the current infrastructure would permit. Section 3 (below) explores in more details the causes for low non-cash payments; in Section 4 we discuss possible policy interventions.

3 What causes the limited use of non-cash payments?

3.1 <u>Old habits die hard</u>

Many consumers in Moldova withdraw cash from their bank accounts to pay for current expenditures. In some cases, the cash payment occurs almost immediately on the bank's premises, for example when consumers pay their utility bills at the bank's cash window. In other cases, the link between cash withdrawals and expenditures is less immediate – such as when consumers pay cash for their supermarket shopping although they could use a POS terminal with the same payment card as the ATM.

What is remarkable about this behavior is that the necessary infrastructure for these potential non-cash payments exists. Also, whatever informal transactions consumers may also engage in, the cash withdrawn from the ATM comes from formal income (by definition) and the consumer has no discernable interest in concealing the related expenditure.

By comparing cash withdrawals from ATMs with non-cash payments through payment cards and direct transfers, we gain a sense of by how much non-cash payments could grow without additional infrastructure or need to regularize informal transactions. In 2015, holders of Moldovan payment cards withdrew MDL 30.2 bn from ATMs, but made non-cash payments of only MDL 2.1 bn (Figure 1). Retail turnover for non-food items alone (open food markets may not be a good place for non-cash payments) was at least MDL 35 bn. Clearly, non-cash payments could grow considerably even if consumers merely change their payment behaviour, without having to regularize informal transactions or change the way they save and spend remittances (remittances are often saved as foreign exchange cash and spent after conversion into Moldovan Lei at exchange offices).

At the same time, Moldovan consumers do have to change their payment behaviour in a far-reaching way to move from cash to non-cash payments. There is no tradition of writing cheques to pay for personal expenditures (like in Anglo-Saxon countries) or of making direct transfers from one bank account to another (as in many Continental European countries). In Moldova, direct transfers can now be made through internet banking – which requires access to the internet as well as some degree of computer literacy – and at many ATMs – where customers have to fell comfortable conducting their financial transactions in the public eye.

For card-based payments, shops not only need the necessary POS terminals, but also staff who are comfortable using them. Furthermore, many shops engage in informal transactions (for example, a portion of the wage payments) and therefore prefer payment in cash. As a result, reportedly, consumers are often told that POS terminals “do not work”.

Interestingly, when Moldovans used their cards abroad in 2015, they made far more non-cash payments (MDL 2.6 bn) than ATM withdrawals (MDL 0.6 bn). This observation suggests that at least the somewhat select group of Moldovans that travel abroad are comfortable enough with card payments to quickly adjust to the payment habits of their destination countries. Of course, they may also be reacting to the relatively high fees for ATM cash withdrawals abroad (compared with withdrawals in Moldova).

It seems unlikely, incidentally, that this group would include many Moldovan emigrants that use Moldovan payment cards abroad to spend their foreign incomes. By contrast, Moldovan emigrants who are permanently settled abroad probably account for most of the use of foreign cards in Moldova – where cash withdrawals were only moderately higher at MDL 2.6 bn than non-cash payments at MDL 1.5 bn. Again, this may be a reaction to high ATM fees for foreign bank cards in Moldova as well as an indication of adjustment to the prevalent payment behaviour abroad. In any case, payment habits do appear to be susceptible to change in line with changing incentives.

In terms of possible policy interventions, these observations suggest that a long-term strategy for financial education looks promising (Section 4.1). Commercial banks may want to continue actively marketing non-cash payment services to consumers. To the extent that consumers want to use non-cash payment methods but businesses insist on cash, the incentives faced by businesses need to be analysed to understand whether lower-cost infrastructure (Section 4.2), mandatory limits on cash payments (Section 4.3), or fiscal incentives (Section 4.4) are efficient ways of rendering non-cash payments more attractive.

3.2 Cost of non-cash payment services

The fees and charges incurred by the various economic agents while making and processing cash and non-cash payments determine the incentives to move toward non-cash instruments. For customers, withdrawing cash from their own bank’s ATMs is usually free; there is a small to moderate fee for withdrawals from other ATMs (Table 2). Otherwise, cash transactions are costless to consumers. However, they pay a fixed fee per transaction for non-cash payments, plus a monthly fee for internet banking (if they use it). At least for poor consumers, these charges could render non-cash payments less attractive than cash in many situations. How consumers decide in the end will depend crucially on whether non-cash payment instruments are (at least) sufficiently convenient to use to make up for their cost disadvantage.

Concern about the cost of non-cash payments becomes even more relevant when we consider the position of merchants that accept payments through POS terminals (Figure 2). “Acquiring” banks supply POS terminals to merchants for a moderate monthly fee plus a heft service charge based on transaction volume. The monthly fee tends to be lower (up to MDL 150) if the network connection is through landline telephony or the internet, but may go up to MDL 240 if the connection is via GPRS.

The percentage charge on transaction volume starts around 1.5% if the payment card is from the acquiring bank but may go up to 3.0% for foreign payment cards. Therefore, from a merchant's point of view, non-cash payments may easily become unattractive compared to cash receipts, even if the merchant otherwise has no preference for cash to use in "informal" operations. In addition, handling cash involves many fixed cost elements such as maintaining a cash register, depositing cash daily, etc.; merchants will incur these fixed costs as long as they handle any cash at all (i.e. for the foreseeable future). By contrast, the marginal cost of handling additional cash, such as the extra risk of loss, is probably small.

Table 2

Average fees for non-cash payments in Moldova (for natural persons), 2015

Operation type	Minimum	Maximum	Average
Account opening	0 MDL	50 MDL	3.2MDL
Account closing	0 MDL	50 MDL	3.MDL
Account handling	0 MDL	7 MDL / month	
Fees for payment transaction, within the same bank	1 MDL per transaction	4 MDL per transaction	
Fees for payment transaction, within different bank	2 MDL	10 MDL	
Fees through money transfer systems	1.5 EUR per transaction	56 EUR[1] per transaction	
Card issuance	0 MDL	40 MDL	17.9 MDL
Annual debit card maintenance	36 MDL	90 MDL	64 MDL / year
Internet banking	0 MDL	100 MDL / month	
ATM cash withdrawals	0 MDL	1 MDL per transaction	
ATM cash withdrawals from other banks	1 MDL	1,5 % min 1 EUR per transaction	
The maximum daily withdrawal	4000 MDL	unlimited	
Payment by card within POS	0 MDL		

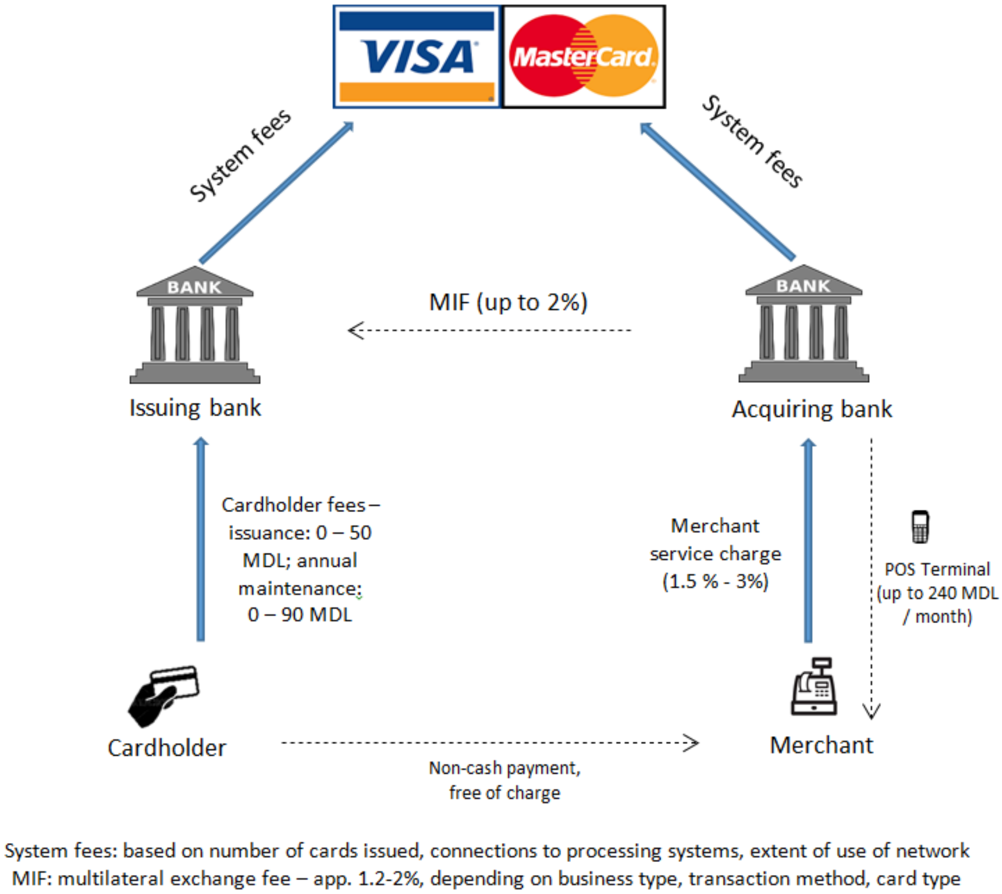
Source: compiled from web-sites of commercial banks in Moldova

Bank charges to merchants are high in large part because acquiring banks pay an interchange fee of between 1.2% and 2% to card-issuing banks. As the Visa and Mastercard networks are the only organizations in Europe that process payments between customers, merchants, and banks, it has been suspected that the bank members of these organizations may have used their market power to keep interchange fees high. Since the early 2000s, the EU Competition Commissioner has taken several decisions to oblige Mastercard and Visa to reduce interchange fees sharply for transactions in the European Economic Area (European Commission/ Competition, 2016). Regulation (EU) 2015/751 now caps interchange fees at only 0.2% of the transaction value for consumer debit cards and 0.3%

for consumer credit cards. The Regulation also increases transparency on fees and enhances competition in the payment cards business by addressing licensing issues and other conditions that have restricted the freedom of choice of retailers.

Firgure 2

Fees for non-cash payments through POS terminals



Source: own compilation from commercial bank websites

Interestingly, the cap on interchange fees has been set on the basis that at this level, merchants are indifferent, on average, as to whether a customer pays by card or cash (MIT or "merchant indifference test": European Union DG Competition, 2015). Of course, the cost structures of merchants may differ between the EU and Moldova. Nevertheless, at the current, elevated interchange fees, many merchants in Moldova probably find card payments rather more expensive to process than cash. The MIT relates only to pure transaction costs; merchants may still offer card payments as a service to their customers or because they are legally required to do so (as in Moldova if their turnover exceeds MDL 2 m). But with the current cost structure, merchants are unlikely to become a driving force to promote non-cash payments.

It seems plausible that the market power of the Visa and Mastercard organizations plays an important role in keeping interchange fees high in Moldova and other East and South-East European countries. At the same time, the processing of electronic payments is subject to economies of scale. A low level of interchange fees may still allow banks in the European Economic Area to process card payments profitably, given a high and further growing volume of transactions. However, the same low level of fees might make it unattractive for banks in Moldova to invest in expanding the electronic payments business.

Another reason for high merchant service charges appears to be the relatively small size of the "acquiring" business in Moldova, combined with the fact that three competing commercial banks are still active in this field. Interchange fees and merchant service charges are lower for a given transaction if the acquiring bank has issued the payment card. Therefore, large merchants even maintain POS terminals from different acquiring banks to minimize their transaction costs. This approach is feasible because the fixed cost of maintaining several POS terminals is low; nevertheless, non-cash payments become less convenient for all parties involved.

In sum, the high level of merchant service charges appears to be a major obstacle to efforts to expand the use of non-cash payments. Several policy interventions could address this situation from different angles: Authorities in Moldova and other East European countries might use the momentum generated by Regulation (EU) 2015/751 to oblige Visa and Mastercard to reduce interchange fees (Section 4.2). Commercial banks and regulators may consider moving the acquiring business to a single service company that could be owned by all relevant stakeholders and would offer its services to all interested parties under transparent conditions (Section 4.2). Furthermore, there could also be a rationale for reducing the VAT rate for non-cash transactions (Section 4.4).

3.3 Prevalence of informal transactions in particular sectors

Several sectors present a special challenge because their structural characteristics favour informal transactions based on cash payments. Across economic activities, the ratio of informal to formal activities is approximately 28% for the the Moldovan economy as a whole, but 59% in agriculture (if we include production for own consumption within the household); 41% in construction; 26% in retail and wholesale trade; and 40% hotels and restaurants (Table 3). If we exclude production for the own consumption on the grounds that there are no payments (cash or card) for own consumption in any case, the figure for agriculture declines to 15%.

The importance of informal activities across sectors is closely related to the prevalence of “envelope wages”, i.e. the informal payment of at least a portion of employees’ wages. While unfortunately there are no sectoral data on informal wages, the National Bureau of Statistics estimates both formal and informal employment. Informal employment amounted to 48% of formal employment for Moldova as a whole, but was as high as 353% in agriculture; 151% in construction; and 19% in trade, hotels, and restaurants.

In agriculture, apart from informal employment, cash payments play a large role because many small (and relatively poor) farmers have only limited access to financial services in rural areas. Access to appropriate financial services is important in its own right as a key element of socio-economic development. However, it is not clear that small farmers would have much to gain from receiving their revenue or paying for their inputs through non-cash instruments. Furthermore, the financial services infrastructure is reasonably well-developed in urban areas, but more patchy in rural areas – quite possibly because low demand for financial services in rural areas does not justify large investments in the corresponding infrastructure. Under such circumstances (small average payments, low population density, difficult acces to banks/ ATMs, etc.), cash may simply be the most efficient payment instrument in rural areas in many circumstances.

The situation is somewhat different in the construction sector where most building materials are imported. Therefore, many construction firms minimize their foreign exchange risk and the cost of handling foreign exchange by insisting on cash payments in foreign currency for their services. Customers who do not keep their savings in cash foreign exchange may find it inconvenient to obtain relatively large amounts of cash to pay for construction services. However, for construction firms, informal employment and (presumably) informally imported inputs generate strong incentives to receive their revenue in cash as much as possible. Any policy interventions in the construction sector should probably focus on increasing the share of formal activities as such, rather than the small possible transaction cost advantages of non-cash payments (Section 4.3).

In the case of hotels, restaurants, and domestic trade, card payments by individual customers through POS terminals are a natural alternative to cash payments. However, as we have explained in Section 3.2 above, the cost of card payments to merchants in Moldova is so high as to make card payments unattractive – even if merchants do not prefer cash for other reasons, such as to make informal payments. In terms of policy interventions, financial education can make customers more aware of the convenience of paying by card (Section 4.1); as a result, more customers may insist on paying by card and put competitive pressure on merchants to keep their POS terminals in good working order. Furthermore, measures to lower the cost of card payments to merchants (Section 4.2), legal limits to cash payments (Section 4.3), and fiscal incentives (Section 4.4) for card payments may all help to change the calculus of merchants and make card payments more attractive to them.

Table 3

Informal economic activities by sectors, Moldova, 2014
(informal relative to formal value added/ employment, percent)

	Value added		Employment
	Household production for own consumption		
	Included	**excluded**	
Agriculture, etc.	58.8	15.0	353.1
Industry	16.9	13.4	6.6
Construction	40.5	37.5	151.5
Retail and wholesale trade	26.3	26.3	18.6
Hotels and restaurants	39.8	39.8	**
Transport and communications	18.2	18.2	13.4
Public administration, etc.	*	*	0.3
Other	20.4	9.2	15.3
Total (all sectors)	**27.5**	**16.2**	**48.2**

*Source: National Bureau of Statistics; *included with other services; **included with Hotels and restaurants*

4 Policy interventions

4.1 Low-hanging fruits: Financial education

We have concluded in Section 3.1 that the high share of cash payments in Moldovan consumer payments is due in part to persistent habits and lack of familiarity with non-cash instruments. Given the large change in behaviour that is required to move from cash to non-cash payments, it seems plausible that this will inevitably be a lengthy process, even when the necessary infrastructure is in place. We have also found that bank fees for non-cash payments are higher than for cash withdrawals through ATMs. However, this transaction cost disadvantage may well be compensated for by the greater convenience of non-cash payments from the point of view of the consumer.

Once the long-term task of changing consumers' payment habits is recognized for what it is, it is natural for stakeholders to consider a sufficiently long-term strategy to actively convince consumers that non-cash payments are convenient, cheaper than withdrawing and carrying cash, and safe. Public campaigns like the one launched by the NBM in December 2014 (http://faranumerar.md/) provide an example of the kind of messages that may be communicated to consumers.

While this particular campaign lasted only six months, it would be useful if the duration of future campaigns were measured in years, rather than months. The ongoing discussions about a national strategy for financial education in Moldova that would run through 2020 are therefore highly promising. Although financial education goes far beyond payment instruments and addresses the varied needs of sophisticated as well as other consumers, the benefits of information technology and non-cash payments deserve a prominent role within the new strategy.

Commercial banks have an important role to play in supporting future public campaigns through their own marketing efforts. To induce consumers to invest time and effort as well as some money in adopting new payment habits, the convenience of using non-cash payments should be demonstrated as effectively as possible. There is much room for non-cash payments to grow, such as for utilities, taxes, and other payments to the government (through mpay.gov.md), without consumers even having to deal with merchants that are less than enthusiastic about receiving card payments.

4.2 Cost and availability of infrastructure for non-cash payments

We have concluded in Section 3.2 that merchant service fees for card payments in Moldova (as in other East European countries) are rather high by international standards, largely as a result of high interchange fees received by card-issuing banks. Following the example of the European Commission, authorities in Moldova may want to coordinate with competition authorities in similarly affected East European countries to analyse the possible role of market power on the part of Visa and Mastercard in keeping interchange fees high. While there may be room for reducing interchange fees, it is also clear that processing electronic payments is subject to economies of scale and the volume of transactions for typical banks in the EU is much higher than in Moldova. It would be self-defeating if fees were reduced but banks no long found investments in expanding non-cash payments attractive.

Another reason for high merchant service charges appears to be the inefficient structure of the (small) acquiring market in Moldova, with three commercial banks competing to place their POS terminals with merchants. Again there are economies of scale, related in part to network externalities: the more members a network has, the more attractive it becomes for potential new members to join. These economies of scale could be realized, for example, by setting up a service company that would be owned by all stakeholders (banks, merchant organizations, …) and process transactions for all clients under the same transparent conditions. Competition authorities would probably want to keep a close eye on such a service provider as well: Greater market power for the single supplier may be the drawback from realizing economies of scale. Anecdotal evidence suggests that the acquiring business is not immensely profitable at present, but would benefit from a strong supplier that is willing to make the investments necessary to expand card payments and reap the benefits of network externalities and economies of scale.

Network externalities could also be realized if more merchants offered their customers card payments through POS terminals. In the absence of a major breakthrough reducing merchant service charges, one possible option is to lower the turnover threshold above which merchants have to provide a POS terminal (currently MDL 2 m per year). However, such coercive measures would have the disadvantages of adding to the red tape that businesses already face, increasing the incentives for merchants to conceal part of their turnover, and being easily circumvented as merchants have been known to frequently tell their customers that POS terminals “do not work”. In this environment, policymakers should focus on helping to bring down merchant service charges and thus make card payments more attractive for merchants.

4.3 Statutory limits to cash payments

Many countries require financial transactions above a certain threshold to be conducted through non-cash instruments. This international experience raises the question of whether a similar limit to cash payments in Moldova (currently, there is none) would be effective in reducing informal transactions. This might apply in particular to the construction industry where relatively large informal payments are endemic (Section 3.3).

It must be noted that the main benefit of such restrictions on cash payments would be to shine the light of day on some shadow transactions. At the same time, transaction costs might even increase if customers and construction firms had to go through currency conversion at banks, set up foreign exchange accounts to minimize exchange rate risk, etc., rather than pay for construction services and imported building materials with cash foreign exchange that is still an important vehicle for (legitimate) savings in Moldova.

With the current crisis of Modova's financial system, it becomes particularly important not to undermine citizens' trust in the Moldovan currency or in their ability to accumulate financial savings by hoarding foreign exchange cash. A lot of money has recently been stolen from commercial banks – all of it through non-cash transactions. If ordinary Moldovan citizens started to believe that they are subjected to unreasonable controls and restrictions while little progress is being made recovering the stolen funds, that might further undermine people's confidence in the government, state institutions, and the national currency.

In addition, there are many ways to circumvent a maximum limit on cash transactions, for example, by splitting up large payments. A limit would also generate incentives to hide even more transactions from authorities. And last but not least, once a certain level of corruption has become entrenched among government staff, more restrictions may easily lead to more rents being extracted from private citizens, but not to the desired effect of lower cash payments.

4.4 Fiscal incentives for non-cash payments

If consumers pay for their purchases more often through non-cash instruments, this may help to reduce tax evasion on the part of merchants and increase government tax revenue. Therefore, a fiscal incentive that helps to formalize and tax hitherto informal economic activitiy could be self-financing. From international experience, possible incentives include a partial VAT refund for card payments and a tax lottery in which all receipts for card payments would automatically be eligible for prizes.

From a fiscal perspective, the extra tax revenue collected on newly formalized economic activity should exceed the "deadweight" loss due to lower tax collections on already formal transactions. A detailed study in Moldova concluded in early 2012 that of several options studied, a lottery would generate the most additional tax revenue (Proiectul Propunerii de Politică Publică "Eficientizarea metodelor de control a agenţilor economici susceptibili de evaziune fiscală în procesul de utilizare a maşinilor de casă şi control"; report dated January 2012). A (large) reduction of the VAT rate for card payments by 4 percentage points would also have a positive net fiscal effect (though smaller than for the lottery).

In general terms, how much extra tax revenue is created through an incentive scheme depends on how much economic activity will be lastingly formalized – which is inherently uncertain, although a higher incentive (VAT rate reduction or prizes) will probably result in more card payments and regularize more informal transaction. In turn, the deadweight loss will be the larger the higher the incentive and the more activity is already formal. Simple back-of-the-envelope calculations demonstrate that if informal (untaxed) activity accounts for approximately one fifth of sectoral turnover (like in retail trade in Moldova: Table 3), one needs to make rather strong assumptions about newly regularized activity to justify a VAT refund for card payments.

The administrative cost also needs to be considered: To keep it low, a good payment system infrastructure is crucial. Access to financial services needs to be practically universal so that all citizens can benefit from the incentive by making card rather than cash payments. If poor or rural individuals were excluded because they have no bank account or payment card, an incentive scheme might not be politically feasible.

There may be several ways to limit the immediate cost of a VAT refund: target it to sectors that are highly informal (e.g. hotels and restaurants, rather than retail trade in Moldova: Table 3); limit the size of the VAT refund (maybe 2 percentage points rather than 4 like in the earlier study); increase the VAT rate on cash payments while reducing it on card payments.

Nevertheless, the fiscal risk inherent in a VAT refund remains high. Therefore, the idea of a lottery has developed some traction in which all receipts for card payments during a certain period would automatically participate. Here the amount of prizes (i.e. the fiscal cost, in addition to administration) can be controlled more easily and, over time, it can be weighed against the observed progress in regularizing informal activity. A lottery would also be easy to target to particular sectors and could be of limited duration to contain the fiscal risk.

At the same time, a lottery raises serious questions about how the fiscal state presents itself to its citizens. Arguably, responsible citizens should willingly pay their taxes as a matter of civic responsibility, not in order to win a free ticket to participate in gambling. Of course, since many individuals pay to gamble, a lottery may well be popular and therefore attractive to politicians. At the same time, international experience with lotteries suggests that communication with the public is crucial to make a lottery a lasting success in terms of raising card payments and the share of formal activities permanently (Fooken, Hemmelgarn, Herrmann, 2014).

Unfortunately, international experience provides little guidance as to whether tax revenues have actually increased in a lasting way as a result of the various fiscal incentives that have been tried (Bird, Gendron, 2007; Dunning et al., 2015). Although the evidence may often be inconclusive, clear success stories are conspicuously absent whereas there are several well-documented failures.

4.5 Improving access to financial services in rural areas

Access to financial services, especially to a bank account, is not only a pre-condition for consumers to make non-cash payments. It is also a pre-condition for socio-economic development more generally and therefore a key element of public infrastructure. The role of the government is not necessarily to provide such essential services itself; however, it should ensure that there are public or private actors that provide such services.

In Moldova, access to ATMs and bank branches is limited in rural areas, i.e. most localities smaller than the rayon administrative centers. This challenge needs to be viewed in the light of the broader demographic trends in Moldova. For many years, rural areas have lost residents, especially those of working age or younger; there is no sign that this process will end any time soon. Therefore, the government needs to have a strategy for providing essential public services, including financial services, in rural areas in a cost-efficient manner.

Rural post offices are one natural focal point for communication and financial services in rural areas. Conceivably, they could offer am appropriate range of financial services including cash withdrawals from bank accounts, MTO services, savings accounts that can be accessed by payment card, payment for utilities, taxes, communal services, etc.

A complementary service might be offered in the future by non-traditional payment service providers such as Paymaster, especially once they are admitted to the SAPI payment system. Paymaster offers the possibility to pay for various services (utilities, mobile phones, communal services, etc.) from a virtual “wallet” which must be refilled through a cash payment at one of the 300 or so cash-in terminals, mostly in urban areas. In addition, Paymaster has more than 700 mini-POS terminals, often in very small rural locations, where customers may pay bills electronically from their virtual wallet but cannot pay in cash to refill the wallet. While this service may appear rather basic compared to standard internet banking, it remains to be seen whether there are niche customers for whom this level of service is just right.

Even when basic financial services along these lines are available locally, non-cash payments may not always be more efficient than cash. Most non-cash instruments require an elaborate infrastructure (bank accounts, payment cards, ATMs, internet banking, POS terminals) that may not be available or even appropriate in sparsely populated rural areas. Many poor people in rural areas (especially small farmers) may have too little monetary income for their potential transactions to justify the necessary investment in infrastructure. Therefore, in this context, the government should focus on ensuring access to basic financial services, rather than expanding non-cash payments where they may be inefficient.

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